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Urban poverty across the spectrum of Vietnam's towns and cities

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ABSTRACT

Vietnam's urban population is growing rapidly: by 2020 45% of Vietnamese are forecasted to be residing in cities. Even though poverty today remains predominantly a rural phenomenon, there is a need to better understand the landscape of poverty in urban areas. Drawing on small-area estimation methods we estimate welfare outcomes at the level of individual towns and cities in Vietnam, including even the smallest towns. Such estimates could not be produced using national sample surveys alone. Results show an inverse relationship between poverty and city size in Vietnam, with the urban poor being disproportionately concentrated in small towns and cities. This relationship is robust to the location of the poverty line as well as to alternative city-size definitions. Interestingly, our evidence of a clear gradient between absolute poverty and city size is not replicated for subjective welfare, measured by self-reported food sufficiency. The absolute poverty-city size gradient does, however, accord with the observation of striking variation in service availability across cities of different size in Vietnam. Small town residents are typically confronted with far lower per-capita availability of basic services than are large city dwellers. The results suggest that policymakers concerned to tackle urban poverty in Vietnam should not neglect attending to smaller towns. Addressing inequalities in access to key basic services across the entire urban population may represent one means to this end.

1. Introduction

Since the 1986 launch of the Doi Moi reforms, Vietnam's population has been urbanizing rapidly. As of the 2009 Population census, Vietnam had a population of 85.8 million of which 30% was urban. During the preceding decade the overall population had risen by on average 952 thousand people per year, with the main growth occurring in cities (or through migration to cities), at 3.4% a year compared to 0.4% a year in rural areas (GSO, 2010). As far back as January 1998, Vietnam's Ministry of Construction published an urbanization master plan in which it forecasted an urban population of 46 Million, representing 45% of the population as a whole, by the year 2020 (Decree 10/1998/QD-TTg, 1998). That prediction may well be met and consequently, even though poverty in Vietnam today remains a predominantly rural phenomenon, there is a need to develop a better understanding of its urban trajectory and dimensions.

Spatially, the urban population of Vietnam is distributed across towns and cities of different sizes. This heterogeneity in town size has been the subject of some attention in the development literature. An important theme of research has been the 'statistical invisibility' of small towns, attributable both to difficult issues of definition and lack of coverage in nationally representative surveys (see for example Fox, Bloch, & Monroy (2018), and the discussion in Denis, Zérah, & Mukhopadhyay (2017)). The particular role of small towns in rural development has also been scrutinized (Cali & Menon, 2012; Satterthwaite & Tacoli, 2003; Tacoli & Agergaard, 2017). Berdegué, Carriazo, Jara, Modrego, and Soloaga (2015) analyze the role of towns and cities in a broader discussion of territorial development and inclusive growth in Latin America.

The poverty literature has recently started drawing attention to the fact that poverty outcomes can vary markedly across urban centers. Ferré, Ferreira, and Lanjouw (2012) present evidence for a number of countries of a negative gradient between poverty and city size. This literature has also noted that the population living in small towns generally has access to fewer and lower quality basic services, relative to their counterparts in larger conurbations. It is increasingly recognized that effective efforts to address urban poverty must overcome the "statistical invisibility" of small towns and reach the large numbers of the urban poor who reside there. Several authors have built on these arguments to suggest, further, that not only would a shift in policy stance towards small towns assist with urban poverty reduction, but could, in fact, help fight rural poverty. Gibson, Datt, Murgai, and Ravallion (2017)

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demonstrate, in an analysis drawing on satellite observations of night lights, that growth of small towns in India has played an important role in reducing rural poverty in recent decades. Notably, they show that this role has been more significant than that of India's large cities. Their analysis is consistent with a development process of structural transformation out of agriculture into rural non-farm activities; a process that is also underway in Vietnam (Tarp, 2017).

The primary focus of this paper is to analyze variation in welfare by city size in Vietnam. We apply a small area estimation methodology developed by Elbers, Lanjouw, and Lanjouw (2002, 2003) to estimate poverty rates at aggregation levels that are lower than what Vietnam's household survey can directly support, as is explained in Section 2. In Section 3 we describe our data. Combining the survey and census data allows us to produce a profile of the urban poor in the country's 700+ cities and to assess the association between poverty and city size (Section 4). For the five biggest cities, we can drill down within cities to compare living standards across urban districts to analyze the degree to which poor households are concentrated in specific parts of the city -"slums" (Section 5). Section 6 asks whether households in bigger cities have a higher subjective welfare, all else equal. Section 7 concludes.

2. Small area estimation methodology

Small area poverty estimation offers a means to investigate the relationship between poverty and city size in some detail. Nationally representative household survey data, such as Vietnam's VHLSS, do not collect samples of sufficient size to permit the estimation of poverty at the level of individual cities – especially those that are not very large. To take an extreme example, the smallest city type in Vietnam is a commune-level township. It would be impossible to produce reliable township level estimates of poverty with the VHLSS only as it surveys only three households per commune.

We apply the Elbers et al. (2002, 2003) small area estimation (SAE) method to circumvent this constraint. First, expenditure observed in the 2010 VHLSS is modeled as a function of observed characteristics (such as household composition, asset ownership, etc.) that are available in both the VHLSS survey and the 2009 Population Census. Second, parameter estimates are used to impute expenditure in the census. It is assumed that the relationship between household expenditure and independent variables remains stable over time, which is in this case a relatively mild assumption since the VHLSS and Census are only one year apart. To guarantee that predicted welfare corresponds conceptually between survey and census, only variables that are strictly comparable between the two datasets are selected. Finally, imputed expenditures are scrutinized at the level of individual towns and cities, yielding city-level estimates of expenditure-based poverty.

More formally, we estimate welfare measures based on a household per-capita measure of consumption expenditure y and consider a model where log y relates linearly to observable and unobservable characteristics: $lny_i = \mathbf{x}_i\boldsymbol{\beta} + u_i$, where $\mathbf{x}_i$ is a $(1 \times \text{k})$ vector of k explanatory variables, $\boldsymbol{\beta}$ a $(\text{k} \times 1)$ vector of parameters and u_i is an scalar unobservable term satisfying $\mathbb{E}[u_i|\mathbf{x}_i] = 0$. Initial parameter estimates are obtained with weighted GLS using VHLSS household survey data, and the set of explanatory variables is restricted to those that are also found in and that are strictly comparable to the population census. Explanatory variables include a set of household-level demographic, occupational, and educational variables as listed in 1 and identical to those we selected in Lanjouw, Marra, and Nguyen (2017). This 'first-stage' estimation is carried out with VHLSS data, which is stratified at the province level for rural and urban areas separately, setting appropriate household weights that reflect the survey's sample design. We also allow for intra-cluster correlation in the regression residuals as failure to take account of correlation in the disturbances would result in underestimation of standard errors.

