

The Provincial Business Environment Scorecard in Cambodia A Measure of Economic Governance and Regulatory Policy

Technical Report



March, 2007

A partnership between the International Finance Corporation's Mekong Private Sector
Development Facility (IFC-MPDF)
and
The Asia Foundation with funding support from the Australian Agency for International
Development (AusAID)

Contents

Common Abbreviations	<i>i</i>
Acknowledgements	<i>ii</i>
1. Executive Summary	3
1.1. The Sub-Indices	3
1.2. Methodological Innovation	4
1.3. The Provincial Business Environment Scorecard	5
1.4. The Impact of Provincial Business Environments	8
1.5. Conclusions	10
2. Sub-Indices of the PBES	13
2.1. Entry Costs	13
2.2. Property Rights	17
2.3. Transparency	21
2.4. Time Costs of Regulatory Compliance	26
2.5. Informal Charges	28
2.6. Participation	33
2.7. Crime Prevention	34
2.8. Tax Administration and Burden	35
2.9. Proactivity of Provincial Authorities	38
2.10. Dispute Resolution	40
2.11. Composition of the Final PBES Index	41
3. Methodology	45
3.1. Phase 1: Census of Private Firms in 10 Provinces	45
3.2. Phase 2: Data Collection and Field Testing	45
3.3. Phase 3: Survey	46
3.4. Phase 4: Index Creation	47
4. Next Steps	53

Appendices

Appendix 1: Detailed Descriptions of Sub-Indices and Component Indicators	57
Appendix 2A: Determinants of Firm Expansion	58
Appendix 2B: Determinants of Labor Growth	59
Appendix 3: Determinants of Labor Growth (Sub-Indices)	60
Appendix 4: Construction of Structural Conditions	61

List of Figures

Figure 1: The Provincial Business Environment Scorecard (PBES)	6
Figure 2: Total Investment Environment	7
Figure 3: Star Chart of Provincial Scores on Each Sub-Index	8
Figure 4: PBES and Literacy Rates on Firm Labor Growth	9
Figure 5: Entry Costs Sub-Index	13
Figure 6: Property Rights Sub-Index	17
Figure 7: Transparency Sub-Index	22
Figure 8: Time Costs of Regulatory Compliance Sub-Index	27
Figure 9: Informal Charges Sub-Index	29
Figure 10: Relationship between Micro-Corruption and Predictability	32
Figure 11: Participation Sub-Index	33
Figure 12: Crime Prevention Sub-Index	34
Figure 13: Tax Administration and Burden Sub-Index	37
Figure 14: Proactivity of Provincial Authorities Sub-Index	38
Figure 15: Dispute Resolution Sub-Index	40
Figure 16: External Validity- Firms Evaluations of Road Quality vs. Actual Coverage	48
Figure 17: Internal Validity- Firms Evaluations of Electricity vs. Number of Outrages Experienced	48
Figure 18: Confidence Intervals around the Mean Waiting Period for Patent Tax Registration	49

List of Tables

Table 1: Final Provincial Business Environment Scorecard	6
Table 2: Predicted Probability of Expansion in Next Two Years	9
Table 3: Predicted Impact of Sub-Indices on Labor Growth 2005-2006	10
Table 4: Levels of Cambodian Business Formalization	14
Table 5: Indicators Comprising Entry Costs (Dimension 1) <i>Waiting Periods/Procedures</i>	16
Table 6: Indicators Comprising Entry Costs (Dimension 2) <i>Official Fees</i>	16
Table 7: Levels of Cambodian Land Titling	18
Table 8: Indicators Comprising Property Rights (Dimension 1) <i>Perceptions</i>	19
Table 9: Regression Determination of Effective Land Price	20
Table 10: Indicators Comprising Property Rights (Dimension 2) <i>Hard Data</i>	21
Table 11: Important Provincial Documents and Firms' Knowledge of their Existence	23
Table 12: Indicators Comprising Transparency (Dimension 1) <i>Access to Regulatory Information</i>	23
Table 13: Indicators Comprising Transparency (Dimension 2) <i>Consistency of Application</i>	24
Table 14: Indicators Comprising Transparency (Dimension 3) <i>Predictability of Laws and Policies</i>	25
Table 15: Indicators Comprising Transparency (Dimension 4) <i>Hard Data Information Request</i>	26
Table 16: Indicators Comprising Time Costs of Regulatory Compliance	28
Table 17: Indicators Comprising Informal Charges (Dimension 1) <i>Micro-Corruption</i>	30
Table 18: Indicators Comprising Informal Charges (Dimension 2) <i>Macro-corruption</i>	31
Table 19: Indicators Comprising Informal Charges (Dimension 3) <i>Predictability of Corruption</i>	32
Table 20: Indicators Comprising Participation Sub-Index	34
Table 21: Indicators Comprising Crime Prevention Sub-Index	35
Table 22: Profit Tax Categories for Private Firms	36
Table 23: Indicators Comprising Tax Administration and Burden Sub-Index	37
Table 24: Indicators Comprising Proactivity of Provincial Authorities Sub-Index	39
Table 25: Indicators Comprising Dispute Resolution Sub-Index	41
Table 26: Final Provincial Business Environment Scorecard	42
Table 27: Predicted Impact of Sub-Indices on Labor Growth 2005-2006	42
Table 28: Population and Sample Distribution of Firms of Phnom Penh	46
Table 29: Correlation of Scores with Response Rate	47

