

# The Urban-Rural Gap in Governance: Evidence from Vietnam

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## The Urban-Rural Gap in Governance: Evidence from Vietnam

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#### Abstract

The relationship between development and governance is a central question in the public administration literature on developing countries. Yet, we still understand little about the gap between urban and rural governance in these nations. Our paper tackles this issue using the novel Vietnam Provincial Governance and Public Administration Performance Index (PAPI). PAPI is Vietnam's largest nationwide survey, and it is considers six dimensions of local public administration, including participation, transparency, accountability, corruption control, administrative procedures, and public service delivery. Using a small area estimation approach we present three new findings. First, urban citizens report better local governance and public administration than rural citizens do. Second, districts with better reported governance tend to have a smaller urban-rural public administration gap. Third, this gap follows a U-shaped pattern, decreasing initially and then increasing slightly as local living standards rise. These findings have implications for priorities in public administration reforms.

Keywords: governance, urban-rural difference, PAPI, small area estimation, Vietnam.

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#### **1. Introduction**

The links between development, governance, and public administration have been a central question in the research on developing countries. Institutionalists Krueger (1974) and North (1994, 1995) point out that good governance reduces transaction costs for economic activities. Stiglitz (2002) and other New-Keynesians show that transparent legal frameworks and clear tax policies allow the market to function. More recently, Brinkerhoff (2008) argues that improving governance, at both national and international levels, is key to promoting development in poor countries. There is also increasing recognition that good governance and public administration are important for human development (Acuña-Alfaro et al., 2010; UNDP, 2011).

At the same time, the large economic gap between urban and rural areas during the development process has attracted a large literature. For example, Krugman (1991), Fujita et al. (1999), and Quigley (2008) point out that the geographical agglomeration of people and firms in urban areas leads to lower production costs and higher productivity, which naturally creates an urban-rural gap. Further, Sahn and Stifel (2004), Park (2008), Hnatkovska and Lahiri (2012), Hong-Liu et al. (2012), and many others find persistent gaps in the poverty and welfare of rural and urban areas.

However, little has been said—and little is known—about the governance gap between urban and rural areas. Saich (2007) is one of the few studies that examine the urban-rural gap in citizens' perception of governance. His study finds that urban Chinese citizens are less satisfied with central and provincial governance but more satisfied with grassroots governance than rural citizens are. In fact, the urban-rural gap in governance derives from differences in determinants of availability, accessibility, and quality of governance and public administration services between urban and rural areas. Since governance and public administration are multi-dimensional concepts, the urbanrural gap in governance can be resultant of differences in these dimensions. Given that governance is an important determinant of economic growth and welfare, understanding the urban-rural governance gap can help reduce urban-rural gaps in economic development and welfare.

A key challenge in studying this gap is the lack of good data on governance in urban and rural areas. To address this challenge, the Vietnamese government launched the Provincial Governance and Public Administration Performance Index Survey (PAPI) in 2011. PAPI measures the quality of governance as it is experienced by citizens in six dimensions: (i) participation at local levels, (ii) transparency of information, (iii) vertical accountability, (iv) control of corruption, (v) public administrative procedures, and (vi) public service delivery. These dimensions are based on conceptual frameworks on governance by a number of previous researchers (Leftwich, 1994; La Porta et al., 1999; UNDP, 2002; Al-Marhubi, 2004).

In this study, we examine the gap between urban and rural governance in Vietnam at the central and local levels. The study has two main objectives. First, we use data from the PAPI survey in 2011 to measure the differences between urban and rural areas in six domains of public governance. Second, we estimate the spatial gap in urban and rural governance and examine the factors associated with the gap in governance quality at the district level.

We find that urban areas tend to outperform rural areas in most governance dimensions, except for participation in local governance decisions and vertical accountability. Urban citizens experience better overall governance and public administration outputs (as measured by the composite measure of PAPI) than rural citizens do. Further, urban citizens are more satisfied with local governance than rural citizens are, but the two groups have the same level of satisfaction with regard to central

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governance. This indicates that the rural-urban governance gap is conceivably not due to differences in citizens' perceptions.

A challenge in estimating the governance indicator (PAPI index) at the district level is that the PAPI survey is not representative at the district level. To overcome this small sample size problem, we combine the 2011 PAPI survey and the 2009 Vietnam Population and Housing Census using a small area estimation method (Elbers et al., 2002, 2003). Thus, we first estimate the governance quality of urban and rural districts, and the urban-rural gap in governance quality at the district level. Then we regress this urban-rural gap on several economic explanatory variables. We find that districts with better governance tend to have lower urban-rural governance gaps. Further, the urbanrural governance gap and the welfare level measured by per capita expenditure have a U-shaped association. This urban-rural gap decreases as the mean expenditure increases in the initial stage, but it slightly increases in the later stage.

This paper is organized into seven sections, including this introduction. The second section describes the context. The third section explains the data sets used in this study and the rationale for their selection. The fourth section presents the measurement of governance quality and public administration and their relation between urban contexts and governance quality. The method of analysis of urban-rural differences in governance quality is presented in the fifth section. The sixth sections discuss the empirical findings, to be followed by concluding remarks in the last section.

#### 2. Vietnam

Vietnam, a single-party regime, has achieved so remarkable a rate of economic growth and poverty reduction during the past two decades that it has been dubbed a "poster child" for development agencies. Poverty dramatically dropped from 58 percent in 1993 to 15 percent in 2008. Due to unprecedented levels of socio-economic development in Vietnam, a significant number of citizens now enjoy longer and healthier lives as well as increased levels of education (UNDP, 2011). The speed of economic growth and poverty reduction in Vietnam, however, has decelerated recently. Poverty rates remain unchanged, perhaps due to the inelasticity of poverty measures, and while Vietnam's economy is still growing in terms of GDP rate, it is doing so at Vietnam's slowest pace of the last decade (World Bank, 2013). Urbanization as well as the rate of progress in cities and the still laggard pace of development in rural areas are development processes of significant concern.