The unobservable is decomposed into a cluster-level unobservable (η_c), capturing for instance staple food prices in the local market, and a remaining household-level error (ϵ_{ch}), so that our main specification for consumption expenditure of household h in cluster c becomes:

$$\ln y_{ch} = \mathbf{x}_{ch}\boldsymbol{\beta} + u_{ch} \tag{1}$$

where $u_{ch} = \eta_{ch} + \epsilon_{ch}, \eta_c \perp \epsilon ch$ and $\mathbb{E}[u_{ch}|\mathbf{x}_{ch}] = 0$. For more details about the estimation method and the importance of accounting for intra-cluster correlation see Elbers et al. (2002, 2003) and Elbers, Lanjouw, and Leite (2008). To capture latent cluster-level effects, census averages of relevant explanatory variables at higher aggregation levels (enumeration area, district) and other aggregate level variables are included amongst the set of potential regressors. The ELL method allows for heteroskedasticity in the household-specific part of the residual, limiting the number of explanatory variables to be cautious about overfitting. Finally, the estimated variance–covariance matrix is used to obtain GLS estimates of the first-stage parameters and their variance.

The second stage predicts household-level expenditure in the Census to generate welfare measures. These estimates can be generated via several routes as described in Elbers et al. (2002, 2003) and Demombynes, Elbers, Lanjouw, and Lanjouw (2008). In brief, for each household h in cluster c in the census data and for each simulation draw $r = \{1, \ldots, R\}$, disturbance terms $\tilde{\eta}_c^r$ and $\tilde{\epsilon}_{ch}^r$ are drawn from their corresponding empirical distributions estimated with the survey data. Combined with their observed characteristics $(\mathbf{x}_{ch})$ and using the survey-based parameter estimates $(\hat{\boldsymbol{\beta}})$, their per-capita expenditure is then predicted as:

$$\hat{y}_{ch}^r = \exp(\mathbf{x}_{ch}\hat{\boldsymbol{\beta}} + \tilde{\eta}_c^r + \tilde{\varepsilon}_{ch}^r) \tag{2}$$

Finally, this simulated expenditure is used to calculate estimates of the welfare measures for each target population. The procedure is repeated R times, drawing each time a different set of random terms, in order to compute a point estimate (average of R simulations) and standard errors for each welfare measure. In the typical application, the ELL method has two main sources of errors in the welfare estimates: (a) model error due to the fact that the parameters for the imputations are estimated; and (b) idiosyncratic error associated with the fact that the actual welfare outcomes deviate from their expected value. The importance of the latter component decreases with the size of the target population. Survey-to-census imputation usually doesn't suffer from sampling error, but in our case it does as we only have access to a 15% random sample of the census so we treat it essentially as a (very large) survey. The 15% sample still covers 3,692,042 households and we find that the sampling component adds a negligible amount to the error term when estimating welfare outcomes at the level of individual towns and cities.

In Lanjouw et al. (2017) we present the Vietnam SAE results in more detail and produce a series of poverty and inequality "maps" at the district level. Two validation exercises in that paper attest to the reliability of the predicted expenditure numbers. First it is shown that the predicted poverty rates from the census line up closely with the observed poverty rates at both the national and the provincial level. A second validation exercise is conducted by splitting the 2010 VHLSS sample into two sub-samples and treating these as two different surveys. Expenditure in the second subsample is predicted based on the relationship between expenditure and observables in the first subsample – a variation on Kijima and Lanjouw (2003), Douidich, Ezzrari, Van der Weide, and

Verme (2015) and Stifel and Christiaensen (2007) who adapt the original Elbers et al. (2002, 2003) SAE methodology to survey-to-survey imputation. The observed and the predicted expenditure levels are found to align closely.

While the predicted expenditure numbers are reliable at smaller aggregation levels than the observed ones from the household survey, there is a limit to the level of disaggregation possible, as the expenditure of a handful of households can clearly be predicted only at the cost of higher prediction and sampling error. Indeed, the standard error of the estimates is significantly higher at the commune level than at the district level. As a rough rule of thumb, census populations of at least 1000–5000 households are needed to produce viable estimates (Elbers et al., 2002, 2003). Since one of the requirements for being categorized as urban in Vietnam is a population of 4000 inhabitants or more (Decree 42/2009/ND-CP, 2009), we would normally be fairly comfortable that even for the smallest cities our poverty estimates would be reasonably precise. However, given that we are working with only a 15% sample of the population census, it is clear that now our estimates for the smallest towns in Vietnam would suffer from both a larger idiosyncratic error and an additional sampling error. This serves to caution us against assessing and reporting poverty rates for individual small towns. Rather, we report an average poverty rate amongst towns within specific size categories (see below). The town-specific error in our estimates would be expected to cancel out in this averaging procedure. Our conclusions regarding the existence of a poverty – city size gradient are based on a comparison of these average poverty rates per city size category.

3. Data

The SAE approach is based on two datasets, as noted above. The survey data comes from the well-respected nationally representative Vietnam Household Living Standards Survey (VHLSS) that was conducted by the country's General Statistics Office (GSO) in June, October and December of 2010. The dataset consists of 9399 households from across the country, clustered by enumeration area, and includes information about rural communes, households, and individuals. In total, 37,012 individuals from 3113 communes are surveyed, representing all the country's 685 districts. The household expenditure variable comes from a detailed module that asks about household expenditure with a reference period of one year. Other topics in the survey include demographics, education, employment, health, migration, durables, income, production, and participation in government programs.

The census data comes from the Vietnam Population and Housing Census (VPHC) conducted by GSO in April 2009, and we have access to a 15% random draw clustered at the commune level. Our sample covers 3,692,042 households with 14,177,590 individuals from all the 10,896 communes. Individual information includes demographics, education, employment, disability and migration, and household data includes durable assets and housing conditions. The official GSO-World Bank expenditure poverty line of 7,836,000 VND/person/year is applied (which equals about 1.21 USD per person per day in April 2009). This line is based on the popular cost-of-basic-needs methodology (Ravallion & Bidani, 1994), anchored to the poorest quintile of the population and scaled-up to 2100 calories per person per day.

As mentioned above, variables that are used to predict per capita expenditure into the VPHC are required to be strictly comparable in both datasets. In practice, both the wording in the questionnaire and variable means are compared. In addition to selected household-level variables, commune-level means of census variables such as the percentage of the population that belongs to the Kinh ethnic minority are included to control for latent cluster-level effects. The consumption model is estimated separately for the six regions. Further details about the model selection are provided in Lanjouw et al. (2017). Table 1 reports the selected variables and their country-wide means, supporting their comparability in the two datasets.

Unfortunately, the 2009 census data does not contain a city code for the specific analysis of cities and towns. Previous research has partially solved this by compiling urban data at the relevant level to get poverty estimates for all urban areas in a certain province combined (The World Bank, 2011). Although this works for a more general analysis, it cannot pick up important variations in the standards of living between for instance a commune-level town at the outskirts of a big city and the city itself. The averaging out of welfare levels in, say, a poor satellite town of a relatively rich city would undermine the analysis of structural differences in welfare across cities of different size in Vietnam. We obtained the DMHC Administrative Directory (administrative directory translates into Vietnamese as "Danh Muc Hanh Chinh") from the General Statistics Office, which contains commune, district, and province codes and, crucially, their names. This allowed us to identify separate cities and successfully match all urban communes to their city identifier (for more details on how this is done we refer to Subsection 3.1). Together with demographics, basic services, and other indicators available at the commune level from the VPHC, this makes for a unique dataset to analyze living standards in cities of varying size.