Common Abbreviations

Asian Development Bank (ADB)
Australian Agency for International Development (AusAID)
Department of Industry, Mines, and Energy (DIME)
Department of Commerce (DOC)
Department of Tourism (DOT)
World Bank's Investment Climate Analysis (ICA)
Cambodian Riel (KR)
Ministry of Industry, Mines and Energy (MIME)
The International Finance Corporation's Mekong Private Sector Development Facility (IFC-MPDF)
Ministry of Commerce (MOC)
Ministry of Tourism (MOT)
Provincial Business Environment Scorecard (PBES)
Value Added Tax (VAT)
World Bank (WB)

Acknowledgements

The Provincial Business Environment Scorecard (PBES) project is a collaborative effort between the International Finance Corporation's Mekong Private Sector Development Facility (IFC-MPDF) and The Asia Foundation (with funding support from the Australian Agency for International Development - AusAID).

The study would not have been possible without the strong support of H.E. Suy Sem, Minister of Industry, Mines and Energy; H.E. Cham Prasidh, Senior Minister and Minister of Commerce, and H.E. Sun Chanthol, Minister of Public Works and Transport. The Senior Minister and Ministers issued separate letters of endorsement for the project and were pivotal in ensuring effective coordination of officials in their respective ministry. We are very grateful for their gracious support.

Like any other research endeavor, PBES was the result of the collaborative efforts of many individuals. The project's technical advisor and author was Dr. Edmund Malesky, who was supported by a field research team from Indochina Research Limited (IRL) in Cambodia. Stefano Magistretti managed field research and was assisted by Kim Huot and Kuon Chantha. Chum Chanreasey, Chin Vuthy, and Va Wisal provided indispensable assistance with data entry and coding. John McGinley was instrumental in providing hard data on province specific macroeconomic conditions and endowments. Dr. Malesky also received valuable assistance in data analysis from Brandon Hickie of Export Access. Throughout the implementation period, the project received guidance from Hor Soneath and Quynh Trang Phuong Nguyen of IFC-MPDF and Véronique Salze-Lozac'h of The Asia Foundation.

Our colleagues at IFC-MPDF and The Asia Foundation worked tirelessly at every aspect of the project and throughout the implementation period to ensure its success. Touk Khy of IFC-MPDF provided comments and inputs throughout the study. Rashmi K. Pendse and Charles Schneider provided editorial assistance to make the report more accessible to the public at large, as well as valuable comments throughout the study. Jennifer Bartlett and Khut Inerey of The Asia Foundation helped to coordinate various aspects of the project's implementation, including the important phase of translation. Nancy Kelly provided comments and edited the report.

Our special thanks go to Kea Kunthea for making great efforts to create the layout and graphics to illustrate the PBES results and Tonie Tan for her administrative support.

The International Finance Corporation's
Mekong Private Sector Development Facility

The Asia Foundation



Executive Summary

The Provincial Business Environment Scorecard (PBES) in Cambodia

A Measure of Economic Governance and Regulatory Policy

1. Executive Summary

Recent research on the development of the Cambodian private sector has highlighted four important and interconnected findings.¹

1) The private sector is the major source of employment in the economy (accounting for 92% of total jobs) and will continue to be the dominant source of job creation and poverty reduction for the foreseeable future.

2) Nevertheless, relative to its peers in other Southeast Asian economies, the Cambodian private sector has been inhibited in its ability to grow and create jobs because of a wide spectrum of institutional barriers and constraints to its development.

3) As a result of these institutional barriers, the vast majority of private enterprises have avoided the full formalization of their activities (as measured by whether an enterprise has registered with the Ministry of Commerce).

4) For all unregistered enterprises and most of the registered enterprises as well, the immediate interface with governing institutions is at the local (specifically the provincial/municipal) level.