Ensuring good governance for poverty reduction has been regarded as one of the Vietnam Development Goals (Poverty Task Force, 2002).<sup>1</sup> Aiming to improve governance quality, Vietnam has pushed for Public Administration Reform since the 1990s. The main priority areas of this reform program include political orientation, institutional reform, organizational restructuring, human resource management, and public finance management (Painter, 2003; Acuña-Alfaro, 2009).

However, there has been a gap in public administration reform between urban and rural areas. The World Bank (2009) observes that successes in public administration reform are more common in better-off urban areas, but more ambiguous in poor, rural, and mountainous areas. There has also been a large gap in public services between urban and rural areas. The World Bank (2003 and 2012) finds that rural households are less likely to have access to quality roads, electricity, sanitation, and clean water. Households in rural areas also have more limited access to information than urban households. However, rural people are more likely to participate in local community

<sup>&</sup>lt;sup>1</sup> In Vietnam, there is a positive relationship between the Human Development Index (HDI) and the Vietnam Governance and Public Administration Performance Index (PAPI) at the provincial level (CECODES, FF, CPP, and UNDP, 2012; UNDP, 2011). Thai and Le (2012) find the positive effect of public administration reform on GDP per capita of provinces in Vietnam.

activities such as poverty assessment meetings and village meetings on poverty reduction programs.<sup>2</sup> In some dimensions such as corruption and bribery, rural and urban experiences are similar according to CECODES, FR, CPP, and UNDP (2012). Thus, it is not clear whether or not rural citizens experience a lower quality of governance than urban citizens do.

#### 3. Data

This study exploits two datasets. The main data is the PAPI survey conducted by the Center for Community Support Development Studies (CECODES), the Fatherland Front, and the United Nations Development Programmes. This survey uses clustered random sampling. In 2009, the PAPI survey sampled three provinces, and in 2010 it sampled 30 provinces. In 2011, all 63 provinces were covered by the sample, with 13,642 total respondents. In this study we will use the 2011 PAPI survey, as it was the first nationwide exercise of its kind in Vietnam. A more detailed discussion of the 2011 PAPI survey is presented in CECODES, FR, CPP, and UNDP (2012).

The second data set is the 15-percent sample of the Vietnam Population and Housing Census (VPHC) conducted by the General Statistics Office of Vietnam in April 2009. This census contains detailed data on individuals and households. Individual data include information on demographics, education, employment, disability, and migration. Household data includes information on durable assets and housing conditions. The 15-percent sample is representative at the district level. The census covered 3,692,042 households with 14,177,590 individuals.

<sup>&</sup>lt;sup>2</sup> A large number of studies disagree about the importance of public participation in governance. Some of them suggest that relationships between local people and governments can improve the quality of local governance (Roberts, 1997; Smith and Huntsman, 1997; King and Stivers, 1998, Plein et al., 1998).

It should be noted that we use the 2011 PAPI survey instead of the 2012 survey to estimate our models, since the Census that is used to predict the PAPI in small areas was conducted in 2009. If the difference between the year of the survey and the year of the census is large, the estimates for small areas could be biased. Ideally, both the PAPI survey and the Census would be conducted in the same year. However, this was not the case. As a result, we use the 2011 PAPI, which is closer to the year of the 2009 Census, to estimate our models.

#### 4. The urban-rural gap in governance and public administration

The PAPI survey solicits citizens' feedback on quality of governance and on the public administration outputs they receive from their local authorities; we use this detailed information to examine patterns and differences in local governance and public administration between urban and rural areas. Following the PAPI approach, we measure governance quality and public administration in Vietnam by aggregate indexes of six dimensions, including participation, transparency, vertical accountability, control of corruption, public administrative procedures, and public service delivery. Each dimension is measured by an aggregate indicator. Each indicator is measured by several sub-dimensions, and each sub-dimension is computed from several raw indicators that are estimated directly from PAPI survey questions. The survey poses these questions to citizens in order to collect data on their assessment of governance, public administration, and public services. Indicators are selected to reflect aspects of governance and public administration. Indicators as well as aggregate indexes of dimension are standardized from 1 to 10 so that 1 means the poorest performance and 10 means the best performance in terms of governance and public administration.

Table 1 presents the aggregate index of six dimensions by urban and rural areas in 2011. We present the index by city grade.<sup>3</sup> Urban areas in Vietnam are classified according to different grades (classes) depending on the city's population density, socioeconomic role in areas, industrialization level, infrastructure, etc. The most import cities are defined as special cities. Other cities are classified from 1 to 5, with the smaller value meaning larger cities.

To test whether the urban-rural difference in governance is statistically significant, we regress these governance indicators on urban and city dummies (reported in tables 2 and 3). Overall, urban areas perform better than rural areas in most dimensions. The difference is particularly strong in public service delivery. There are no statistical differences between urban and rural areas in participation in village decisions and vertical accountability.<sup>4</sup> When urban areas are disaggregated into cities of different grades, large cities tend to have better performance of transparency in local decision-making, control of corruption, and public service delivery.

Columns 7 and 8 of table 1 present the composite measures for the PAPI index, weighted and unweighted. The PAPI varies from 6 (lowest possible score) to 60 points (maximum possible score), with higher points meaning better governance and public administration performance. Urban areas outperform rural areas significantly on these two composite measures, consistent with the general pattern we observe when comparing separate dimensions.

In columns 9 and 10, we compare the overall satisfaction of people with local and central governance between urban and rural citizens. The statistics show that urban people report better assessment of governance quality and public administration. People

<sup>&</sup>lt;sup>3</sup> A detailed definition of cities is provided in Decree No. 42/2009/NĐ-CP of the Government of Vietnam, dated 07/05/2009.