Expenditure is adjusted for regional (urban and rural) price differences using a spatial cost of living index, the 2010 SCOLI. This index is particularly well-suited for comparing price levels at one point in time across space. The regular Consumer Price Index (CPI) aims for inter-temporal consistency, keeping the items in the basket to price constant over time but allowing for regional differences including quality. The SCOLI, in contrast, was conducted in concurrence with the VHLSS and asks households how much they spent in their nearest market on items in their consumption basket. These prices are then aggregated by urban and rural region, weighed by population size. More details on the methodology of the SCOLI can be found in Gibson et al. (2017) and Kozel (2014). Finally, expenditure is deflated to January 2010 with a separate food- and nonfood CPI.

3.1. City size classification

Vietnam grades urban centers on the basis of their size, population density, percent of the population working outside the agricultural sector, infrastructure and function, using a grading system that was introduced as part of the 2009 Population Census process (Decree 42/2009/ND-CP, 2009). The classification differs in some aspects to the one that had been developed for the 1999 Population Census. A major change is that the population density requirement for the smallest city class, Class 5, has been reduced from 6000 to 2000 people per square kilometer, further blurring the distinction between urban and rural. The World Bank's "Vietnam Urbanization Review" provides a more detailed discussion of the definitional changes that were introduced between the 1999 and the 2009 Census. As cities in higher grades get more state funding the classification system incentivizes local governments to move up this ladder, and improvements in socio-economic infrastructure lend themselves especially for that purpose (The World Bank, 2011). The government aims for the grading system to raise the quality of urban centers and improve sustainable urban- development, planning and organization (Decree 42/2009/ND-CP, 2009). We have access to this urban center grade identifier and to facilitate a close match between the policy arena and the results presented in this paper the analysis places cities in the same categories. One caveat however is that the identifier doesn't distinguish between Class 4 and

Table 1
Household-level variables predicting expenditure, and their country-wide means.

Variable	Census Mean	Census Std. Dev.	VHLSS Mean	VHLSS Std. Dev.
Urban (yes = 1; no = 0)	0.31	0.46	0.3	0.46
Household size	3.78	1.67	3.87	1.55
Ethnic minorities (yes = 1; no (Kinh or Hoa ethnicity) = 0)	0.12	0.33	0.13	0.33
Proportion of children below 15 years old in household	0.22	0.21	0.21	0.21
Proportion of elderly above 60 years old in household	0.11	0.26	0.13	0.26
Proportion of female members in household	0.52	0.23	0.52	0.21
Proportion of members without education degree	0.33	0.31	0.32	0.31
Proportion of members with primary school degree	0.25	0.27	0.23	0.26
Proportion of members with lower-secondary school degree	0.22	0.27	0.21	0.26
Proportion of members with upper secondary school degree	0.21	0.3	0.24	0.30
Log of living area per capita (log of m^2)	2.86	0.69	2.81	0.65
Having motorbike (yes = 1; no = 0)	0.72	0.45	0.76	0.43
Having television (yes = 1; no = 0)	0.87	0.34	0.89	0.31
Solid wall (yes = 1; no = 0)	0.77	0.42	0.79	0.41
Semi-solid wall (yes = 1; no = 0)	0.12	0.32	0.12	0.33
Temporary wall (yes = 1; no = 0)	0.11	0.31	0.09	0.29
Solid roof (yes = 1; no = 0)	0.17	0.38	0.20	0.40
Semi-solid roof (yes = 1; no = 0)	0.33	0.47	0.32	0.47
Temporary roof (yes = 1; no = 0)	0.50	0.50	0.48	0.50
Having tap water (yes = 1; no = 0)	0.25	0.43	0.26	0.44

Source: VHLSS 2010 urban sample; 2009 Population Census.

Class 5 cities so the results are limited in this respect. To facilitate easy reading of the results the classes are labeled "XL", "L", "M", "S", and "XS" in this paper but it should be noted that the cutoffs are not based on size alone. Table 2 gives an overview of key official classification requirements.

But the urban classification is not enough to identify the separate cities and towns of Vietnam. Instead, we draw on DMHC data, exploiting the country's clear hierarchical administrative structure and associated naming of all urban centers. Of the 68 provinces, five are centrally governed provincial-level cities ("thanh po") including the two special cities Ha Noi and Ho Chi Minh City. These five cities are divided into rural and urban districts. The other provinces are divided into locally governed provincial cities ("thanh po"), district cities ("thi xa"), and rural districts. The locally governed provincial cities and district cities are themselves made up out of rural communes ("xa") and commune-level urban wards ("phong"). The urban districts are made up out of wards and the rural districts are made up of rural communes and commune towns ("thi tran"). The system therefore distinguish five administrative city types: Special cities, Centrally governed provincial cities, Locally governed provincial cities, District cities, Commune towns.

Since the DMHC data includes the names of all commune-, district-, and province-level codes in the VPHC, this allows us to distinguish e.g. a rural commune (e.g. "Xa Bach Dich") from a commune-level town (e.g. "Thi Tran Yen Minh") and a city ward (e.g. "Phuong Tran Phu", all three examples in Ha Noi province). To summarize, steps to separately distinguish cities and towns by their names:

- At the province level: identify Ha Noi and Ho Chi Minh City and the three other centrally governed provincial cities ("thanh pho ...')
- At the district level: identify all locally governed provincial cities ("thanh pho ...") and district cities ("thi xa ...")
- At the commune level: identify all commune towns ("xa ...")

With this procedure we identify 702 separate cities and towns, allowing for city-level analysis rather than urban versus rural. The main results are based on the urban center grade classification as described above. To make sure that the class-grouping doesn't drive results, they are also reported by the administrative city types described here. While the centrally governed province cities remain in the same size group, this particularly affects grouping of smaller district and commune cities. Table 3 tabulates the number of cities by administrative category against those in the five groups identified with the classification system.

4. Living standards in small cities lag behind

Table 4 presents poverty statistics by the city size categories. The headcount ratio is strongly, and inversely, related with city

Table 2
Selected city class criteria.

Size category	City class	Minimum requirements official city classification: Population	Pop. density (km^2)	Share non-agri
XL	Special cities	5 Million	15,000	0.9
L	Class 1	1 Million (central) 500.000(local)	12,000 (central) 10.000 (local)	0.85
M	Class 2	300 000	10,000 (central) 8.000 (local)	0.8
S	Class 3	150 000	6000	0.75
XS	Class 4	50 000	4000	0.7
XS	Class 5	4 000	2000	0.65

Source: Decree 42/2009/ND-CP (2009). "central" stands for cities under central administrative government and "local" stands for locally-governed cities. Share non-agri refers to the share of the working population in non-agriculture jobs.

Table 3
Number of cities in each category – administrative city type vs. city class.

	City classes					
Administrative city types	Special XL	I L	II M	III S	IV&V XS	Urban
Special city	2	0	0	0	0	2
Centrally governed provincial city	0	3	0	0	0	3
Locally governed provincial city	0	4	14	22	0	40
District city	0	0	0	23	24	47
Commune city/town	0	0	0	0	610	610
Urban	2	7	14	45	634	702

Source: DMHC Administrative Directory, General Statistics Office. Vietnam.

size. Based on the World Bank/GSO poverty line for 2010, 1.4% of the population in Vietnam's biggest cities can be considered poor compared to 12.2% in the smallest towns. What stands out in particular is that while the smallest cities of size S and XS (thus with a population of less than 300,000 inhabitants) represent only about 40% of the total urban population, more than 70% of the urban poor live in these conurbations. Thus, the urban poor in Vietnam are mostly to be found in the country's smaller cities and towns. This finding is intuitive in that the line between the smallest urban areas and rural areas is notably thin in this data. Class 5 urban areas are situated in rural districts and are since 2009 only required to have at least 4000 registered inhabitants (in addition to a certain population density, infrastructure quality and share of non-agriculture labor). Poverty in Vietnam is still a rural phenomenon, but the concentration of the urban poor in small cities and towns is remarkable.

