

HOW PUBLIC ADMINISTRATION REFORM PERFORMANCE CAN BE MEASURED BY PROVINCIAL COMPETITIVENESS INDEX AND PER CAPITA GDP IN VIETNAM

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Abstract. This study was conducted to measure the causality between public administration reforms (PAR), provincial competitiveness and GDP per capita in Vietnam. Factor analysis was firstly adopted, and then followed by the log linear regression. It has been found that there were causality linkages between those parameters mentioned above. Namely, legal institutions were the main huddles for GDP per head, while public administration reform services and public services delivery exert positive impacts on GDP per capita. The dynamism of provincial leadership was also positively influential to the GDP level per head. Conclusions and recommend dations were drawn for Vietnamese policy makers to modernize the public administration reform process.

Keywords: Vietnam, Public administration reform, PCI, per capita GDP.

1. Introduction

Vietnam's fast economic development and impressive growth of the past decade can be attributed to the successfully implemented public policies and internationally accepted public governance practices that the government has actively embarked right since the start of the public administration reform. The public administration reform (PAR) in Vietnam has been considered as an ambitious process that seeks the 'rules by laws' within a centralized and centrally managed framework. Having been lasting for more than a decade until now, this PAR aims to lift the state governance up to a more efficiency level, and thereby to cater better public services to the people at large (?) (Dinh 1998; Painter 2003; UNDP 2009^a). As a result, the whole economy of Vietnam has been functioning in a competitive mechanisim, rather than being centrally planned one. The organizational structure of state governance has become leaner and more efficient with the objective of unleashing the creativeness among the members (UNDP 2010). Public officers and civil servants have been sent to the trainings and capacity-building on 'the sense of responsibility' as well as awareness toward 'serving the people unconditionally'. There is no doubt that these PAR efforts have been positively contributing to the success of Vietnam's economy miracles, overcoming the roadblocks,

and narrowing the gap of difference in an emerging civic society of Vietnam (Lornund 2007).

In this context, there have been a number of studies on the public administration reform in Vietnam. However, they are merely qualitative in nature with the traditional approach aiming to touch the surface, to describe the status-quo of PAR process or to identify the roadblock hurdles to the local economic development (Tham 2009; UNDP 2009^a). For that reason, there is a need to set more light on the PAR performance with a quantitative method. Specifically, this study is to be conducted to identify the causal relationship between public administration reform performance, provincial competitiveness and the GDP per capita. The reasoning behind the above mentioned causality is that public administration reform performance should be measured on the bottom-line quantitative indicators. That is, it should give rise to the understanding of whether or not PAR process would bring the better-off to the provincial competitiveness and more welfare to the public in the form of per-capita GDP. Against all odds, these are important indicators, indirectly reflecting the so-called economic development for every province in a broad sense (Dinh 1998; Ketels 2010).

2. The Data, study model, and findings

2.1. Data for the study

Data on provincial competitiveness index (PCI) for the year of 2010 was taken from the PCI Vietnam. This independent entity investigated the provincially-based data to explain the from-province-to-province difference in terms of legal environments and public policy (PCI Vietnam 2010^a). This type of index assisted in explaining why provinces of the same country are different from each other on the ground of economic growth and dynamic development, especially from the private sector. The provincial competitiveness index consists of the component sub-indices such as Entry cost, Access to Land, Transparency, Time cost of regulatory compliance, Informal charges, proactivity of provincial leadership, Business support service, labor training, and legal institution (PCI Vietnam 2010^b).

Data on public administration reform performance, known as PAPI measurement for the year of 2010 were extracted from the United Nations Development Program's recent study (UNDP 2010). The PAPI score was used to identify the two main dimensions of PAR process: public administration reform services and public services delivery. These are two most important bottom-line dimensions which could be interpreted as the reflection of whether PAR process is successful in Vietnam (UNDP 2009^a). Meanwhile, the data on per capita GDP for the year of 2010, measured in US dollar terms, were taken from respective provincial web-site or Committee for Ethnic Minorities, a ministerial level agency under the Government (Committee for Ethnic Minorities 2011).