<sup>&</sup>lt;sup>4</sup> This vertical accountability dimension is comprised of three sub-dimensions including (i) citizen's interactions with local authorities, (ii) People's Inspection Boards (PIBs), and (iii) Community Investment Supervision Boards (CISBs).

in larger cities also tend to have a better view of governance than those in smaller cities. Note that while urban citizens are more likely to be satisfied with local governance than rural citizens, they have a similar level of satisfaction with central governance. This makes sense because the two groups are governed by the same central government but by different local authorities. Further, citizens in larger cities are more likely to have better experiences with local governance than those in small cities.

One interesting exception is that citizens in Hanoi and Ho Chi Minh cities, which are the two special cities, have lower assessments for central governance than citizens in rural areas and other cities. This is likely because citizens in Hanoi and Ho Chi Minh cities have more direct interactions with the central government.

#### 5. Urban-rural differences in governance quality: methodology

#### Small area estimation method

The main objective of this study is to examine the spatial difference in governance quality between urban and rural areas, and then subsequently to investigate several factors associated with this urban-rural difference. We measure overall governance and public administration quality by the aggregate index of PAPI. At the provincial level, we can compute the difference in satisfaction level between urban and rural individuals:

$$D_{p} = PAPI_{u} - PAPI_{r}, \qquad (1)$$

where  $D_p$  is the urban-rural difference in governance,  $PAPI_u$  and  $PAPI_r$  are the means of PAPI for urban and rural individuals, respectively.

We can use an equation similar to (1) to estimate the urban-rural difference in governance at the district level. However, the PAPI surveys are not representative at the district level due to the small number of observations at the district level. To predict PAPI in small areas such as districts, we use the small area estimation method developed by Elbers et al. (2002, 2003). We combine the 2011 PAPI with the 2009 VPHC survey. The small area estimation is often applied to predict poverty and inequality measures in small areas. In Vietnam, it has been widely applied to construct poverty maps (e.g., Nguyen et al., 2010; Nguyen, 2011).

The Elbers et al. (2002, 2003) method can be described in three steps as follows. In the first step, we select common variables of the 2011 PAPI and the 2009 VPHC. The common variables include household and individual characteristics, district characteristics, and area mean variables computed from the census. Area mean variables are the average of household characteristics by small areas such as commune. For example, from the census we can calculate the average education level of individuals at the commune level.

In the second step, we regress the satisfaction level for the selected common variables using data from the PAPI survey. More specifically, we use the following model:

$$\ln(PAPI_{ic}) = X_{ic}\beta + \eta_c + \varepsilon_{ic}, \qquad (2)$$

where  $\ln(PAPI_{ic})$  is log of the PAPI of household *i* in cluster *c*,  $X_{ic}$  is the vector of the common variables,  $\beta$  is the vector of regression coefficients,  $\eta_c$  is the cluster-specific random effect, and  $\varepsilon_{ic}$  is the individual-specific random effect. The subscript *ic* refers to household *i* living in cluster *c*.

In the third step, we use the following model to estimate the PAPI of a household in the census:

$$\hat{\ln}(PAPI_{ic}) = X_{ic}^{Census}\hat{\beta} + \hat{\eta}_c + \hat{\varepsilon}_{ic}, \qquad (3)$$

where  $\hat{\beta}$ ,  $\hat{\eta}_c$ , and  $\hat{\varepsilon}_{ic}$  denote the estimates for  $\beta$ ,  $\eta_c$ , and  $\varepsilon_{ic}$ . We can use the predicted PAPI to calculate the average PAPI level of rural and urban households within a district. It should be noted that Monte-Carlo simulations calculate the point estimates as well as the standard errors for satisfaction level. In each simulation, we draw a set of values  $\hat{\beta}$ ,  $\hat{\eta}_c$ , and  $\hat{\varepsilon}_{ic}$  from their estimated distributions, and obtain PAPI estimates for urban districts and rural districts. After *k* simulations, we can get the average and standard deviation over the *k* different simulated values of the satisfaction level.

We can compute the urban-rural difference in PAPI at the provincial and district levels. We can produce geographic maps of PAPI as well as the urban-rural difference in PAPI at the district level.

#### **Regressions of urban-rural difference in PAPI**

In the second step, we examine the association between the urban-rural difference in local governance quality and several explanatory variables by running a regression of the estimated urban-rural difference on explanatory variables at the district level. Since the observations are districts, there can be spatial correlation between dependent variables and error terms. Thus, we apply the spatial model as follows:

$$D_d = \alpha + \lambda W D_d + X_d \beta + u_d \tag{4}$$

$$u_d = \rho M u_d + \mathcal{E}_d \tag{5}$$

where  $D_d$  is the urban-rural difference in PAPI of district d, and  $X_d$  is a vector of control variables of the district. W and M are spatial-weighting matrices (with zero diagonal elements). The dependent variables are allowed to be correlated with each other. The model is a type of spatial econometric model with first-order spatialautoregressive and first-order spatial-autoregressive disturbances (see, e.g., Haining, 2003; Drukker et al., 2010, 2011). W and M are spatial-weighting; they are set equal to each other and equal to the inverse-distance between centroids of districts. This matrix weight allows for the high correlation between nearby districts and for the low correlation between far districts.

#### 6. Urban-rural differences in governance quality: empirical results

#### Provincial and district governance and public administration

In this section, we present the results of the models that estimate the relationship between weighted PAPI and a number of explanatory variables including demographic variables of households (household size, fraction of adults, and age and sex of household heads), education and employment of household heads, and assets of households. We do this separately for six regions of the country. Data on these variables are contained in both the 2011 PAPI and the 2009 VPHC surveys. The 2009 VPHC is also used to calculate the variable means of communes, for instance the proportion of households having different assets in a commune. These commune means are merged to the 2011 PAPI survey to estimate the model of PAPI. Explanatory variables are selected to be robust in different model specifications.