As a robustness check to these findings, Table 5 presents poverty statistics by administrative city type rather than city class. These results illustrate that the negative city size gradient is not sensitive to the specific aggregation of cities into size categories. While the smallest cities (commune level cities) are a home to less than a quarter of the urban population, they host more than 50% of the urban poor.

Also, while 32% of the urban population resides in the two biggest cities, Hanoi and HCM, they only account for only 11% of the urban poor. A similar story holds for the depth of poverty (poverty gap) and more distribution-sensitive measures such as the squared poverty gap. These findings accord with those reported in Ferré et al. (2012) of urban poverty in a set of other developing countries (covering Albania, Brazil, Kazakhstan, Mexico, Sri Lanka, Thailand, Kenya and Morocco). Fig. 1 summarizes the headcount rate among cities within each size group, supporting the finding of a city size gradient but also showing significant heterogeneity in poverty rates within the smallest classification.

The poverty measures are based on a single cutoff point (the World Bank/GSO poverty line) and therefore fail to reflect living standards in cities by any other standard. It could be that smaller cities have a higher headcount ratio and poverty depth ratio using this line, but bigger cities host a larger percentage of near-poor that are close to subsistence income. Or, safety nets in smaller towns

Table 4
Poverty by city size.

	XL	L	M	S	XS	Urban	Rural
Number of cities	2	7	14	45	634	702	
Total population	8,151,292	3,271,084	3,151,083	3,875,846	6,786,031	25,235,336	60,415,308
Average city size	4,075,646	467,298	225,077	86,130	10,704	35,948	
Share total population	0.095	0.038	0.037	0.045	0.079	0.295	0.705
Share urban population	0.323	0.130	0.125	0.154	0.269		
Per capita expenditure	37,394	24,402	23,286	21,230	17,090	17,610	13,094
Headcount ratio (FGT(0))	0.014	0.036	0.041	0.058	0.122	0.115	0.256
Poverty gap (FGT(1))	0.003	0.006	0.007	0.011	0.027	0.025	0.068
Squared poverty gap (FGT(2))	0.001	0.002	0.002	0.003	0.009	0.009	0.027
Total number poor (FGT(0))	156,396	124,102	130,890	225,483	768,971	1,405,842	15,445,126
Share total poor (FGT(0))	0.009	0.007	0.008	0.013	0.046	0.083	0.917
Share urban poor (FGT(0))	0.111	0.088	0.093	0.160	0.547		

Poverty rates are based on predicted expenditure using small area estimation technique applied to the 2009 Population Census and the 2010 VHLSS. Predicted real expenditure is compared to the GSO-WB poverty line of 7,836,000VND/person/year. FGT(n) refer to the standard Foster Greer Thorbecke poverty measures (Foster et al., 1984), with FGT(0) being the headcount ratio, FGT(1) the poverty gap, and FGT(2) the squared poverty gap.

Table 5
Poverty by administrative city type.

	Special city	Central gov prov.	Local gov prov.	District city	Commune town
Number of cities	2	3	40	47	610
Total population	8,151,292	2,271,476	6,190,664	2,654,219	5,967,685
Average city size	4,075,646	757,159	154,767	56,473	9,783
Share total population	0.095	0.027	0.072	0.031	0.070
Share of urban population	0.323	0.090	0.245	0.105	0.236
Per capita expenditure	37,394	23,551	22,632	19,687	17,026
Headcount ratio (FGT(0))	0.014	0.041	0.044	0.077	0.123
Poverty gap (FGT(1))	0.003	0.007	0.008	0.016	0.027
Squared poverty gap (FGT(2))	0.001	0.002	0.002	0.005	0.009
Total number of poor(FGT(0))	156,396	90,717	276,785	171,889	710,055
Share of total poor (FGT(0))	0.009	0.005	0.016	0.010	0.042
Share of urban poor (FGT(0))	0.111	0.065	0.197	0.122	0.505

Poverty rates are based on predicted expenditure using small area estimation technique applied to the 2009 Population Census and the 2010 VHLSS. Predicted real expenditure is compared to the GSO-WB poverty line of 7836.000VND/person/year. FGT(n) refers to the standard Foster Greer Thorbecke poverty measures (Foster et al., 1984). Central gov prov. stands for "centrally governed provincial city" and Local gov prov. stands for "locally governed provincial city".

Fig. 1. Box plot of poverty rate by city size.

might be stronger as the community is smaller, so that people are less likely to fall into severe poverty. To get a clearer sense of these issues, we look at stochastic dominance of the income distribution for the different city size categories. Fig. 2 shows the cumulative distribution functions by city class. The first order dominance depicted there bolsters our findings that the estimated poverty level is inversely related with city size for any chosen poverty line.

While we have seen that the majority of the urban consumption-poor live in Vietnam's smallest cities, we ask next whether they also lag behind in terms of other dimensions of welfare. Table 6 presents basic urban service availability and utilization by city size. The picture varies with the specific service. At one level, the data on electricity utilization in the table underscore Vietnam's success in expanding electricity coverage. In all cities and even in rural areas, more than 94% of all households use electricity for lighting. Vietnam has indeed achieved almost universal coverage of electrical power supply, and despite recent tariff increases it appears that electricity remains affordable (The World Bank, 2011). On the other hand, with respect to other basic services, a city-size gradient reemerges. Most urban households use gas for cooking and this is negatively correlated with city size. In the smallest cities, as well as in rural areas, firewood remains the main source of cooking fuel.

Access to sanitation has also increased during the past decade in Vietnam; while in 1999 only 17% of the urban households had

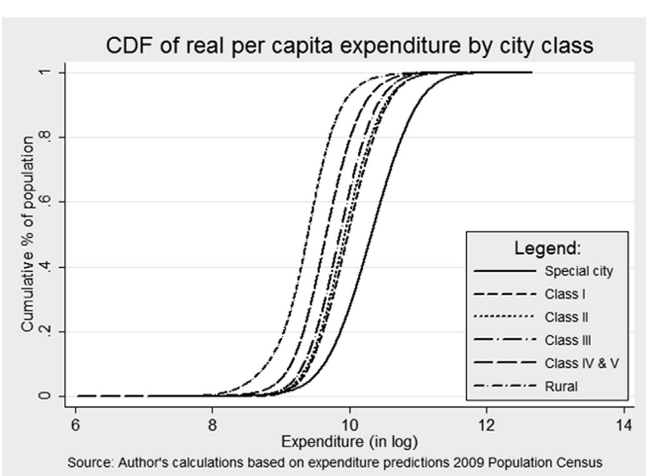

Fig. 2. CDF of expenditure by city size categories.

access to a flush toilet (The World Bank, 2011) usage has become almost universal in the biggest cities by 2010. However, in the smallest cities 5% of households remain without access to any type of toilet, and far fewer households use a flush toilet. Another important indicator concerns access to drinking water. Significant differences remain between the biggest cities where nearly three quarters of all households have access to piped water, and the smallest cities where only one third of the households can say the same. Small cities also lag behind in terms of education levels, even though the percentage of household heads that had some tertiary education in small towns (as well as some other basic services indicators) remains higher than in rural areas.

