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The Cycle of Transparency, Accountability, Corruption, and Administrative Performance: Evidence from Vietnam

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Abstract

This paper investigates the correlation amongst transparency, accountability, corruption, and public administration performance in Vietnam using data from the Vietnam Provincial Governance and Public Administration Performance Index survey in 2012. The Generalised Canonical Analysis is applied to evaluate the meaning of the 'Don't Know' answer which often exists in response to questions on perception of corruption. The results reveal that 'Don't Know' implies corruption. The paper then, shows that a high level of transparency is accompanied with a low level of perception of corruption while impacts of accountability on corruption are mixed. Furthermore, corruption is a critical factor that deteriorates the administration performance whereas transparency and accountability are ineffective in being translated into the quality of administrative services. The results raise the need to closely examine the de-facto forms of transparency and accountability as well as the political will in the fight against corruption to improve the quality of public administrative services in Vietnam.

Keywords: Governance; public administration performance; corruption; multiple correspondence analysis; canonical correlation analysis.

1. Introduction

In western societies, transparency, accountability, and integrity are rooted in the government framework that ensures equal access to high quality public services. Contrarily, in many developing countries, citizens continue to suffer dysfunctional governance and unsatisfactory public services. Theoretical and empirical evidence converge to the point that lack of transparency and accountability are amongst the determinants of corruption (Larmour and Barcham, 2005; Sampson, 2005; Purohit, 2007; Dossing et al., 2011).This, coupled with corruption, simultaneously deteriorates the quality of public administrative services (Painter, 2003; Deininger and Mpuga, 2004; Peter, 2007).

In Vietnam, public administration has been identified as one of the main obstacles to achieve economic development and social equality. In an effort to remove this obstacle, Public Administrative Reforms (PAR) have been implemented since the 1990s and re-strengthened with a new program known as Master Public Administrative Reform 2001-2010. This new PAR emphasises how to obtain a greater transparency and accountability, stronger anti-corruption measures, and better quality public administrative services. However, impacts of the program are moderate (ADB, 2011).

A number of studies try to identify reasons for poor governance and administrative performance in Vietnam as well as provide analytical frameworks to explain why the reforms take the forms they do in the Vietnamese setting (Dao, 1997; Gainsborough et al., 2009; Painter et al., 2009; Painter, 2012). However, there is little literature about how transparency and accountability contribute to the fight against corruption. Moreover, the effects of transparency, accountability, and corruption on the quality of public administrative services are not well understood.

This paper contributes to the gap in the literature by taking advantage of enriching information from the Vietnam Provincial Governance and Public Administration Performance Index (PAPI) survey, which collected information on governance and public services in Vietnam in 2012. One typical feature of this survey is that respondents often pick up the 'Don't Know' option when answering questions on perception of corruption and the propensity to respond is not random. Thus, excluding the 'Don't Know' answer leads to systematic errors. To overcome this problem, the paper firstly applies Generalised Canonical Analysis to investigate the meaning of 'Don't Know'. Then, it uses a variety of methods of Multiple Correspondence Analysis to disclose the relationship between transparency, accountability, corruption, and public administrative performance in Vietnam.

The paper is structured as follows. Section 2 investigates governance and public administrative performance in Vietnam. An overview of methodology is provided in Section 3. Section 4 discusses data and variables used in the paper. Section 5 mentions empirical findings and Section 6 concludes.

2. Governance and public administrative performance in Vietnam

Acknowledging the leading role of governance in achieving a prosperous and equal society, the Vietnamese government has implemented a series of governance and public administrative reforms. The objectives of these reforms are to obtain good governance leading

to more efficient public services.

So far, reforms in governance in Vietnam have emphasised three pillars including citizens' participation, transparency, and accountability. A series of regulations has been issued to make the government more transparent. Moreover, accountability is often repeated in government documents and in fact, many new forms of accountability are introduced. However, they are not always optimal and important gaps remain (JDG, 2010). Consequently, "pervasive corruption and convoluted administrative procedures in Vietnam's economy are troubling to investors and would-be investors" (Schwarz, 2010).

Perhaps the most ambitious reform in Vietnam is the Master PAR for the period 2001-2010. This program aims at putting the state management framework into 'rule by law'. Key messages from the program are: (i) ensuring more efficient state management; (ii) reducing corruption; and (iii) a new 'public service' orientation in dealing with citizens. Yet, after ten years of being implemented, "PAR remains slow and has not yet responded to the national socio-economic development needs" (Acuna-Alfaro, 2009, p.9). According to the impact evaluation conducted by the Asian Development Bank in 2011, impacts of the program are under-satisfactory (ADB, 2011).