Tables A2 through A7 in the appendix present the results of these models. The Mekong River Delta has lower R-square values, and other regions have R-square values from 0.2 to 0.3. This is reasonable, since it is more difficult to model households' feedback about governance and public administration quality than it is to model other welfare indicators such as the income and consumption of households. Once the PAPI models are estimated, they are applied to the 2009 VPHC to estimate the weighted PAPI for all households in the census. The household PAPI estimates are then aggregated to form average PAPI scores for districts and provinces.

To examine whether the PAPI estimates are sensitive to the specification of the PAPI models, we use two types of models: a large model that includes a large set of explanatory variables (as presented in the tables in the appendix), and a small model with a smaller number of explanatory variables. Figure A.1 in the appendix compares the PAPI estimates at the district and provincial levels among the large and small models. They are very similar. We also estimate the unweighted PAPI for districts and provinces. The unweighted and weighted PAPI are also similar (see figure A.2 in the appendix). In the following, we present the findings of the weighted PAPI in a series of figures.

Figure 1 shows a relatively clear spatial pattern of PAPI. The Northern Mountain and Highlands regions have lower PAPI scores, meaning less citizen experience with governance and public administration quality. Provinces and districts on the Central Coast and in the South East tend to perform better on governance scores. Interestingly, there is a large variation in citizens' satisfaction with governance in the districts within a province. In figure 2, we present the proportion of households with PAPI estimates belonging to the lowest and highest quintiles of PAPI estimates. The pattern is similar to the pattern of the average PAPI. In areas with low PAPI, the proportion of households reporting low PAPI is higher, and the proportion of households reporting high PAPI is lower.<sup>5</sup>

Figure 3 presents the PAPI estimates of provinces by urban and rural households. Urban areas have higher PAPI than rural areas. The gap in PAPI between urban and rural areas also has a spatial pattern with larger gaps in the Northern Mountains and Central Highlands (figure 5). Figure 4 presents the proportion of households with low PAPI by urban and rural areas. The higher proportion means a

<sup>&</sup>lt;sup>5</sup> Figure A.1 in the appendix graphs the density of households with low and high PAPI. In delta and coastal areas, the population is high, and as a result there is also a high number of households with low as well as high PAPI estimates.

lower quality of governance and public administration. Differences in PAPI between urban and rural households are examined in figures 5 and 6. This shows a pattern similar to that of the provincial maps. PAPI gaps tend to be larger in the Northern Mountains.<sup>6</sup>

#### Regression of urban-rural gap in governance and public administration

There is a strong linear relation between the urban-rural gap in citizens' experiences with governance within districts and the average level of district governance (see panel A of figure 10). Districts with lower governance performance tend to have a large urban-rural gap in governance. This implies that in districts with better governance and public administration, both urban and rural people have more positive assessments of their governance, so the urban-rural gap in governance decreases. It is also possible that better district-level governance encourages better governance of communes within the district, for urban and rural communes alike.

Panel B of figure 10 indicates a U-shaped relation between the urban-rural gap in citizens' experience of governance and welfare levels measured by per-capita expenditure. Note that most districts lie on the left of the U-curve. Districts with lower welfare levels tend to have larger gaps in urban-rural governance. As the mean percapita expenditure increases in a district, the urban-rural gap in governance and public administration quality decreases; however, after reaching the bottom, the urban-rural gap slightly increases.<sup>7</sup>

Table 4 reports the regressions of urban-rural governance at the district level on the level of development (measured by average household expenditure).<sup>8</sup> We present both

<sup>&</sup>lt;sup>6</sup> Figure A.2 in the appendix examines the difference in PAPI between Kinh and ethnic minorities. Kinh households are more likely to have higher PAPI than ethnic minorities, even within a district or a province.

<sup>&</sup>lt;sup>7</sup> The mean per-capita expenditures of districts are obtained from Lanjouw et al. (2013).

<sup>&</sup>lt;sup>8</sup> We also put all available explanatory variables in a regression. However, this can cause the problem of multicollearity. The results are presented in table A.8 in the appendix.

OLS and spatial regressions, which give quite similar results. The results reported indicate that the urban-rural difference in citizens' experiences with governance and public administration first increases with the expenditure inequality of the districts, then decreases after achieving a peak. This confirms the U-shape pattern that we observe in panel B of figure 10. Further, the coefficient of weighted dependent variables (Lambda) means there is a spatial correlation between the urban-rural gaps in PAPI of districts. The PAPI index and per-capita expenditure of districts are statistically significant and reveal a similar trend as indicated by figure 10. Since expenditure inequality (measured by the Gini index) is negatively correlated with the expenditure mean of districts (Lanjouw, 2013), there is an inverted-U shape between the urban-rural difference in governance performance within districts and the Gini index of expenditure.

Table 5 presents the relationship between the urban-rural governance gap and urbanization. It also indicates a U-shaped relation between the urban-rural gap in governance and urbanization level, which is measured by the proportion of urban population. The results in this table also show that the urban-rural gap in district governance tends to be higher in districts with a larger proportion of ethnic minorities and in districts with less educated household heads. The urban-rural gap in citizens' experiences with governance is smaller in districts with more assets – proxy by the proportion of households having motorbikes. Overall, the urban-rural gap in governance is negatively correlated with the welfare level of districts. Better-off districts tend to have a smaller urban-rural gap in governance than worse-off districts do.

#### 7. Conclusions

We have examined the discrepancies in governance and public administration between urban and rural areas in Vietnam. We have considered the quality of governance and public administration according to six dimensions including participation, transparency, vertical accountability, control of corruption, public administrative procedures, and public service delivery. Our analysis suggests that in most dimensions, urban governments tend to outperform rural ones, especially in public service delivery. The aggregated PAPI scores at the provincial levels are higher in urban than in rural areas. We find that overall citizen satisfaction with local and central governance is also higher in urban than in rural areas.

We estimate the PAPI index for urban and rural areas of all districts using the small area estimation. Then, we compute the urban-rural difference in districts and examine factors associated with this urban-rural difference in PAPI at the district levels. We find that districts where PAPI scores are higher also tend to have lower urban-rural gaps in governance and public administration performance. This finding alone has the important implication that improvement of governance and public administration performance at higher levels can help narrow the urban-rural gap.