2.2. The study model

To quantify the causality relationships between GDP per capita and PAR performance index as well as the provincial competitiveness sub-indices, the following econometric model was adopted in this study:

$$\ln Y_{GDPi} = a_{0i} + \sum_{j=1}^n \beta_j \ln X_{ji} + \sum_{k=1}^m \beta_k \ln X_{ki} + \xi_i \quad (1)$$

Where:

$\ln Y_{GDPi}$: is natural logarithm of the GDP per capita for province i^{th}

$\sum_{j=1}^n \beta_j \ln X_{ji}$: is the vector of PAR sub-indices from 1^{st} to j^{th} for province i^{th}

$\sum_{k=1}^m \beta_k \ln X_{ki}$: is the vector of provincial competitiveness sub-indices from 1^{st} to k^{th} for province i^{th}

ξ_i : is residual term in the model.

The above-mentioned econometric model adopted in this study has obtained the two-pronged objectives. Firstly, it allowed the quantification of the causal linkages between the GDP per capita as dependent variable and the provincial competitiveness sub-indices and public administration reform performance indices as independent variables. Secondly, the model also overcame the normality condition or statistical normality test known as Komogorov-Smirnov test (Hair et al. 2008; Mills T.C. and Patterson K. 2009) As it came to decide the number of independent variables as presented in more detail in the next section, the econometric equation (1) could be expanded in the following form :

$$\ln Y_{GDPi} = a_{0i} + \beta_1 \ln X_{1i} + \beta_2 \ln X_{2i} + \beta_3 \ln X_{3i} + \beta_4 \ln X_{4i} + \xi_i \quad (2)$$

Where:

$\ln Y_{GDPi}$: is natural logarithm of the GDP per capita for province i^{th}

$\ln X_{1i}$: is the natural logarithm of legal institution sub-index for the province i^{th}

$\ln X_{2i}$: is the natural logarithm of 'proactivity of provincial leadership' sub-index for the province i^{th}

$\ln X_{3i}$: is the natural logarithm of 'PAR services' sub-index for the province i^{th}

$\ln X_{4i}$: is the natural logarithm of 'public services delivery' sub-index for the province i^{th}

β_{j+k} : are respective linear regression coefficients for PAR and PCI variables

ξ_i : is the error terms in the model.

This was the final econometric equation to be used for testing the causality linkages between the dependent and independent variables. The next section describes in more details the extent to which the PAR performance scores and PCI sub-indices should exert a causal impact on the GDP per capita.

2.3. Data analysis and the findings

Data processing and analysis were carried out with the use of the SPSS 18 software. Due to the complexity of the provincial competitiveness index which consists of 9 sub-indices, factor analysis technique was used to condense them into a smaller and more meaningful number of variables (Hair et al 2008). These newly created factors would, on one hand, facilitate the understanding of causality in question. On the other hand, they would allow the avoidance of multi-collinearity which could often be seen as a distortion of the 'down-to-earth' causality relationship in the econometric form (Hair et al 2008). Table 1 presents the result from the factor analysis of the 9 provincial competitiveness sub-indices mentioned above. It shows that two new factors were identified and created with the statistically significant level. Below is the detailed description:

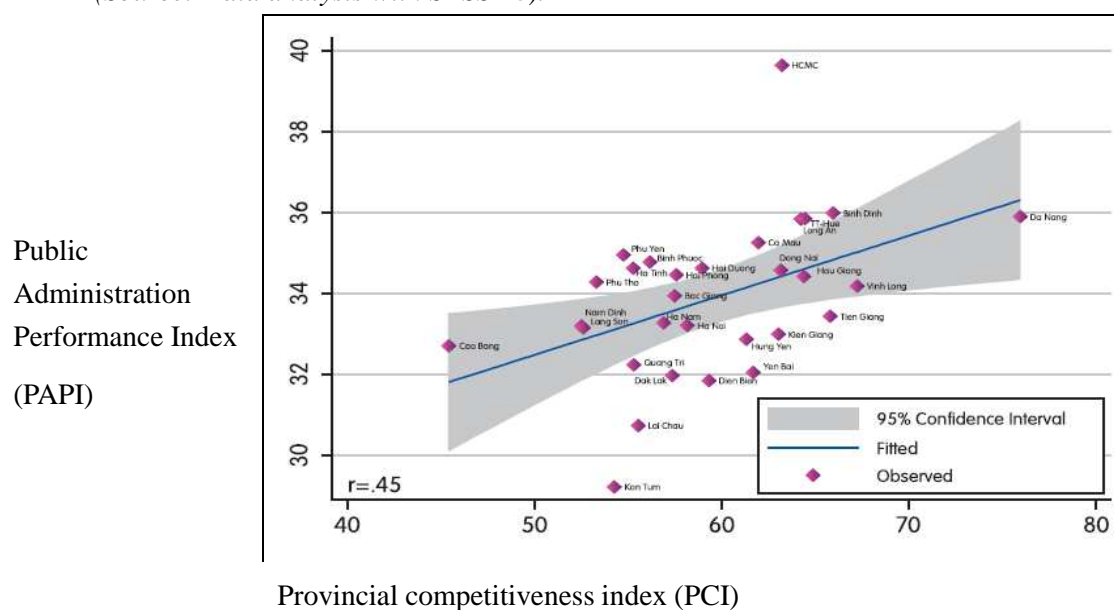
The first factor was composed of four sub-indices which attained high loading coefficients of 0.86, and 0.82, and 0.78, and 0.78, all exceeding the conservative cut-off point of 0.5. Thus, on the basis of the nature of the PCI sub-index scores, this factor was labeled as *legal institutions* with the biggest factor loading. Table 1 also reveals that the internal consistency for this factor was assured with the Cronbach Alpha reliability of 0.86, exceeding the Kaiser's threshold of 0.7 (Hair et al 2008). The average scores of these four sub-indices reflected the degree of the legal matters, thus serving as a basis for creating a "*legal institution*" variable for hypothesis testing on a later stage.

By the same token, the second factor was identified with high loading coefficients for *Proactivity of provincial leadership*; *Entry costs*; *Informal charges*; *Transparency and access to information*; *Time cost of regulatory compliance*; as well as *the dynamic leadership*. The second factor possessed Eigenvalue of 2.19 and Cronbach Alpha reliability of 0.79 which satisfied the threshold of 0.7 (Hair et al 2008). The second factor was named as "*provincial dynamism*" on the basis of the item with the highest loading coefficient. The average score of the PCI sub-index scores would be used as a new variable in the model. Both of these newly created factors accounted for a relatively high cumulative variance of 65% and satisfied the conditions imposed by the factor analysis technique.

Table 1. Factor analysis of 2010 provincial competitiveness sub-indices

Provincial competitiveness sub-indices	Factor analysis	
	Factor 1 with loadings	Factor 2 with loadings
1. legal institution	0.86	
2. Access to Land	0.82	
3. Business support services	0.78	
4. Labor training	0.78	
5. Proactivity of provincial leadership		-0.80
6. Entry costs		0.77
7. Informal charges		0.60
8. Transparency and access to information		0.58
9. Time cost of regulatory compliance		0.55
Eigenvalue	3.66	2.19
Cumulative variance (%)	40.7%	65%
Cronbach Alpha reliability	0.86	0.79

(Source: Data analysis with SPSS 18).

**Fig. 1.** Correlation between PAPI and PCI for the year of 2010

(Source: Calculated by authors through the data of UNDP and PCI Vietnam 2010).