While the objective of PAR is to reduce corruption, it is ironic that corruption is identified as one of the main constraints for public administrative reforms. Public servants often abuse their position in taking bribes and the culture of 'beg and give' still exists that allows public servants to seek funds for their normal operation through discretionary official fees (Painter, 2003). Moreover, the tendency of viewing public office as a vehicle for personnel enrichment, rather than working for the public good, puts corruption and weaknesses in public administration in the same direction (Gainsborough et al., 2009).

Similarly, two pillars of governance including transparency and accountability have little impact on anti-corruption. According to the 2006 Global Integrity Report, corruption accounts for 3-4 per cent of lost Gross Domestic Product (GDP) for Viet Nam each year. The Vietnam Barometer 2013 reports that Vietnamese citizens pay bribes because that is the way to 'speed thing up' (41%) and 'the only way to obtain the service' (26%) (Chow, 2013).

Recently, the Vietnamese government has issued Resolution 25/NQ-CP on the 2nd June 2010 on simplifying 258 administrative procedures. This resolution is also known as Project 30 because it aims to reduce compliance costs for businesses and citizens by 30 per cent. Will this new regulation and other institutional reforms lead to more satisfactory outcomes on anti-corruption and administrative performance in Vietnam? This paper tries to answer this question by applying the Multiple Correspondence Analysis (MCA) to analyse PAPI data set in 2012.

3. Analytical framework

In this paper, MCA is firstly applied to evaluate the meaning of the 'don't know' response for questions on perception of corruption and create latent variables for transparency, accountability, and corruption. It then investigates pair relationships between transparency – corruption, and accountability – corruption. Finally, the paper uses a probit regression mod-

el to examine the correlation amongst transparency, accountability, corruption, and quality of administrative services.

Multiple correspondence analysis

MCA can be understood as a method of data reduction that is similar to Principal Component Analysis (PCA) but applied to categorical data (Le Roux and Rouanet, 2004). The method is briefly explained as follows. We have data on J categorical variables collected for n objects or individuals, where $j \in J = \{1,2,...,J\}$ can take possible values l_j (categories). MCA compresses data in a lower dimension space, for example the Euclidean space with p dimensions (R^p). In this new low-dimensional space, objects and categories are positioned in such a way that as much information as possible is retained from the original data. In order to do that, MCA quantifies or transforms the response categories, i.e., to achieve numerical values for the response categories to calculate correlation coefficients between the variables (Greenacre, 2006). The quantification of the categories is determined by a loss function which is defined below:

$$\sigma(X;Y_1,\ldots,Y_J) = J^{-1}\sum_{j=1}^{J} SSQ\left(X - G_j Y_j\right) \quad (1)$$

where X is the n x p matrix of the object scores and Y_j is the l_j x p matrix of category quantifications of l_j categories for variable j. X is called the object scores matrix and Y_j is named as the category quantifications matrix.

In order to compress the data, equation (1) should be minimised. An alternating least squares (ALS) algorithm gives the solutions for this minimisation problem as shown in equation (2) and (3):

$$\hat{Y} = D_j^{-1} G_j' X \quad (2)$$

$$\hat{X} = J^{-1}\sum_{j=1}^{J} G_j Y_j \quad (3)$$

where $D_j = G_j' G_j$ is the $l_j x l_j$ diagonal matrix containing on its diagonal the relative frequencies of the categories of variable j. Equation 2 is called the quantification of the variables (or principle component or latent dimension) which is a category quantification in the centroid of the object scores that belong to it. Equation 3 is named as the object quantification which shows that an object score is the average of the quantifications of the categories it belongs to (Michailidis and Jan de Leeuw, 1998).

When this method is applied for one set of variables, we have the regular MCA. When it is applied for two sets of variables, the method is known as Canonical Correlation Analysis (CCA). If the method is used to analyse k sets of variables, we have a Generalised Canonical Analysis (GCA).