Despite the low headcount rate in big cities, there are still large numbers of poor people residing in them by virtue of their large overall population. We therefore look at welfare estimates for five biggest cities. Table 7 shows that Hanoi has virtually no poverty (0.2%) followed by Da Nang (1.4%), Ho Chi Minh City (2.6%), Hai Phong (3.0%) and Can Tho (7.8%). The latter city in particular seems relatively underdeveloped compared to the other four, having a poverty rate that corresponds with the average of the smallest (S and XS) cities in Vietnam. This is also supported by non-monetary development indicators. Fewer households obtain their drinking water from a pipe, have solid walls, a solid roof, or a flush toilet in Can Tho than in the other large cities. Also the share of households that have a member completing secondary or tertiary education is lower.

The presented estimates of poverty in big cities do come with a caveat.[1] Vietnam has a household registration system ("Ho Khau") that is used for identification, eligibility for public services, and controlling domestic migration including to limit migration into the big cities and border regions (Hardy, 2001). Even though rules have relaxed in recent years, obtaining Ho Khau status is still beyond the means of most temporary migrants. Notably, the VHLSS is found to exclude many of these "mobile poor" by not surveying people who have been living in the city less than six months or that live in dormitories, on construction sites, or in other shared (sometimes temporary) accommodation (Dinh & Pincus, 2011). With this group being relatively poor, obtaining welfare estimates from the household survey would likely underestimate the poverty rates – especially in the larger cities that attract more temporary migrants. Related to the current paper, the reported welfare estimates would underestimate poverty in big cities if the relationship between expenditure predictors (such as: owning a motorbike and the dwelling having a solid roof) and welfare is less positive for those without a Ho Khau status and those with one. Temporary registrants are known to have limited access to public services such as subsidized schooling and free health insurance for children under the age of six (Demombynes et al. (2008)), and this may not be accurately reflected in the predicted poverty rates. Note that the survey-to-census based prediction method at least partly alleviates a bias relative to reporting expenditure-based statistics directly from the VHLSS as per the standard for poverty analysis.

The data show that small towns in Vietnam are lagging behind medium and large cities in terms of both poverty and access to basic services. But not all small towns are equally undeveloped. In fact, there is significant variation in living standards within various small towns, as can be seen in Fig. 3. Each dot represents a city, sorted on the x-axis by city size. Four main points can be inferred from the figure, that depicts variation in access to piped water. First, the generally upward sloping relationship between city size and the ratio of households with access to piped water. Second, the large variation in access to piped water for a certain city size. Third, the cluster of small cities in which (almost) no

[1] We thank an anonymous referee for alerting us to this.

Table 6
Per capita infrastructure availability by city size.

	XL	L	M	S	XS	Urban	Rural
Percent of households...:							
Have max. primary education	16.59	19.77	18.28	21.40	23.74	23.42	29.97
Have max. secondary education	17.96	20.10	20.53	20.65	23.47	23.18	26.98
Have max. tertiary education	56.47	47.02	49.06	43.88	35.08	36.10	14.91
Have max. walls solid material	98.66	91.89	93.47	88.56	79.66	80.68	69.50
Have walls semi-solid material	0.88	4.52	4.70	7.20	12.39	11.79	15.98
Have walls temporary material	0.46	3.59	1.83	4.23	7.96	7.53	14.52
Have roof solid material	47.96	20.10	28.72	29.03	21.49	22.18	13.35
Have roof semi-solid material	7.36	17.77	16.48	21.90	31.69	30.55	39.57
Have roof temporary material	44.68	62.13	54.81	49.07	46.81	47.27	47.07
Have flush toilet	99.28	92.93	92.85	86.25	65.56	67.80	38.75
Have other type of toilet	0.49	5.71	4.80	11.60	29.23	27.30	50.40
Have no toilet	0.23	1.35	2.35	2.15	5.21	4.90	10.85
Drinks water from pipe	79.73	84.57	79.54	65.40	32.14	35.87	7.96
Drinks water from well	19.75	10.34	17.48	28.34	49.91	47.40	58.29
Drinks water from other source	0.52	5.10	2.98	6.26	17.95	16.73	33.75
Uses electricity for lighting	99.78	99.72	99.81	99.62	98.87	98.95	94.08
Uses electricity for cooking	2.02	1.29	1.22	1.91	1.85	1.84	1.51
Uses firewood for cooking	0.65	9.91	8.07	16.76	35.13	33.07	60.17

Source: 2009 Population Census. For the education statistics it is the maximum education level obtained by the household head.

Table 7
Living standards indicators five biggest cities.

	Hanoi	Hai Phong	Da Nang	HCM	Can Tho
Per capita expenditure	43,646.441	25,597.670	24,299.359	31,142.004	20,754.504
Headcount rate (FGT(0))	0.002	0.030	0.014	0.026	0.078
Poverty gap (FGT(1))	0.000	0.005	0.002	0.005	0.014
Squared poverty gap (FGT(2))	0.000	0.001	0.000	0.002	0.004
Living area per capita	95.008	67.700	106.745	107.932	79.183
Share of households...:					
Have max. secondary education	0.156	0.273	0.209	0.203	0.144
Have max. tertiary education	0.721	0.523	0.454	0.408	0.265
Have roof solid material	0.774	0.498	0.103	0.185	0.036
Have walls solid material	0.997	0.997	0.992	0.976	0.718
Use water from a pipe	0.925	0.908	0.756	0.669	0.555
Have a flush toilet	0.992	0.975	0.989	0.993	0.713

Source: per capita expenditure and expenditure-based welfare measures are from the SAE estimates and the other indicators are from the 2009 Population Census. FGT(n) refer to the standard Foster Greer Thorbecke poverty measures (Foster et al., 1984). For the education statistics it is the maximum education level obtained by the household head.

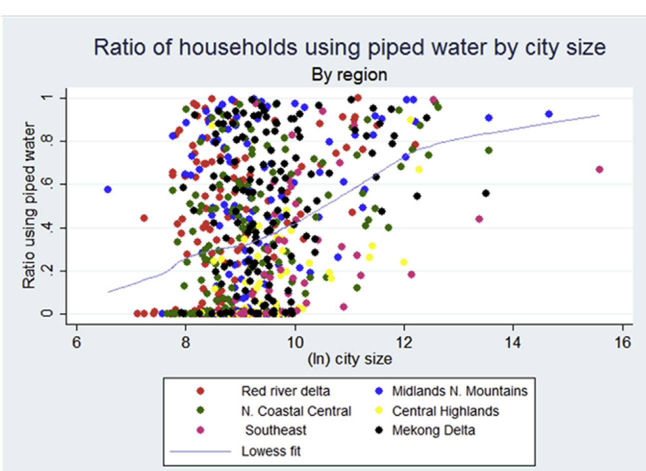

Fig. 3. Variation in access to piped water by region and across all XS cities.

households have access to safe piped water. And fourth, that the variation is not dominated by any region indicating that within all regions of the country there are cities of similar size performing quite differently. These four points should be of key interest to policy-makers dealing with urbanization and poverty in Vietnam. A similar pattern exists for the other services, with the exception of electricity which has almost universal coverage.