To set more light on the question of whether provinces with high PAPI score can be highly linked to high PCI score, Pearson correlation was used with the findings to be

presented in the Fig. 1. It reaches the correlation degree of 0.45 and shows that the provinces such as Ho Chi Minh City, Phu Yen, Ha Tinh; Da Nang and Binh Phuoc are the ones with a positive correlation between public administration effort and PCI score. In the mean time, the provinces such as Kon Tum, Lai Chau, Dak Lak, Yen Bai, Quang Tri; Kien Giang and Tien Giang maintain a low degree of correlation between PAPI and PCI.

Similarly, the correlation between the PAPI and GDP per capita was presented below in the Fig. 2. The public administration performance was positively correlated with per capita GDP at a close level of 0.6. Such cities as Ho Chi Minh, Da Nang, Dong Nai; and Hai Phong are the ones that were ranked as the highest in terms of public administration reform performance and GDP per capita. The capital of Ha Noi maintained a high level of GDP average. However, it came as a surprise that the heart of the country fell into the group with lowest PAPI score. The group of such provinces as Dak Lak; Lai Chau; Cao Bang; Yen Bai and Dien Bien is mountainous and poor. Understandably, they reached a level of low PAPI score with an exception of Phu Tho province which reached a high level of PAPI score as shown in Fig. 2.

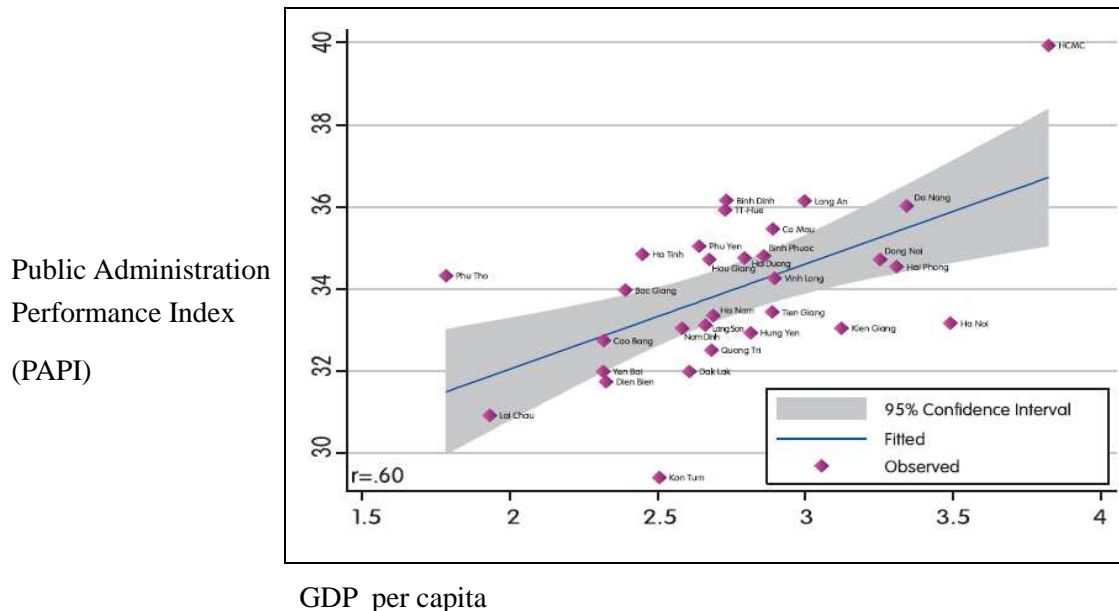


Fig. 2. Correlation between PAPI and GDP per capita in 2010

(Source: Calculated by authors through the data of UNDP and PCI Vietnam 2010).

Table 2 presents the results of the log linear regression which was adopted to study the causal linkages between dependent variable on GDP per capita and independent variables in terms of public administration reform performance and provincial competitiveness.