Correlation canonical analysis

CCA is used to investigate the correlation between two sets of variables. The idea of CCA is to produce latent variables *U's* describing the linear relationship among a set of variables *Y's* and latent variables *V's* explaining the linear relationship among a set of variables *X's*. Then, it investigates the correlation between each pair of *U's* and *V's*. The first set of correlations between *U's* and *V's* is called the first canonical correlation and so on. Equations (4) and (5) illustrate the first canonical correlation between *X's* and *Y's*.

$$U_1 = a_1 Y_1 + a_2 Y_2 + \ldots + a_q Y_q \quad (4)$$

$$V_1 = b_1 X_1 + b_2 X_2 + \ldots + b_p X_p \quad (5)$$

where U_1 is the first linear combination of *Y's* and called the first canonical variable of *Y's*; V_1 is the first linear combination of *X's* and called the first canonical variable of *X's*. The coefficients *a's* and *b's* are selected to maximise the correlation between U_1 and $V_1$and under the restriction that U_1 and V_1 have a standard normal distribution. Once U_1 and V_1 are obtained, the correlation coefficient between them is calculated and named as the first canonical correlation.

After getting the solution for the first canonical variables, CCA finds coefficients for the second canonical variables of *X's* and *Y's* and the process continues until all canonical variables are derived. The number of canonical correlations is equal to the number of variables in the smaller set of variables in CCA.

It should be noted that for regular MCA and CCA, the first principal component and canonical variables are the most important dimensions which account for the most variance of the original data (Afifi and Clark, 1997; Blasius and Greenacre, 2006).

Generalised canonical analysis

GCA is applied to investigate the relation of more than two sets of variables. A distinguishing feature from GCA compared to regular MCA is that the contribution of a particular variable to the solution is independent of all the other variables in the same set. Furthermore, restrictions with respect to the quantifications of the categories can be imposed (Matschinger and Angermeyer, 2006).

Probit regression

To evaluate the impact of factors including transparency, accountability, and corruption on the quality of administrative services, a probit model is used and written as follows:

$$Pro(Y=1|X,D) = \phi(\eta + \beta X + \alpha D + \varepsilon) \qquad (6)$$

where Y=1 if users are satisfied with whatever administrative service they use and 0 if otherwise. X is a set of variables including individual characteristics and variables related to governance. D is dummy variables for regions and ε is an error term.

4. Data and variables

To map the correlation between transparency, accountability, corruption, and public administration performance in Vietnam, the paper uses data from the national representative PAPI survey in 2012. PAPI surveys collect information to measure the government's performance in Vietnam from the assessment of end-users. Data are collected in six dimensions including (i) participation at local levels; (ii) transparency; (iii) accountability; (iv) control of corruption; (v) public administrative procedures; and (vi) public service delivery. The pilot of PAPI was implemented in 2009 in three provinces including Phu Tho, Da Nang, and Dong Thap. After the successful pilot, the survey was repeated every year at the nation-wide level. Because administrative services selected in the survey such as services for construction permits and land use right certificates are more appropriate to big cities, I select only 5 provinces, including Hanoi, Hai Phong (in the North), Da Nang (in the Centre), Ho Chi Minh City, and Can Tho (in the South) to study. Table 1 shows the distribution of sample size in studied provinces.

PAPI surveys use one questionnaire for both rural and urban places. Some questions are relevant to study governance in urban areas while others might be appropriate for rural research.

Table 1: Distribution of sample size in 5 cities

	Number of respondents	Percent
Hanoi	574	34.19
Hai Phong	184	10.96
Da Nang	192	11.44
Ho Chi Minh City	536	31.92
Can Tho	193	11.49
Total	1,679	100.00

Source: Author's calculation based on PAPI 2012.

Since this study investigates governance in urban provinces, I choose variables which are relevant to analyse urban governance. The list of variables used in the study is documented in Table 2. In this Table, questions on transparency and accountability ask respondents' experience, whereas corruption is determined by the perceived level of respondents.

5. Empirical findings

Evaluation of the 'Don't Know' response

A preliminary investigation into the data set reveals that a large proportion of respondents pick up the response category of 'Don't Know' (DK) when answering questions related to corruption. Table 3 illustrates the distribution of

Table 2: Variables used in the research

	Question in PAPI questionnaire	Number of respondent
Individual characteristics		
- Gender	A001	1,654
- Age	A002	1,654
- Education	A006	1,651
Transparency		1,643
- Commune budget is made available	D203	
- Respondent is informed about the communal land use plan	D204	
Accountability		1,640
- Respondent makes suggestions to authorities	D302a1	
- Communes have People's Inspection Boards	D303	
Corruption		1,654
- Officials divert funds from the state budget for their personal benefit	D402a	
- People like me have to pay bribes to obtain a land title	D402b	
- Officials receive kickbacks in exchange of approval of construction permits	D402e	
- In order to get a job in the government, people have to pay a bribe	D402f	
Administrative services		
- Use notary service	D501	805
- Use construction permit service	D505	127
- Use land use right certificate service	D507	111

Source: Author's calculation based on PAPI 2012.