Similarly, Fig. 4 shows that while bigger cities generally have relatively low poverty rates, there is significant variation in this welfare measure among small towns. The large variation in poverty rates for commune-level cities is not simply to be attributed to regional differences. Still, the geographic location of a city in relationship to other cities may be an important explanatory factor. Spillover effects of welfare from a big city, for example, could benefit a satellite town. Therefore, we examined the relationship between poverty in the commune-town and its distance to larger city types and the result is suggestive of a positive relationship between the distance to any of the bigger cities and the headcount rate in the commune-level town (Fig. 5).

But many commune-towns far away from large cities have low headcount rates as well. Since the size of commune-level towns is positively correlated with distance to the nearest city, the right-hand panel in Fig. 5 considers whether the relationship is stronger for smaller 'isolated' commune-towns (red dots) than for larger ones (blue dots). More isolated commune towns appear poorer regardless of their size. Besides explaining part of the variation in headcount rates for different commune-level towns, these graphs point out that there is a wide range of welfare levels among commune-level towns regardless of their size, distance to bigger

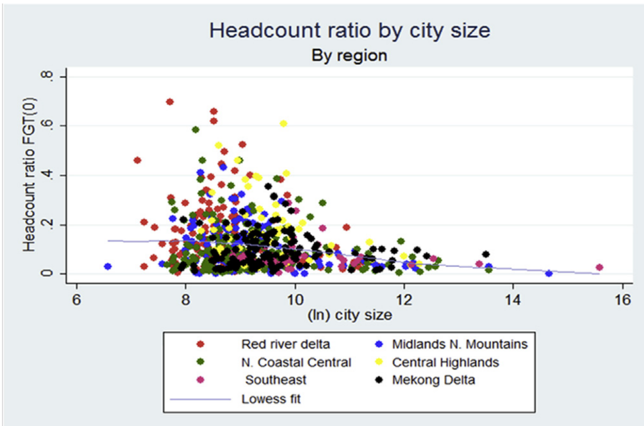

Fig. 4. Variation in headcount rate by region and across all XS cities.

cities, and regional location. Breaking down the distance-poverty correlation by the type of closest city doesn't offer additional insights.

It must be noted that unlike the piped water statistic (and other infrastructure numbers), the predicted headcount rates for the individual commune-level towns may be imprecise as discussed in the methodology section. At least part of the observed variation should be accounted to this.

5. Inequality within cities

Looking beyond city averages, there can be stark differences in wellbeing across population groups within cities – defined in terms of background, education, ethnicity, occupation, etc., – and these may be spatially concentrated in different neighborhoods of the city. There is thus interest to understand better to what extent differences between the city's inhabitants are captured by differences across neighborhoods in average outcomes as opposed to differences in outcomes amongst individuals living within the same neighborhoods; a forming of 'slums' that urban planners may strive to avoid. High between-locality inequality indicates concentration of poor households within certain neighborhoods. As a result of the SAE exercise, we have enough observations to compare expenditure levels between city districts of HCM City, Hanoi, Da Nang, Can Tho, and Hai Phong; the five biggest cities in Vietnam.

We find that overall inequality is highest in Ho Chi Minh City (see Table 8). It towers over the other four with measured inequality of 0.144, as captured by the decomposable Theil L general entropy GE(0) measure (following Theil (1967), see also Cowell

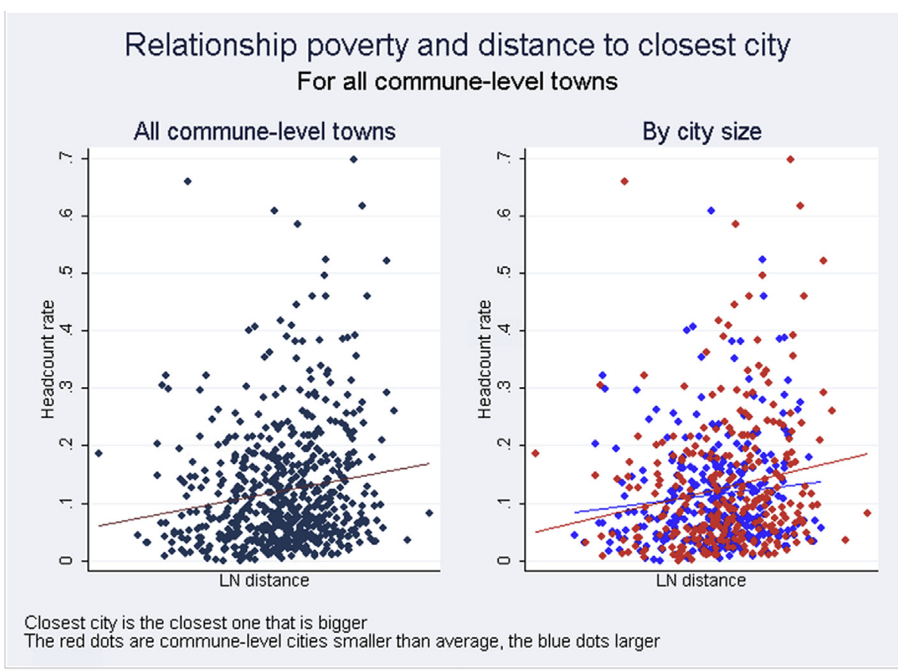

Fig. 5. Relationship headcount rate and distance to nearest city.

Table 8
Inequality in five biggest cities.

City	City size	# districts	Expenditure	Headcount rate	Inequality	Between-district share
HCM	5,841,982	19	31,142	0.026	0.144	0.088
Hanoi	2,309,310	10	43,646	0.002	0.088	0.139
Hai Phong	771,036	7	25,598	0.030	0.084	0.194
Da Nang	770,499	6	24,299	0.014	0.069	0.072
Can Tho	729,941	5	20,755	0.078	0.115	0.392
Can Tho without Thot Not	571,485	4	22,676	0.053	0.104	0.323

Expenditure is the average per capita expenditure in the city as predicted with the outlined SAE method. Inequality is measured by the Theil L general entropy GE(0) measure (Theil, 1967), decomposable into a between-group and within-group share.

(2003)), that can be decomposed into a between-district and a within-district component.

Between-district inequality is calculated by comparing the average expenditure of the districts – ignoring variation in expenditure within them. Because of the relatively low contribution of between-district inequality to total inequality, it appears that poor households in both Hanoi and Ho Chi Minh city are not concentrated in specific localities within these cities. The lack of such 'pockets' of poverty may be attributable to Vietnam's historically socialist policies of creating affordable housing and tolerating the trade of small-sized plots.

In contrast, Can Tho stands out as having a much higher between-district contribution to total inequality than the other cities. Inequality between districts accounts for roughly 40% of total inequality, indicating that poorer households are more concentrated amongst its five districts than they are amongst the larger number of districts in Ho Chi Minh or the other cities. Indeed, there are stark differences in welfare levels between the five districts. In particular, the district "Thot Not" has a much higher poverty rate than the others while "Ninh Kieu" (the city center of Can Tho) has virtually no poverty at all. Spatially, Thot Not seems separate from the rest of the city and is located about 15 km up the Bassac River. It is located on the border with two other provinces, and it's relation with the other districts of Can Tho may be minimal. But even when excluding the Thot Not district from the analysis, the between-component of inequality in urban Can Tho remains the highest of the five largest cities (at 32.3%, see Table 8).