Table 2. *Causality of GDP per capita and PAPI and PCI in 2010*

Dependent variable Y_i (Natural Logarithm of GDP per capita)	Model statistical parameters			
	Beta coefficients	t	sig	VIF
Constant	-7.62	-1.05	0.30	
X ₁ : Legal institutions	-0.02	-0.16	0.87	1.36
X ₂ : Provincial dynamism	0.20	1.61	0.12	1.29
X ₃ : Public administration reform services	0.99	0.34	0.74	1.17
X ₄ : Public services delivery	6.22	2.26	0.03	1.56
$R^2 = 0,67$; F statistics = 4.043; p-value = 0.012;				
Two-tailed significance level of $\alpha=0.05$				

(Source: Calculated by authors through the data of UNDP and PCI Vietnam 2010).

In general, the results as presented in Table 2 show the robustness of the model. Variance inflation factors known as VIF fall within the acceptable level as proposed by Hair et al. The beta coefficient parameters found in Table 2 could be put into equation (2) which should become:

$$\ln Y_{GDPi} = -7,62 - 0,02 \ln X_{1i} + 2,0 \ln X_{2i} + 0,99 \ln X_{3i} + 6,22 \ln X_{4i} + \xi_i$$

The interpretation of beta coefficients shows that the legal institution exerts a negative impact on the GDP per capita while Public services delivery is positively related to the GDP per capita with the beta coefficient of 6.22. The data analysis also points out the fact that the remaining two independent variables on public administration reform services and Provincial dynamism have positive influences on the GDP per capita with beta coefficients of 0.99 and 0.20 respectively.

4. Discussion and conclusion

The findings of the study confirm the causal relationship between GDP per capita and the efforts on public administration reform as well as the provincial competitiveness. Clearly, those provinces which had high scores on provincial competitiveness would accordingly have a high level of GDP per capita. This implication sent a strong message to Vietnamese policy makers, government officers, meaning that the attempts spent on public administration reform need to be reviewed along the way. Such provinces as Da Nang, Ho Chi Minh City and Hai Phong are the case in point. In contrast, the capital of Ha Noi, albeit being the heart of nation's political and public administration, merely maintains a humble PAPI and PCI scores. Yet, it had a surprisingly high level of per capita GDP as compared to the other

provinces. This really raised a question of whether there are other factors behind this contradiction. One possible answer is that Ha Noi is the cradle of trade, commerce and investments. Therefore they would naturally bring about a high level of GDP per capita without much PAR efforts. It has been found that foreign direct investment inflows have been a central driver of this high per-head GDP indicator (Ketels 2010). Other rumors have attributed this to the phenomenon 'government tourism' in the nation's capital. Regardless of any possible explanation, the capital of Ha Noi must be an advance-guard city in making serious PAR efforts as a role model for the others to follow. The findings also point out that remote and mountainous provinces are lagging behind the rest of the others in terms of public administration reform and GDP average. Should not the serious efforts on public administration reform be made for this disadvantaged mountainous provinces, the poor might fall back to the vicious cycle of poverty again (UNDP 2009^b).

To bring the discussion to a conclusion, it could be clearly seen from the result of logarithm linear regression that in Vietnam, legal institutions are the barricades to the efforts on public administration reform and the GDP welfare of the Vietnamese citizens. Public services quality and delivery are positively influential to the GDP per capita (Mellor *et al* 2011). Therefore, they should be designed in such a way that expectations and needs for the Vietnamese people at large are met. Whether all those expectations and needs can be met or not, depending heavily on the proactivity of the provincial leadership in the public administration reform process. Even though the process of this kind is continuously dynamic and multi-oriented (Vigoda 2001; Mellor *et al* 2011), it was noted that the significance level of X_1 ; X_2 ; and X_3 was less than $\alpha=0.05$ with an exception for X_4 in the model. This could have been overcome if a longitudinal study had been conducted. Therefore, this can be a suggestion for future research.

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