And yet researchers and those in the donor community understand very little about these interactions, how they affect private sector performance and the choice to formalize, and finally how provincial governance differs across Cambodia. The missing key to our understanding of how to promote the growth and dynamism of the private sector in Cambodia and thereby assist job creation and poverty alleviation lies in a thorough understanding of the impact of local institutions on private sector performance. The Provincial Business Environment Scorecard (PBES) represents the first attempt to understand this in Cambodia.

The PBES is a thorough diagnosis of the comparative economic governance of 10 provinces according to 10 basic criteria (sub-indices). The ultimate goal of the project is to identify the provinces that have excelled at various aspects of provincial governance and communicate these successful governance practices to other provinces.

1.1. The Sub-Indices

More detail about how these sub-indices were measured is provided in Section 2 below, but briefly the sub-indices include:

1. **Entry Costs:** A measure of the time it takes firms to register and receive all the necessary licenses to start business, the number of licenses required, and the official costs of obtaining all licenses/permits.
2. **Property Rights:** A measure of the formal rights to business premises and the security of tenure once land is properly acquired and titled.
3. **Transparency:** A measure of whether firms have access to the proper planning and legal

¹ Development Consulting International, 2003. "Private Sector Assessment for the Kingdom of Cambodia," *TA Report for the Asian Development Bank and Ministry of Industry, Mines and Energy*. Asian Development Bank: Phnom Penh, December; World Bank Group, 2004a. "Cambodia: Economy Profile," *Doing Business in 2005: Removing Obstacles to Growth*. World Bank: Washington, D.C.; World Bank Group, 2004b. *Cambodia Seizing the Global Opportunity: Investment Climate Assessment and Reform Strategy for Cambodia*. World Bank: Phnom Penh; Dapice, David. 2005. "Reducing Poverty by Creating a Normal Country," Memorandum to Government of Cambodia; Chandarrot, Kang, 2006. *The Enabling Environment for Micro, Small, and Medium Enterprises in Cambodia*. Phnom Penh: The Asia Foundation and Cambodian Development Resource Institute. Chandarrot, Kang, Salze-Lozac'h, Véronique, and Liv Dannet, 2006. *Streamlining Local Licensing Procedures in Cambodia*. Phnom Penh: The Asia Foundation and Cambodian Institute of Development Study.

documents necessary to run their business, whether those documents are equitably available, and whether new policies and laws are communicated to firms and predictably implemented.

4. **Time Costs of Regulatory Compliance:** A measure of how much time firms spend on bureaucratic compliance and waiting periods, as well as how often firms must undergo inspections by local regulatory agencies.
5. **Informal Charges:** A measure of how often firms pay both micro-informal charges such as bribes and macro-informal charges such as kickbacks on public procurement, how much of an obstacle those extra fees pose for their business operations, and whether payments of those extra fees are predictable and result in the expected results or “services.”
6. **Participation:** Measuring whether firms are consulted in the creation of provincial policy and whether their interests are represented in policy discussions by business associations or other interest groups.
7. **Crime Prevention:** A measure of how much firms pay in explicit costs as a result of crime due to property that is lost or stolen, as well as the implicit costs of preventing crime by paying security and protection money.
8. **Tax:** A gauge of both the administrative and fiscal burden imposed by tax regulation in the province.
9. **Proactivity of Provincial Leadership:** A measure of the creativity and willingness of provincial authorities to assist and interpret in favor of local private firms – given an often unclear national regulatory framework – in implementing central policy and designing their own initiatives for private sector development.

10. **Dispute Resolution:** A measure of the satisfaction firms have in the outcomes of formal and informal modes of dispute resolution in the province.

1.2. Methodological Innovation

Two general types of data were used to construct the sub-indices. The first is perceptions data, drawn from a face-to-face survey of 500 private firms in 10 provinces. This perceptions (or “soft”) data was combined with objective (or “hard”) data gathered from published sources, such as statistical yearbooks, the annual provincial budget, first-person collection and interviews with third-parties like state-owned banks and real estate firms.²

It is important to highlight that while the PBES analysis studies similar issues as previous assessments of the private sector in Cambodia, its methodology differs in two critical ways. First, the PBES research team did not limit its analysis to the formal sector; the explicit goal of the research was to assess the private sector generally and this meant focusing on economic governance toward unregistered firms as well. 58 % of the firms in our sample are neither registered with the Ministry of Commerce nor even possess the less formal distinction of one-year registration through Municipal/Provincial Department of Commerce. Nevertheless, calling them informal is a misnomer, as 73% have documented their business activities by paying a one-year Patent Tax with the local tax authority. Local officials are aware of their business activities and benefit from them.