Overall, there is a negative correlation between the urban-rural gap in governance and public administration performance, on one hand, and the development level of districts, on the other. More precisely, there is a U-shaped association between the urban-rural gap in governance and the mean expenditure of districts. As the mean per-capita expenditure of a district increases, the urban-rural gap in governance and public administration decreases, but after reaching the bottom the urban-rural gap slightly increases.

Vietnam, like most other developing countries, faces dual development: fastpaced development and urbanization in cities is accompanied by slow-paced development in rural areas. This dualism poses a challenging inequality between urban and rural areas, not only in economic terms but also in governance and public administration. Filling this literature gap, our paper points to the factors that affect discrepancies in urban and rural governance at the local level in Vietnam. The paper has provided evidence for some of these determinants that could facilitate improvements in quality of governance and public administration performance, as well as in the gap between urban and rural areas.

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Areas	Dimension 1: Participation at local levels	Dimension 2: Transparency	Dimension 3: Vertical Accountability	Dimension 4: Control of Corruption	Dimension 4: Public Administrative Procedure	Dimension 6: Public Service Delivery	Weighted PAPI	Unweighted PAPI	Local governance quality*	National governance quality*
Total	5.30	5.47	5.50	6.25	6.88	6.75	37.2	36.2	82.6	90.4
	(0.04)	(0.05)	(0.03)	(0.04)	(0.02)	(0.03)	(0.2)	(0.1)	(0.5)	(0.6)
Rural	5.31	5.40	5.50	6.20	6.84	6.63	36.8	35.9	82.2	90.4
	(0.04)	(0.05)	(0.04)	(0.05)	(0.03)	(0.03)	(0.2)	(0.2)	(0.6)	(0.8)
Urban	5.29	5.67	5.50	6.42	6.99	7.09	38.6	37.0	84.0	90.3
	(0.09)	(0.13)	(0.04)	(0.08)	(0.04)	(0.05)	(0.4)	(0.4)	(0.7)	(0.7)
Special cities	5.42	6.22	5.36	6.50	7.00	7.39	40.3	37.9	85.2	85.4
	(0.16)	(0.18)	(0.14)	(0.08)	(0.05)	(0.04)	(0.4)	(0.5)	(0.7)	(1.3)
City grade 1	5.44	5.44	5.37	5.98	7.05	7.23	38.1	36.5	85.8	86.0
	(0.08)	(0.07)	(0.07)	(0.11)	(0.13)	(0.06)	(0.3)	(0.2)	(1.1)	(3.2)
City grade 2	5.69	6.11	5.86	6.48	7.03	7.29	40.1	38.5	84.9	92.3
	(0.08)	(0.10)	(0.09)	(0.11)	(0.06)	(0.04)	(0.3)	(0.3)	(1.2)	(1.3)
City grade 3	5.27	5.42	5.45	6.42	6.93	7.25	38.5	36.7	84.2	90.9
	(0.07)	(0.08)	(0.06)	(0.08)	(0.05)	(0.03)	(0.2)	(0.3)	(1.1)	(1.7)
City grades 4&5	5.23	5.58	5.50	6.47	6.98	6.99	38.3	36.8	83.4	91.0
	(0.14)	(0.21)	(0.05)	(0.13)	(0.07)	(0.08)	(0.6)	(0.6)	(1.1)	(1.0)

Table 1: Dimension scores of governance and public administration

Explanatory variables	Dimension 1: Quality of Participation in Village Decisions	Dimension 2: Transparency of Local Decision- Making	Dimension 3: Vertical Accountability	Dimension 4: Control of Corruption	Dimension 5: Administrative Procedures	Dimension 6: Public Service Delivery	Weighted PAPI	Unweighted PAPI	Level of Satisfaction with Local Governance	Level of Satisfaction with Central Governance
Urban (urban=1; rural=0)	0.003	0.272*	-0.006	0.243**	0.243**	0.470***	1.865***	1.125***	1.766*	-0.305
	(0.105)	(0.156)	(0.055)	(0.095)	(0.095)	(0.060)	(0.475)	(0.425)	(0.897)	(1.180)
Constant	5.301***	5.404***	5.506***	6.194***	6.194***	6.632***	36.798***	35.884***	82.217***	90.492***
	(0.040)	(0.051)	(0.042)	(0.045)	(0.045)	(0.029)	(0.176)	(0.161)	(0.560)	(0.775)
Observations	13642	13642	13642	13642	13642	13642	13642	13642	12729	6519
R-squared	0.000	0.007	0.000	0.005	0.005	0.086	0.032	0.011	0.002	0.000

Table 2: Regression of PAPI (governance quality index) on urban variable

Robust standard errors in parentheses. Standard errors are corrected for cluster correlation and sampling weight. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Source: Estimation from the 2011 PAPI survey.