6. Subjective wellbeing and city size

The results in this paper suggest that urban poverty is concentrated in smaller towns in Vietnam. This assessment is based on an expenditure-based measure of poverty that may only provide an imperfect assessment of subjective perceptions of wellbeing. Are households in bigger cities more satisfied with their consumption than households in smaller, poorer cities? In the subjective welfare literature there are at least two strands of thought pointing to conflicting hypotheses concerning the correlation of subjective wellbeing with city size. On the one hand, research by Fafchamps and Shilpi, 2008 show how a lack of variety in consumption and service availability reduce subjective welfare. From this perspective it can be argued that households' welfare will be higher in larger cities that have more to offer than smaller ones. But since the authors use travel time to local markets and proximity to urban centers as proxies for isolation of households, their analysis may be more applicable to smaller towns or in a rural context. On the other hand, there is the finding by Luttmer, 2005 that households' subjective welfare is negatively related to the average income of the households living in close proximity to them. This perspective is based on the idea that it is relative rather than absolute income that matters, and would appear to point to subjective welfare potentially being lower in larger cities.

Although it has been shown that self-reported subjective welfare data can be quite noisy (Krueger & Schkade, 2008) they are increasingly used as measures of self-reported wellbeing. A strong relationship between objective and subjective wellbeing has been found by many authors (e.g. Easterlin, 1974, 1995, 2000; Lokshin, Umapathi, & Paternostro, 2006), and even psychological evidence supports validity of such measures (Frey & Stutzer, 2002). Other things that are known to influence subjective welfare include household demographics, age, gender, ethnicity, marital status of the household head and employment status (e.g. Fafchamps & Shilpi, 2008; Luttmer, 2005; Ravallion & Lokshin, 2002). In our analysis we will control for as many of such factors as possible so as to limit potential omitted variable bias. It is also understood, however, that the mood and character of the respondent are important for his rating of subjective welfare (e.g. Diener, Diener, & Diener, 2009; Kahneman, Diener, & Schwarz, 1999). Our data do not allow us to control for this.

The 2010 VHLSS includes a subjective welfare section that offers some scope for further investigation of the relationship between city size and subjective wellbeing. The question that we use in the main specification is the following: "Has consumption of foodstuff by your household been sufficient to meet needs over the past 30 days?". This is clearly a very specific question, pertaining to respondents' assessments of the food consumption. It does not provide any direct insights into respondents' broader assessments of their wellbeing and as such should be seen as only a partial, incomplete, indicator of overall subjective wellbeing. This indicator does correspond closely, however, to the food adequacy question that typically underpins the derivation of subjective poverty lines, as demonstrated for example, by Pradhan and Ravallion (2000). A caveat to keep in mind when interpreting our results is that the SCOLI index is constructed by (urban) region level and doesn't capture potential sub-regional price differences between cities of different size. It is possible that the food basket is structurally more expensive in larger cities than smaller ones, and for that reason we also condition on the quantity of food and the quantity of rice consumed. Including both variables reduces the likelihood that our results are driven by residents in larger cities having to substitute away to eating more rice as a result of higher meat prices. A last point to keep in mind is that we cannot rule out that there are substantial differences in the quality of food consumed. For such an effect to invalidate our findings however, the quality of food needs to be systematically better in smaller cities than in larger ones and in such a way as to increase small-city respondents' perceived food sufficiency after controlling for the quantity of food and rice consumed. While we recognize the importance of accounting for quality, especially when measuring subjective welfare by reported food sufficiency, we have no reason to believe that there is such a significant difference in food quality positively correlated with city size.

We limit our analysis to households living in urban areas. Of the 2712 urban households in the survey, 147 answered that their

Table 9
Summary statistics subjective welfare regression.

	N	Mean	S.E. of mean
Household consumed sufficient foodstuff past 30 days (dependent variable)	2689	2.039	0.007
LN city size	2598	12.354	0.047
LN real per capita expenditure	2712	9.923	0.013
LN household size	2712	1.405	0.007
LN predicted expenditure district urban	2631	10.059	0.007
Percentage of households with electricity	2304	0.982	0.001
Average number of markets per commune in district	2304	17.401	0.199
Food consumed last 30 days-recurrent, no eggs	2712	106.270	1.088
Plain rice consumed last 30 days	2670	33.239	0.355
infants share of household	2712	0.077	0.002
children share of household	2712	0.230	0.004
elderly share of household	2712	0.074	0.003
Age of household head	2712	50.115	0.262
Age of household head, squared	2712	2696.918	28.148
Household is of ethnic majority (Kinh/Hoa)	2598	0.938	0.005
Household head is married	2598	0.814	0.008
Household head is registered in commune	2712	0.255	0.008
Household head has a wage job	2712	70.411	0.009
Household head has a second job	2712	0.172	0.007
Highest diploma obtained by any household member	2712	10.712	70.044
Month of survey (January = 1)	2598	9.311	0.041

Source: 2010 VHLSS, only the urban households in the survey.

consumption was insufficient, 2288 that it was sufficient, 254 that it was more than sufficient and 23 didn't answer. Excluding the last group of households, we run an ordered probit regression on the remaining 2689 households. Descriptive statistics of all variables are reported in Table 9 and the regression results are in Table 10.

In the first column of Table 10 we present the results of regressing perceived sufficiency of foodstuff consumption on only city size and regional dummies. In this simple specification, city size has no significant effect on the dependent variable (but important regressors that also correlate with city size are omitted). As expected, we find a strongly positive relationship between actual per capita expenditure and perceived sufficiency of consumption in column two. The significantly positive coefficient on the logarithm of household size reflects size economies in consumption since bigger households with the same amount of per capita expenditure rate their consumption more positively. Interestingly, city size has a significantly negative coefficient now. Controlling for per capita consumption, household size and regional differences, living in a larger city decreases the chance of rating your consumption as sufficient. If no other forces were at play, this would mean that the "relative-earnings" cost outweighs the "service variety" benefit of living in a bigger (and richer) city.

Although expenditure is already adjusted for spatial price differences, it could be argued that prices are underestimated in bigger cities. To control for this possibility, in column three the households quantity of food and rice consumption are included. This doesn't alter the results and this variable is both economically and statistically insignificant, so we can be fairly sure that the negative coefficient is not due to underestimated price differences. Column three also includes many of the variables introduced earlier. When other household demographics are included, household size becomes insignificant. This suggests that in urban areas it is not so much the size that brings economies of scale into the household's consumption, but more likely the share of children (as younger households are usually also larger).

Column four tests the conflicting hypothesis by including variables for the average number of markets per commune (on the district level), the percentage of the households with access to electricity and the natural logarithm of average predicted urban expenditure at the district level. As pointed out by Luttmer (2005), it is better to use the predicted rather than the observed value of welfare, so the model is not picking up shocks that simultaneously affect people's happiness and their income levels (think for example of a shopping mall that creates jobs and also attracts more businesses to the area, making it more lively and diverse). The coefficient on this variable reflecting 'neighbors earnings' is both statistically and economically significant and has the expected negative sign, all else equal. An interpretation is that in urban Vietnam, it is relative income that matters. However, we also find support for the notion that households appreciate service availability, since the coefficient on the percentage of households with access to electricity is positive and significant. On the other hand, the variable capturing the average number of markets is insignificant. Possibly this variable proxying market availability is not particularly relevant in an urban context.