Table 3: Distribution of category answer on perception of corruption

	Items	Agree	Somewhat agree	Disagree	DK	Total
	Response category coded:	2	1	0	888	
D402a	In my commune/ward, officials divert funds from the state budget for their personal benefit	815	127	98	614	1,654
		(49.27)	(7.68)	(5.93)	(37.12)	(100)
D402b	In my commune/ward, people like me have to pay bribes in order to obtain a land title	759	175	199	521	1,654
		(45.89)	(10.58)	(12.03)	(31.5)	(100)
D402e	In my commune/ward, officials receive kickbacks in exchange of approval of construction permits	679	182	233	560	1,654
		(41.05)	(11.00)	(14.09)	(33.86)	(100)
D402f	In order to get a job in the government, people have to pay a bribe	505	170	485	494	1,654
		(30.53)	(10.28)	(29.32)	(29.87)	(100)

Source: Author's calculation based on PAPI 2012.
Note: Numbers in parentheses are percentages.

category answer to corruption questions.

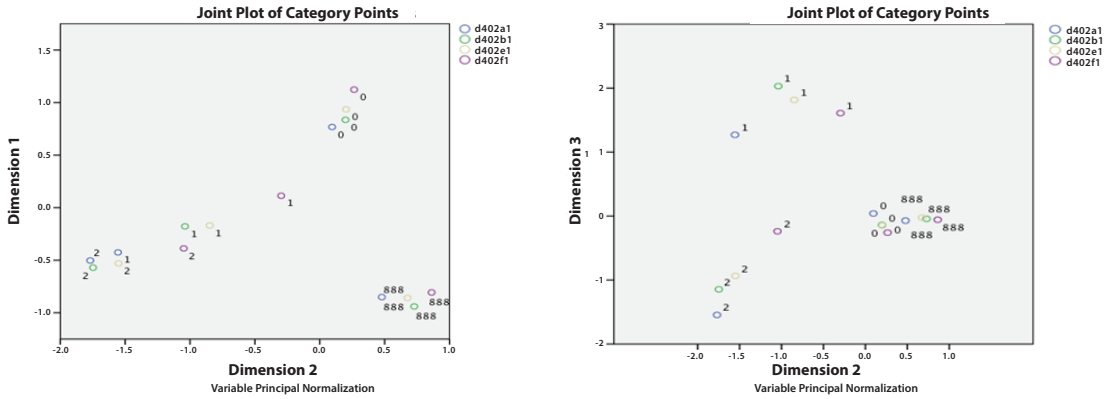
The number of 'don't know' responses accounts for a large part of each question, varying from 494 (29.87%) for question D402f to 614 (37.12%) for question D402a. Therefore, if the 'don't know' answer is dropped out, the sample size reduces nearly half, and might represent the problem of sample bias. Furthermore, respondents who answer 'don't know' may have an underlying attitude (Converse, 1970; Smith, 1984; Gilljam and Granberg, 1993).

To keep the sample size as its origin, I follow the approach of evaluating the 'don't know' response proposed by Matschinger and Angermeyer (2006). Matschinger and Angermeyer use GCA and impose restrictions on the quantification of the categories.

Benefiting the feature of GCA that the contributions of each variable to the solution are independent of all other variables in the same set, a variable which account for the sum of the 'don't know' responses for each individual is created. This sum variable is then generated to as many copies as the number of variables used to measure latent dimensions for the set of variables on corruption. The analysis is now subjected to canonical correlation analysis with four sets of variables. Each set contains a variable of interest, which is a variable on corruption perception, and the sum of the 'don't know' variable. This 'sum variable' has five categories, varying from 0 'don't know' responses to 4 where all questions are answered 'don't know'.

To partial out the 'don't know' response, I present both regular MCA and GCA solutions. Figure 1 shows the three dimension solutions of regular MCA without controlling the sum of 'don't know' responses. As can be seen from Figure 1, the first dimension discriminates respondents from the 'don't know' category to all other response categories. However, all other response categories from 0 to 2 do not lie perfectly on a line orthogonal to the first axis. With

Figure 1: Regular MCA solution



respect to the second and the third axes, the 'don't know' category is located in the center of the graph and not separated well from other response categories. This means the quantifications still depend on the 'don't know' response.