Explanatory variables	Dimension 1: Quality of Participation in Village Decisions	Dimension 2: Transparency of Local Decision- Making	Dimension 3: Vertical Accountability	Dimension 4: Control of Corruption	Dimension 5: Admin Procedures	Dimension 6: Public Service Delivery	Weighted PAPI	Unweighted PAPI	Level of Satisfaction with Local Governance	Level of Satisfaction with Central Governance
Special cities	0.123	0.818***	-0.145	0.310***	0.310***	0.758***	3.488***	2.017***	2.951***	-5.066***
	(0.170)	(0.193)	(0.147)	(0.099)	(0.099)	(0.050)	(0.476)	(0.543)	(0.947)	(1.497)
City grade 1	0.139	0.031	-0.132	-0.219*	-0.219*	0.594***	1.282***	0.616**	3.588***	-4.456
	(0.095)	(0.095)	(0.088)	(0.131)	(0.131)	(0.069)	(0.340)	(0.304)	(1.283)	(3.297)
City grade 2	0.387***	0.710***	0.359***	0.283**	0.283**	0.657***	3.253***	2.579***	2.703**	1.811
	(0.087)	(0.110)	(0.097)	(0.115)	(0.115)	(0.053)	(0.339)	(0.343)	(1.331)	(1.563)
City grade 3	-0.036	0.014	-0.060	0.227**	0.227**	0.620***	1.736***	0.849***	2.014	0.437
	(0.085)	(0.098)	(0.079)	(0.091)	(0.091)	(0.041)	(0.312)	(0.316)	(1.275)	(1.816)
City grades 4 & 5	-0.076	0.180	-0.001	0.280**	0.280**	0.353***	1.464**	0.875	1.163	0.507
	(0.151)	(0.224)	(0.064)	(0.134)	(0.134)	(0.084)	(0.691)	(0.619)	(1.228)	(1.446)
Rural areas							Base			
							Omitted			
Constant	5.301***	5.404***	5.506***	6.194***	6.194***	6.632***	36.798***	35.884***	82.217***	90.492***
	(0.040)	(0.051)	(0.042)	(0.045)	(0.045)	(0.029)	(0.176)	(0.161)	(0.560)	(0.775)
Observations	13642	13642	13642	13642	13642	13642	13642	13642	12729	6519
R-squared	0.003	0.015	0.002	0.007	0.007	0.099	0.039	0.015	0.002	0.004

### Table 3: Regression of PAPI on city variables

Robust standard errors in parentheses. Standard errors are corrected for cluster correlation and sampling weight. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Source: Estimation from the 2011 PAPI survey.

	0	DLS	Spatial	regression
Explanatory variables	Urban-rural		Urban-rural	
Explanatory variables	difference in	Ratio of urban to	difference in	Ratio of urban to
	PAPI index	rural PAPI index	PAPI index	rural PAPI index
PAPI index of districts	-0.2703***	-0.8622***	-0.2530***	-0.7961***
	(0.0516)	(0.1465)	(0.0524)	(0.1499)
Mean expenditure per capita of	-0.1475***	-0.4358***	-0.1052*	-0.3638**
district	(0.0543)	(0.1596)	(0.0550)	(0.1559)
Squared mean expenditure per	0.0038***	0.0114***	0.0026*	0.0092**
capita of district	(0.0014)	(0.0043)	(0.0014)	(0.0041)
Gini index	76.87***	219.72***	55.91**	163.49**
	(23.37)	(65.67)	(22.94)	(65.56)
Squared Gini index	-117.95***	-335.84***	-76.32*	-223.04**
	(40.44)	(113.76)	(39.00)	(111.31)
Constant	0.8312	105.6198***	1.3266	105.37***
	(3.9000)	(10.9242)	(3.9356)	(11.25)
Lambda			0.2574***	0.0167***
			(0.0354)	(0.0033)
Rho			0.8428***	0.8480***
			(0.1213)	(0.0897)
Observations	578	578	578	578
R-squared	0.1457	0.1701		

## Table 4: Regression of urban-rural difference in PAPI on aggregate welfare variables

Robust standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Source: Estimation from the 2011 PAPI and the 2009 VPHC.

	C	DLS	Spatial	regression
Explanatory variables	Urban-rural difference in PAPI index	Ratio of urban to rural PAPI index	Urban-rural difference in PAPI index	Ratio of urban to rural PAPI index
Proportion of urban population	-0.0406***	-0.1145***	-0.0451***	-0.1302***
	(0.0143)	(0.0401)	(0.0112)	(0.0322)
Proportion of urban population	0.0005***	0.0015***	0.0006***	0.0018***
squared	(0.0002)	(0.0005)	(0.0001)	(0.0004)
Proportion of ethnic minorities	0.0284***	0.0807***	0.0141***	0.0498***
population	(0.0033)	(0.0095)	(0.0038)	(0.0105)
Average number of schooling years	0.0135	-0.0330	-0.3562***	-0.7998***
for household heads of districts	(0.0728)	(0.2074)	(0.0902)	(0.2504)
Proportion of households having	-0.0103*	-0.0326*	-0.0070	-0.0352*
motorbike in districts	(0.0058)	(0.0168)	(0.0065)	(0.0184)
Mean elevation	10.6003	27.6647	-20.0826*	-52.0250*
	(12.0536)	(33.4421)	(10.7274)	(31.4159)
Population density (100,000 people	-0.0008**	-0.0021**	-0.0005	-0.0011
per km2)	(0.0004)	(0.0010)	(0.0004)	(0.0010)
Constant	2.1115***	106.5757***	3.1110***	107.8922***
	(0.5013)	(1.4697)	(0.6136)	(1.8308)
Lambda			0.3100***	0.0180***
			(0.0479)	(0.0044)
Rho			0.8010***	0.7821***
			(0.1433)	(0.0836)
Observations	578	578	578	578
R-squared	0.1948	0.2090		

## Table 5: Regression of urban-rural difference in PAPI on social-economic variables

Robust standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Source: Estimation from the 2011 PAPI and the 2009 VPHC.



## Figure 1: Weighted PAPI of provinces and districts

Source: Estimation from the 2011 PAPI and the 2009 VPHC



Figure 2: Percentage of households in lowest and highest quintiles of PAPI

Source: Estimation from the 2011 PAPI and the 2009 VPHC



Figure 3: Weighted PAPI of provinces by urban and rural households

Source: Estimation from the 2011 PAPI and the 2009 VPHC



Figure 4: Differences in province-weighted PAPI between urban and rural households

Source: Estimation from the 2011 PAPI and the 2009 VPHC



Figure 5: Percentage of households in the lowest quintile of PAPI by urban and rural