Even after controlling for service availability and average predicted welfare in the district, as well as real expenditure and demographics, households living in larger cities are less likely to regard their consumption as sufficient. As it is unlikely that the mere size (or classification) of a city affects households' subjective wellbeing, these results suggest that there is another factor (correlated with city size) at play. Further research is necessary to pin down what is driving this; one could consider both direct consequences of living in a larger city (such as pollution and congestion) and more subtle reasons such as reference bias or a differential tendency across residents of towns of different sizes to adapt to their circumstances (Sen, 1985).

Table 10
Subjective welfare and city size.

Dependent var: perceived food sufficiency	(1)		(2)		(3)		(4)	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
LN city size	−0.005	0.0151	−0.114***	0.017	−0.106***	0.019	−0.083***	0.026
Controlling for consumption and household size								
LN real per capita expenditure			0.793***	0.052	0.767***	0.060	0.813***	0.067
LN household size			0.322***	0.080	0.186	0.125	0.196	0.134
Controlling for local price differences and household composition								
Quantity food consumed last 30 days					−0.000	0.001	−0.000	0.001
Quantity plain rice consumed last 30 days					0.001	0.002	0.001	0.003
Infants share of household					0.194	0.273	0.289	0.293
Children share of household					0.359*	0.202	0.363*	0.216
Elderly share of household					0.306	0.240	0.266	0.254
Age of household head					−0.024	0.016	−0.032*	0.017
Age of household head, squared					0.000	0.000	0.000	0.000
Household is of ethnic majority					0.144	0.130	0.103	0.139
Household head is married					0.288***	0.088	0.261***	0.094
Household head is registered in commune					0.034	0.068	0.044	0.073
Household head has a wage job					−0.169**	0.067	−0.142**	0.072
Household head has a second job					−0.088	0.088	−0.108	0.094
Highest diploma any household member					0.041***	0.016	0.031*	0.017
Month of survey					−0.007	0.014	0.003	0.015
Testing absolute versus relative income hypothesis								
LN predicted expenditure urban							−0.389**	0.172
% Households with electricity							1.906***	0.679
Nr. of markets per commune in district							−0.002	0.004
Regional fixed effects and survey round:	Yes		Yes		Yes		Yes	
Number of observations	2578		2578		2538		2221	
Pseudo R2	0.005		0.102		0.124		0.126	

Significance levels: * 5%, ** 1%, *** 0.1%. The dependent variable is the household's perceived sufficiency of foodstuff consumption; where 1 = insufficient, 2 = sufficient, 3 = more than sufficient (and the 4th category NA is excluded). The reported coefficients are from an ordered probit regression using population weights. Fixed effects for the 6 regions are included and also fixed effects for the three survey rounds.

7. Conclusions

This paper reveals a negative relationship between city size and urban poverty in Vietnam. Hanoi and HCM city, Vietnam's two largest cities, are home to 32% of the urban population but only to 11% of the urban poor. Similarly, while only about 40% of the total urban population lives in cities between 4.000 and 300.000 inhabitants, more than 70% of the urban poor live in these conurbations. The same goes for the severity of poverty measured by the poverty gap and the squared poverty gap. We find first order dominance of poverty in cities of smaller size classes over bigger ones, showing that the results are not dependent on the precise location of the poverty line. and are robust also to a wide range of poverty measures. A second robustness check shows that the results are not dependent on the specific size classification. Thus, while the majority of the poor in Vietnam still live in rural areas, it is in small towns and cities that urban poverty is concentrated. This finding is of importance in a context of rapid urbanization. For example, Vietnam's Ministry of Construction has published forecasts of the urban population reaching 45% by 2020, up from 30% in 2010.

With the exception of electricity that has almost universal coverage in Vietnam, coverage of basic services is also significantly less complete in smaller cities. However, not all small towns are equally underdeveloped. In fact, we observe a good deal of variation in living standards across various small towns.

Poverty rates in the larger towns also vary. The poverty rates for the five biggest cities are estimated to be lowest for Hanoi (0.2%). The capital is followed by Da Nang (1.4%), Ho Chi Minh City (2.6%), Hai Phong (3.0%) and Can Tho (7.8%). As these cities account for a non-negligible number of poor, we asked whether poverty is concentrated in specific districts within the respective cities, in order to understand if poorer households in these cities are isolated from other citizens. We find, however, that, with the exception of Can Tho, there is relatively low between-district inequality as a percentage of total inequality.

Using self-reported consumption sufficiency data as one particular window on subjective wellbeing, we find evidence for two opposing theories concerning the relationship between subjective welfare, and city size. On the one hand, it seems that households living in bigger cities are better off as more goods and services can be consumed. On the other hand, as relative welfare also appears to matters for utility, they feel less well off because their neighbors are earning more on average. A suggestive finding is that even after controlling for these factors in addition to household real expenditure levels and demographic characteristics, households living in larger cities are more likely rate to their food consumption as insufficient than are residents of smaller towns. This points to a third force correlated with city size that negatively influences the subjective wellbeing of urban citizens. One possibility is that negative externalities, such as congestion and pollution, which are known to be worse in larger cities, influence perceived consumption adequacy levels. Another possibility is that the poorer inhabitants of small towns are more likely to have adapted to their lower levels of material welfare and are thus less inclined to complain about their circumstances. Sen (1985) has drawn attention to this possibility of 'adaptive preferences' whereby people become normalized to their circumstances of material derivation and may claim to be entirely satisfied as a result. Further research is needed to assess the possible explanations, and also to explore whether a broader, more complete, indicator of subjective wellbeing would yield similar conclusions.

Our data do not permit a further investigation of this question and we simply note, here, that policy makers should be aware that at least some dimensions of perceived wellbeing do not adhere to the same city-size gradient as observed for poverty in terms of expenditures and access to services. Thus while improvement of living standards in the smallest towns will be a priority going forward (and indeed has been enshrined in the country's 'balanced growth' urban masterplan, Decree 10/1998/QD-TTg (1998)) policymakers should persist in their efforts to improve both material and perceived living conditions also in the larger cities. At the same time, policymakers' efforts to galvanize small towns and to promote living standards there might help to attenuate population pressure on large cities, and to encourage the shift of certain economic activities away from such centers.

Our analysis is too descriptive, and too partial, to permit concrete policy recommendations. Yet, the findings in this paper do offer insights that could inform broad strategic thinking about spatial and sectoral prioritization. At a minimum, the analysis can draw attention to a possible policy stance in favor of large cities that may have persisted as a result of the "statistical invisibility" of small towns in assessments of urban poverty. There are arguments, moreover, anchored around concerns to equalize opportunities for all citizens, in favor of ensuring equal access to basic infrastructure and social services. Pursuing this objective would correct some of the imbalances we have pointed to in access to services by residents of small towns relative to large towns. This strategy would emphasize small town development but also acknowledge the heterogeneity we have pointed to across towns in all size classes. To the extent that infrastructure provision and service delivery translates into economic growth and falling poverty, a likely outcome would be accelerated poverty reduction in smaller towns. We further noted in our introductory section, that a literature is emerging drawing attention to the particular importance of small (as opposed to large) town growth for rural poverty reduction. Whether the strong pro-poor impact of small town development observed, say, in rural India, would also obtain in rural Vietnam, is something we cannot assert without additional research. But given that the structural transformation underway in Vietnam is likely to share important features with that in India and elsewhere, similar outcomes might also be expected.

Acknowledgements

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