Controlling for the sum of 'don't know', we have a GCA solution. Because the quantifications of all four sum variables are identical, I present here only one of them in Figure 2.

As expected, the sum variable has loadings and quantifications of 0 on the first dimension. That allows us to see the location of response categories on the second dimension. Now, we see clearly that response categories are projected on a line through the origin and the 'don't know' response is located on the right hand side with all other response categories indicating respondents' agreement on corruption. The response category '0' which indicates respondents' disagreement on corruption is separated out on the left hand-side of the graph.

To further evaluate the meaning of 'don't know' for each question, I present the category centroids (a category quantification in the centroid of the object scores that belong to this category) in Table 4. Because the second dimension is the most important in this GCA solution (Matschinger and Angermeyer, 2006), only the centroids for this dimension are reported in the table.

Based on the centroids of categories in Table 4, we see that the centroid of 'don't know' responses are located on the right of the cate-

Figure 2: Quantification of one corruption variable on the first and second dimension

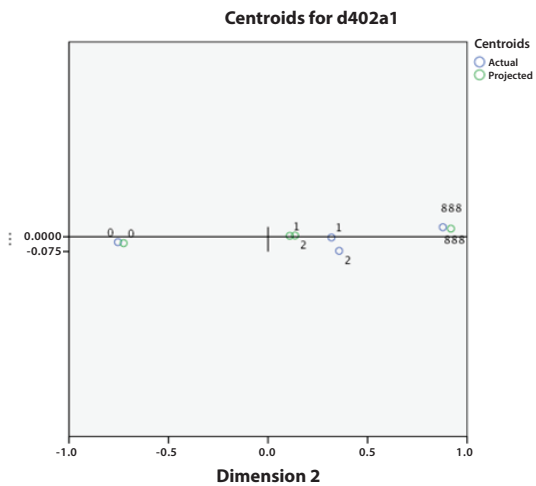


Table 4: Category quantification on the second dimension

	Agree	Somewhat agree	Disagree	DK
	2	1	0	888
D402a	0.357	0.319	-0.754	0.878
D402b	0.491	0.154	-0.828	0.966
D402e	0.504	0.240	-0.943	0.856
D402f	0.388	0.016	-1.137	0.775

Source: Author's calculation based on PAPI 2012.

gory 2 'agree' for all questions (the centroid of the 'don't know' response is the highest one). Therefore, the meaning of 'don't know' indicates the respondent's agreement on corruption. In order to make the scale for variables on perception of corruption meaningful, I keep the code of 0 indicating no corruption and recode all other response categories (including also the 'don't know' response) as 1 reflecting respondents' agreement with corruption. This recode is used in further MCA.

Mapping transparency, accountability, and corruption

CCA is applied to examine how transparency and accountability affect the respondent's perception of corruption. As stated before, the first canonical variables are the most important dimension. I extract only the first canonical variables for the correlation between transparency and corruption in equation (7) and for the relation amongst accountability and corruption in equation (8).

$$U_1 = a_1 D402a + a_2 D402b + a_3 D402e + a_1 D402f$$
$$V_1 = b_1 D203 + b_2 D204 \quad (7)$$
$$U_1 = a_1 D402a + a_2 D402b + a_3 D402e + a_1 D402f$$
$$V_1 = b_1 D302a_1 + b_2 D303 \quad (8)$$

In equations (7) and (8), *D402a-f* are questions on the respondent's perception of corruption. Original scores on those questions indicate that high scores imply high levels of perception on corruption. *D203* and *D204* reflect transparency with high scores presenting a high level of transparency. $D302a_1$ and *D303* indicate accountability with high scores implying a high level of accountability. Table 5documents the first canonical correlation between transparency and corruption while the first canonical correlation amongst accountability and corruption is presented in Table 6.

The interpretation of coefficients in CCA is similar to the case of the multiple regression. As can be seen from Table 5, for the first canonical variables of corruption perception $\boldsymbol{U_1}$, only D402a '*Officials divert funds from the state budget for their personal benefit*' and D402b '*People like me have to pay bribes to obtain a land title*' are significant. The standard coefficients (column 4) reveal that the first dimension$\boldsymbol{U_1}$ is determined largely by these two variables. The coefficient sign of these variables shows that a respondent who perceives a high level of corruption in D402a and D402b would score high on the canonical variable $\boldsymbol{U_1}$. For the canonical variable $\boldsymbol{V_1}$, both D203 *'Commune budget is made available*' and D204 '*Respon-*

Table 5: First canonical variables of correlation between transparency and corruption