Source: Estimation from the 2011 PAPI and the 2009 VPHC

## Figure 6: District PAPI by urban and rural



Source: Estimation from the 2011 PAPI and the 2009 VPHC



Source: Estimation from the 2011 PAPI and the 2009 VPHC

## Figure 10: Urban-rural difference in PAPI

## Panel A. By average level of PAPI



Panel A. By average per-capita expenditure



Source: Estimation from the 2011 PAPI and the 2009 VPHC

## Appendixes (to be posted online)

Table A.1.	Summary	statistics	of variables

Variables	Observations	Mean	Std. Dev.	Min	Max
Variables in household-level data regressions					
Weighted PAPI	13642	37.2453	4.4497	23.1308	53.9869
Unweighted PAPI	13642	36.1538	4.5025	25.3783	53.1082
Satisfaction level with local governance	12729	82.6364	18.6753	0	100
Satisfaction level with central governance	6519	90.4214	16.7172	0	100
Dimension 1: Quality of Participation in Village Decisions	13642	5.3021	1.3045	2.0311	9.5179
Dimension 2: Transparency of Local Decision- Making	13642	5.4695	1.4218	2.3146	9.7137
Dimension 3: Vertical Accountability	13642	5.5041	1.2001	4.0628	10
Dimension 4: Control of Corruption	13642	6.2526	1.4814	3.2543	9.9500
Dimension 5: Administrative Procedures	13642	6.2526	1.4814	3.2543	9.9500
Dimension 6: Public Service Delivery	13642	6.7452	0.6844	3.7272	8.8750
Urban and city class					
Urban	13642	0.2398	0.4270	0	1
City special grade	13642	0.0295	0.1693	0	1
City grade 1	13642	0.0168	0.1284	0	1
City grade 2	13642	0.0183	0.1340	0	1
City grade 3	13642	0.0242	0.1535	0	1
City grades 4 and 5	13642	0.1511	0.3581	0	1
Variables in district-level data regressions					
Urban-rural difference in PAPI index	578	1.705	1.840	-3.203	7.666
Ratio of urban to rural PAPI index	578	104.790	5.224	90.788	122.656
PAPI index of districts	578	36.978	1.668	31.193	41.540
Mean expenditure per capita of district	578	13.357	4.389	4.541	46.377
Gini index of districts	578	0.273	0.032	0.215	0.424
Proportion of urban population	578	19.992	22.985	1.014	96.635
Proportion of ethnic minorities population	578	24.197	33.036	0.000	99.172
Average number of schooling years for household heads of districts Proportion of households having motorbike in	578	5.744	1.260	1.477	7.905
districts	578	73.524	13.801	15.007	95.480
Population density (100,000 people per km2)	578	0.00608	0.00812	0.00012	0.05693
Mean elevation (m2)	578	213.814	306.677	0.240	1520.27

Explanatory variables	Coefficient	Std. Err.	Prob >t
_intercept_	3.6198	0.0402	0.0000
Households have an air conditioner	0.0715	0.0115	0.0000
Commune's proportion of households with a desk telephone	0.1677	0.0195	0.0000
Commune's proportion of households with a motorbike	0.1345	0.0202	0.0000
Households have a radio	0.0537	0.0053	0.0000
Household have a television	0.0529	0.0073	0.0000
Commune's proportion of households with a television	-0.1066	0.0220	0.0000
Commune's log of living area per capita	-0.0718	0.0150	0.0000
Commune's proportion of medium-skilled workers	-0.2655	0.0631	0.0000
Commune's proportion of elderly people	-0.7254	0.1336	0.0000
Commune's proportion of households with a solid well	-0.0265	0.0098	0.0070
Commune's proportion of households with tap water	0.0539	0.0136	0.0001
Commune's proportion of households with a toilet	0.1002	0.0108	0.0000
Commune's proportion of households with solid walls	0.0826	0.0083	0.0000
Urban*Commune's proportion of households with a motorbike	0.0504	0.0146	0.0006
Urban* Head is an unskilled worker	0.0445	0.0121	0.0002
Adjusted-R2	0.2906		
Observations	2644		

Table A.2. GLS Regression of weighted PAPI in Northern Mountains

Explanatory variables	Coefficient	Std. Err.	Prob >t
_intercept_	3.2693	0.0695	0.0000
Commune's proportion of households with a deep well	-0.0285	0.0064	0.0000
Commune's proportion of households with a motorbike	0.2852	0.0344	0.0000
Household has a radio	0.0299	0.0048	0.0000
Household has a television	0.0420	0.0114	0.0002
Household size	0.0038	0.0014	0.0045
Household head is a skilled worker	0.0517	0.0091	0.0000
Log of the number of firms in commune	-0.0272	0.0023	0.0000
Commune's log of living area per capita	-0.1075	0.0179	0.0000
Commune's proportion of not working people	-0.2857	0.0453	0.0000
Commune's proportion of households with a solid roof	0.1343	0.0174	0.0000
Commune's proportion of households with a solid well	-0.0364	0.0094	0.0001
Commune's proportion of households with a flush toilet	0.5175	0.0772	0.0000
Commune's proportion of households with a toilet	0.4132	0.0728	0.0000
Urban * cities class 2	0.0871	0.0100	0.0000
Urban * household size	-0.0096	0.0022	0.0000
Adjusted-R2	0.2261		
Observations	2477		

Table A.3. GLS Regression of weighted PAPI in Red River Delta

Explanatory variables	Coefficient	Std. Err.	Prob >t
_intercept_	3.5168	0.0084	0.0000
City class 1	0.0542	0.0080	0.0000
Household has a computer	0.0298	0.0053	0.0000
Household has a motorbike	0.0203	0.0053	0.0001
Household has a radio	0.0216	0.0054	0.0001
Commune's proportion of people with secondary school education	0.0499	0.0201	0.0132
Commune's proportion of household heads with secondary school	0.2057	0.0201	0.0000
Household head is a skilled worker	0.0355	0.0070	0.0000
Commune's proportion of households with a solid roof	0.1644	0.0157	0.0000
Commune's proportion of households with a solid well	-0.0425	0.0061	0.0000
Household has tap water	0.0127	0.0059	0.0303
Commune's proportion of households with a toilet	0.0423	0.0100	0.0000
Urban * household has a television	0.0805	0.0131	0.0000
Urban * Commune's proportion of ethnic minorities	0.2761	0.0364	0.0000
Adjusted-R2	0.2413		
Observations	3069		

Table A.4. GLS Regression of weighted PAPI in Central Coast

Explanatory variables	Coefficient	Std. Err.	Prob >t
_intercept_	3.9896	0.0566	0.0000
Household has a desk telephone	-0.0168	0.0075	0.0259
Household has a radio	0.0468	0.0100	0.0000
Household has a television	0.0357	0.0139	0.0106
Ethnic minorities (yes=1)	-0.0339	0.0078	0.0000
Commune's log of living area per capita	-0.1858	0.0236	0.0000
Commune's proportion of people working in public sector	0.4775	0.1450	0.0010
Household has tap water	0.0532	0.0107	0.0000
Household head is an unskilled worker	-0.0460	0.0080	0.0000
Commune's proportion of households with solid walls	0.1381	0.0208	0.0000
Urban * Commune's proportion of ethnic minorities	-0.1662	0.0394	0.0000
Urban * household size	0.0104	0.0023	0.0000
Urban * Commune's proportion of households with semi-solid walls	-0.1785	0.0368	0.0000
Adjusted-R2	0.1977		
Observations	979		

Table A.5. GLS Regression of weighted PAPI in Central Highlands

Table A.6.	GLS	Regression	of weighted	1 PAP	'I in	South	East
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Explanatory variables	Coefficient	Std. Err.	Prob >t
intercept_	3.5031	0.0461	0.0000
Commune's proportion of household heads with secondary school	-0.1100	0.0416	0.0083
Household head is a skilled worker	0.0320	0.0068	0.0000
Commune's log of living area per capita	-0.0702	0.0121	0.0000
Commune's proportion of people working in public sector	0.4646	0.0914	0.0000
Household has tap water	0.0396	0.0058	0.0000
Commune's proportion of households with solid walls	0.3474	0.0346	0.0000
Adjusted-R2	1687		
Observations	0.2172		

Explanatory variables	Coefficient	Std. Err.	Prob >t
_intercept_	3.2002	0.0315	0.0000
Commune's proportion of households with a motorbike	0.0863	0.0155	0.0000
Household has a radio	0.0348	0.0051	0.0000
Household has a television	0.0347	0.0077	0.0000
Commune's proportion of household heads with secondary school	0.6444	0.0655	0.0000
Ethnic minorities (yes=1)	-0.0372	0.0073	0.0000
Commune's log of living area per capita	0.0938	0.0117	0.0000
Head is a medium-skilled worker	0.0266	0.0080	0.0008
Commune's proportion of not working people	-0.1066	0.0341	0.0018
Commune's proportion of households with a solid roof	-1.2863	0.2904	0.0000
Urban * Commune's proportion of households with a solid roof	1.0439	0.2844	0.0002
Adjusted-R2	2693		
Observations	0.1614		

Table A.7. GLS Regression of weighted PAPI in Mekong River Delta

	OLS		Spatial regression	
Explanatory variables	Urban-rural difference in PAPI index	Ratio of urban to rural PAPI index	Urban-rural difference in PAPI index	Ratio of urban to rural PAPI index
PAPI index of districts	-0.3393***	-1.0527***	-0.2289***	-0.7797***
	(0.0511)	(0.1437)	(0.0482)	(0.1489)
Mean expenditure per capita of	0.3230***	0.9093***	0.0507	0.1709
district	(0.0998)	(0.2777)	(0.0942)	(0.2687)
Squared mean expenditure per	-0.0047***	-0.0130***	0.00002	0.0007
capita of district	(0.0018)	(0.0049)	(0.0020)	(0.0055)
Gini index	-14.4241	-43.4131	16.7794	26.4318
	(23.3624)	(65.4324)	(23.9648)	(69.5770)
Squared Gini index	30.2802	89.8816	-14.7842	-8.8865
	(39.5780)	(111.1076)	(39.5427)	(114.6098)
Proportion of urban population	-0.0557***	-0.1580***	-0.0526***	-0.1472***
	(0.0154)	(0.0432)	(0.0114)	(0.0325)
Proportion of urban population	0.0007***	0.0019***	0.0007***	0.0020***
squared	(0.0002)	(0.0005)	(0.0001)	(0.0004)
Proportion of ethnic minorities	0.0361***	0.1024***	0.0106**	0.0468***
population	(0.0043)	(0.0121)	(0.0049)	(0.0147)
Average number of schooling years	0.1370*	0.3568*	-0.2268***	-0.3826
for household heads of districts	(0.0711)	(0.1981)	(0.0877)	(0.2567)
Proportion of households having	-0.0205***	-0.0607***	-0.0086	-0.0415**
motorbike in districts	(0.0059)	(0.0169)	(0.0061)	(0.0203)
Maan alayation	-4.2527	-14.1578	-30.3672***	-91.3481***
Mean elevation	(12.8198)	(35.5058)	(11.4610)	(33.7487)
Population density (100,000 people	-0.0007	-0.0019	-0.0007*	-0.0017
per km2)	(0.0004)	(0.0013)	(0.0004)	(0.0011)
Constant	13.0428***	141.0466***	6.7098*	125.5319***
	(3.6831)	(10.1910)	(3.9441)	(11.5772)
Lambda			0.6481	0.0207
			0.1269	0.0042
Rho			0.3355	0.8285
			0.0127	0.1093
Observations	578	578	578	578
R-squared	0.2794	0.3050		

Table A.8: Regression of urban-rural difference in PA
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Robust standard errors in parentheses.

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.



Figure A.1: Number of households in lowest and highest quintiles of PAPI

Source: Estimation from the 2011 PAPI and the 2009 VPHC



Figure A.2: PAPI by Kinh and ethnic minorities

Source: Estimation from the 2011 PAPI and the 2009 VPHC