	U_1				V_1		
	Raw coeff.	**Std. err.**	**Std. coeff.**		**Raw coeff.**	**Std. err.**	**Std. coeff.**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Officials divert funds from the state budget for their personal benefit	1.63***	0.26	0.81	Commune budget is made available	-1.82***	0.23	-0.89
People like me have to pay bribes to obtain a land title	0.55**	0.28	0.27	Respondent is informed the communal land use plan	-0.41***	0.15	-0.30
Officials receive kickbacks in exchange of approval of construction permits	0.38	0.28	0.19				
In order to get a job in the government, people have to pay a bribe	-0.40	0.29	-0.18				
Number of observations:							1,633
Correlation between U_1 and V_1							**0.23**

Source: Author's estimation using PAPI 2012.

dent is informed about the communal land use plan' are significant. The sign of coefficients of D203 and D204 shows that persons in communes with a low level of transparency would score high on the canonical variable V_1. Overall, the results imply that a low level of transparency leads to a high level of corruption and the canonical correlation is 0.23.

Results from Table 6 indicate that the first canonical variable U_1 for corruption is determined by D402a '*Officials divert funds from the state budget for their personal benefit*' and D402f '*In order to get a job in the government, people have to pay a bribe*'. However, the sign of these two variables is ambiguous. While people who perceive a high level of corruption in D402a get high scores on U_1, those who perceive a low level of corruption in D402f score high on the first canonical variable U_1. For the first canonical variable of accountability V_1, both variables D302a1 '*Make suggestions to authorities*' and D303 '*Having PIB*' are significant. Their sign implies that respondents in communes with a high level of accountability would have low scores on V_1. Therefore, the results suggest that people in communes with a high level of accountability perceived a low level of corruption in diverting funds from the state budget for personal benefits but still find a high level of corruption in allocating jobs in governmental bodies. This finding, to some extent, reflects the nature of complicated corruption, especially nepotism, in allocating jobs in governmental bodies in Vietnam that would escape the inspection of the People Inspection Board.

To investigate simultaneous impacts of transparency and accountability on corrup-

Table 6: First canonical variables of correlation between accountability and corruption

	U_1				V_1		
	Raw coeff.	**Std. err.**	**Std. coeff.**		**Raw coeff.**	**Std. err.**	**Std. coeff.**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Officials divert funds from the state budget for their personal benefit	1.78***	0.31	0.89	Make suggestions to authorities	-0.83***	0.31	0.36
People like me have to pay bribes to obtain a land title	0.47	0.33	0.24	Having PIB^{+}	-1.73***	0.28	0.84
Officials receive kickbacks in exchange of approval of construction permits	0.50	0.34	0.25				
In order to get a job in the government, people have to pay a bribe	-1.03***	0.35	-0.47				
Number of observations:							1,633
Correlation between U_1 and V_1							0.19

Source: Author's estimation using PAPI 2012.
Note: $^{+}$PSB stands for People Inspection Board.

tion, regular MCA is applied to create latent variables for each set of variables. The first set including D203 *'Commune budget is made available*' and D204 '*Respondent is aware of communal land use plan*' are for transparency. The second set contains D302a1 '*Make suggestions to authorities*' and D303 '*Having People Inspection Board*' are for accountability. The third set comprises of D402a-f for corruption. Regular MCA produces only one dimension for each set of variables. These latent variables are continuous and named as '*transparency*', '*accountability*', and '*corruption*', respectively. Factor scores on these dimensions represent the index for transparency, accountability, and corruption with high scores reflecting a low level of transparency, accountability, and corruption (see the Appendix).

A regression model is then estimated using these new variables and documented as specification 1 in Table 7. To control for region differentials as well as differences between metropolitan areas including Hanoi and Ho Chi Minh City and non-metropolitan provinces including Hai Phong, Da Nang, and Can Tho, dummy variables are added and estimated in specifications 2 and 3. Estimated results are represented in Table 7. The p_value for the goodness of fit (F-test) shows that estimated models fit the data well.

It is interesting that transparency and accountability are strongly significant and robust through all specifications (Table 7). Their negative impacts indicate that the increase of scores on transparency and accountability (implying a low level of transparency and accountability) leads to low scores on corruption (reflecting a high level of perception of corruption).

Table 7: Estimated results from regression models

Dependent variable:	Corruption					
Number of observations:	1630					
Estimated method:	OLS					
	Specification 1		**Specification 2**		**Specification 3**	
	Coeff.	**t-stat**	**Coeff.**	**t-stat**	**Coeff.**	**t-stat**
Male	0.00	(0.01)	-0.01	(-0.21)	-0.04	(-0.83)
Age	-0.01***	(-5.13)	-0.01***	(-4.73)	-0.01***	(-3.63)
Education[a]						
- Primary	0.08	(0.78)	0.09	(0.86)	0.11	(1.03)
- Secondary	-0.06	(-0.59)	-0.04	(-0.38)	0.10	(1.03)
- High-school	-0.12	(-1.17)	-0.10	(-1.00)	0.01	(0.13)
- College	-0.25*	(-2.28)	-0.22*	(-1.99)	-0.10	(-0.91)
Transparency	-0.15***	(-5.57)	-0.15***	(-5.70)	-0.14***	(-5.60)
Accountability	-0.11***	(-4.03)	-0.11***	(-3.96)	-0.13***	(-4.89)
Metropolitan cities			-0.16**	(-3.01)		
Region[b]						
- North					-0.68***	(-8.56)
- South					-0.21**	(-2.66)
Constant	0.61***	(4.17)	0.66***	(4.50)	0.75***	(5.03)
P_value of F-test for goodness of fit	0.00		0.00		0.00	

*Note: ***; **; * are significant at 1%, 5%, and 10%, respectively.*
[a]: non-educated people are excluded as a reference group.
[b]: Da Nang, located in the centre, is excluded as a base.

Similar to the case of Columbia (Langbein and Sanabria, 2013), the level of corruption differs across regions of Vietnam. The negative impact of metropolitan cities reveals that corruption in Hanoi and Ho Chi Minh City is perceived higher than in the other three provinces. Moreover, provinces in the north and south are considered more corrupted than Da Nang in the centre. This finding is not surprising because over the last few years, Da Nang has been considered as having an innovative provincial leadership with a strong determination for fighting corruption.

Mapping transparency, accountability, corruption, and administration performance

Administrative services selected by PAPI are based on the intensity of use (UNDP, CECODES, and Vietnam Fatherland Front, 2010). Three services including Public Notary Services, Procedures for Construction Permits, and Procedures for Land Use Right Certificates are chosen to investigate in 2012. The sample is now reduced to 827 respondents who use the selected services. In this paper, the quality of selected services is measured as the satisfaction of their users. A dummy variable is created and takes a value of 1 if users are satisfied with the services and 0 if otherwise.

To investigate the impacts of transparency, accountability, and corruption on the quality of

Table 8: Estimated results from probit model

	Specification 1		Specification 2		Specification 3	
	Coeff.	**t-stat**	**Coeff.**	**t-stat**	**Coeff.**	**t-stat**
Dependent variable: user's satisfaction with the service						
No. of obs:	*872*		*872*		*872*	
Male	0.016	(0.13)	0.022	(0.18)	-0.003	(-0.02)
Age	-0.002	(-0.45)	-0.003	(-0.53)	-0.001	(-0.11)
Education[a]						
- *Primary*	0.025	(0.09)	0.038	(0.13)	0.044	(0.15)
- *Secondary*	0.087	(0.32)	0.092	(0.34)	0.163	(0.60)
- *High-school*	0.333	(1.24)	0.338	(1.26)	0.407	(1.49)
- *College*	0.138	(0.51)	0.141	(0.52)	0.209	(0.75)
Transparency	-0.157*	(-2.29)	-0.155*	(-2.25)	-0.158*	(-2.31)
Accountability	-0.052	(-0.78)	-0.054	(-0.80)	-0.067	(-0.97)
Corruption	0.185**	(2.91)	0.188**	(2.94)	0.151*	(2.30)
Metropolitan cities			0.067	(0.52)		
Region[b]						
- *North*					-0.364	(-1.67)
- *South*					-0.140	(-0.64)
Constant	1.248***	(3.31)	1.217**	(3.20)	1.327***	(3.31)
P_value of Hosmer-Lemeshow test for goodness of fit	0.897		0.438		0.645	

*Note: ***; **; * are significant at 1%, 5%, and 10%, respectively.*
[a]: non-educated people are excluded as a reference group.
[b]: Da Nang, located in the centre, is excluded as a base.

administrative services, a probit model is used and written as in equation (9).

$$Pro(Y=1|X,D) = \alpha + \beta X_1 + \delta trans + \gamma account + \lambda corrupt + \tau D + \varepsilon \quad (9)$$

where Y=1 indicates users' satisfaction with the services they use and 0 otherwise, X_1 is a vector of variables reflecting individual characteristics including gender, age, and education levels. '*trans*', '*account*', and '*corrupt*' are continuous variables which are extracted as the first dimension from regular MCA. Estimated results from probit models are represented in Table 8. The Hosmer-Lemeshow test reveals that we can not reject our models (last row, Table 8).

Contrary to the case of corruption, results from Table 8 show no differences in administration performance between metropolitan and non-metropolitan provinces as well as amongst the north, centre, and south of Vietnam.

The parameters of interest in Table 8 reveal an interesting story about governance and public administrative performance in Vietnam. As expected, corruption has positive and robust impacts on the satisfaction of service users. This implies that when scores on corruption are high (indicating a low level of corruption), users are more satisfied with the services they use. This finding bears out the suggestion in the literature that corruption is one of the most important factors which deteriorate the quality of

public administrative services.

It is surprising that transparency contributes negatively, implying that a low level of transparency is accompanied with a high level of satisfaction. Furthermore, accountability has no impact on satisfaction. The results imply that while corruption affects directly the quality of delivered services, transparency and accountability are ineffective in being translated into quality of administrative services. The results raise concerns about the *de-facto* forms of transparency and accountability in Vietnam.

6. Concluding remarks

Transparency and accountability have become increasingly popular regulatory tools for fighting corruption and improving the performance of public administrative services. However, how they contribute to the battle against corruption and the quality of the administration is not well understood. This paper examines the correlation amongst transparency, accountability, corruption, and public administrative performance through the case of Vietnam.

Using multiple correspondence analysis, probit regression, and the PAPI 2012 data set, this paper firstly evaluates the meaning of the 'Don't Know' response which often exists as a response to questions on perception of corruption. The results reveal that 'Don't Know' implies corruption. After recoding the 'Don't Know' answer the paper proceeds to examine the correlation amongst transparency, accountability, corruption, and public administration performance in five provinces in Vietnam including Hanoi, Hai Phong, Da Nang, Ho Chi Minh City, and Can Tho.

Results from the paper show that a high level of transparency and accountability is accompanied with a low level of perception of corruption. However, details of impacts of each component of accountability on corruption investigated by canonical correlation analysis are mixed. Specifically, people in communes with a high level of accountability perceive a low level of corruption in diverting funds from the state budget for personal benefits but still find a high level of corruption in allocating jobs in governmental bodies. This finding, to some extent, reflects the nature of complicated corruption in allocating jobs in governmental bodies in Vietnam. Furthermore, corruption is more serious in metropolitan areas and in the north and south. This might imply that the effectiveness of anti-corruption programs is much related to the political will as Da Nang is considered as one of the provinces having a leadership with strong determination to the fight against corruption.

The paper also shows that corruption is one of the main factors deteriorating the quality of public administrative services. Moreover, transparency and accountability have no impact on the public administrative performance. This raises concerns about the *de-facto* forms of transparency and accountability in Vietnam.

Overall, the results raise the need to closely examine the real form of transparency and accountability as well as the political will in the fight against corruption in order to improve the quality of public administrative services in Vietnam.

APPENDIX

Transparency, accountability, and corruption are multidimensional concepts. We apply regular MCA for each set of variables measuring transparency, accountability, and corruption. The method provides only one dimension for each set of variables. Factor scores on this dimension indicate the index for each set of variables. We proceed to calculate mean scores of these indices for each original item. The mean scores are documented in Table 9, 10, and 11, respectively. As can be seen from these tables, high scores represent a low level of transparency, accountability, and corruption.

Table 9: Scores on transparency

Items	Group	Number of obs	Mean scores
Commune budget is made available	No	997	0.62
	Yes	633	-0.98
Respondent is informed about the communal land use plan	No	1320	0.38
	Yes	310	-1.61

Table 10: Scores on accountability

Items	Group	Number of obs	Mean scores
Make suggestions to authorities	No	1237	0.45
	Yes	393	-1.42
Having PIB	No	1009	0.63
	Yes	621	-1.02

Table 11: Scores on corruption

Items	Group	Number of obs	Mean scores
Officials divert funds from the state budget for their personal benefit	No	806	0.76
	Yes	824	-0.74
People like me have to pay bribes to obtain a land title	No	745	0.87
	Yes	885	-0.73
Officials receive kickbacks in exchange of approval of construction permits	No	670	0.97
	Yes	960	-0.68
In order to get a job in the government, people have to pay a bribe	No	497	1.18
	Yes	1133	-0.52

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