The decision to sample from the entire population of enterprises arose from two problems faced in the early stages of the research – one methodological and one theoretical. First, in terms of methodology, we found it impossible to obtain similar lists of registered enterprises (or enterprises with one-year operating licenses) between the different provinces; data quality and coverage differed dramatically (if lists existed at all), raising severe concerns about selection bias in the comparison of provincial environments. We thus felt it was necessary to have a well-documented census of all enterprises in the research area from which we could draw a random sample. Second, theoretically, the ultimate goal of the research was to understand the environment for private sector activity at the provincial level – this simply could not be done if 75% of the active private sector was omitted because it was considered informal by government standards, as

² See Appendix 1 for a list of the full set of indicators.

would have been the case in Banteay Meanchey. Furthermore, as important as it is to understand the constraints faced by the registered sector, it is equally important to understand why such a large portion of private firms (accounting for 80% of Gross Domestic Product (GDP) and 95% of employment)³ choose not to take the next steps in the formalization of their activities. Certainly, this will be best done in a panel setting with yearly surveys of the same enterprises, but it cannot be done at all if they are eliminated from the study at the outset.

The second major difference between the PBES and earlier work on private sector activity in Cambodia is that rather than extrapolating a few provincial-level results from a national-level sample, the research team drew 10 different provincial-level samples, so that it had as accurate a picture as possible of the private sector. To do this, the team performed a detailed census of private sector operation in the capital and the three other major population centers of all the provinces and municipalities. First, the 10 most economically important provinces were selected, including, arguably, all of Cambodia's main economic centers. Collectively, these provinces represent 75% of GDP and 64% of the Cambodian population.⁴ While the goal is to eventually extend the PBES analysis to all provinces; in this inaugural year, the decision was made to concentrate on provinces with relatively robust economies. Next, researchers traveled to each of the 10 provinces to undertake a complete census of business activity. Every business operation in a fixed location was considered an active enterprise for our analysis. In total, 41,775 business operations were identified. After excluding all enterprises with less than one employee other than the owner, a stratified random sample was drawn from the lists generated by the census. Strata were defined by the number of employees (five different categories) and the sector in which the firms operate (services, manufacturing and construction, and commerce) for a total of 15 different strata. Random selection within these strata ensured that the sample would be reliable representation of the provincial populations. The result of these methodological choices is a far more accurate representation of provincial-level business activity than has been put together thus far in Cambodia.

³ Development Consulting International, 2003, p. 10.

⁴ Author's own calculation based on Cambodian Statistical Yearbook 2004.

1.3. The Provincial Business Environment Scorecard

The final results of the PBES can be seen in Figure 1 below. The Eastern border provinces of Kampong Cham and Svay Rieng top the list, followed by Kampong Chhnang and Kampot. Kandal, a province encircling the capital city of Phnom Penh, along with Banteay Meanchey and Battambang in the Northwest along the Thai border, rank sixth and seventh respectively. The PBES found that governance is weakest in Phnom Penh, Siem Reap, and Sihanoukville. Individual scores can also be seen in Table 1.

Siem Reap's placement near the bottom of the list may come as a surprise to anyone familiar with the large investment and growth in the hotel and tourist industry in the province. Those who have worked there, however, may be less surprised by Siem Reap's especially low scores on Entry Costs, Transparency, Crime Prevention, Proactivity, and Taxes. Like natural resource rich economies who suffer from the well-known "*resource curse*," where heavy rent-seeking for access to oil, lumber, and minerals leads to corruption and officials who have a little incentive to improve governance,⁵ Siem Reap may suffer from an analogous issue related to its tourist potential. Siem Reap's government officials do not have to try as hard as their peers from other provinces to improve the economic situation. Because the Angkor temple complex is located within their borders, they are virtually guaranteed a greater flow of tourist dollars and service activity than their neighbors. Indeed, Siem Reap has the highest GDP per capita outside of Phnom Penh and the PBES survey revealed that its firms enjoyed the highest growth in labor and investment over the past year, while ranking second only to Kampong Cham in willingness of entrepreneurs to expand their business. Nevertheless, it is interesting to note that with just small efforts to improve its governance, Siem Reap could grow even faster.

⁵ Ross, Michael, 2001a. *Timber Booms and Institutional Breakdown in Southeast Asia*. New York: Cambridge University Press. Ross, Michael, 2001b. "Does oil hinder democracy?" *World Politics* 53: 325-361. Sachs, Jeffrey and Andrew Warner, 1995. "Natural resource abundance and economic growth." *National Bureau of Economic Research Working Paper No. 5398*.

Figure 1: The Provincial Business Environment Scorecard (PBES)

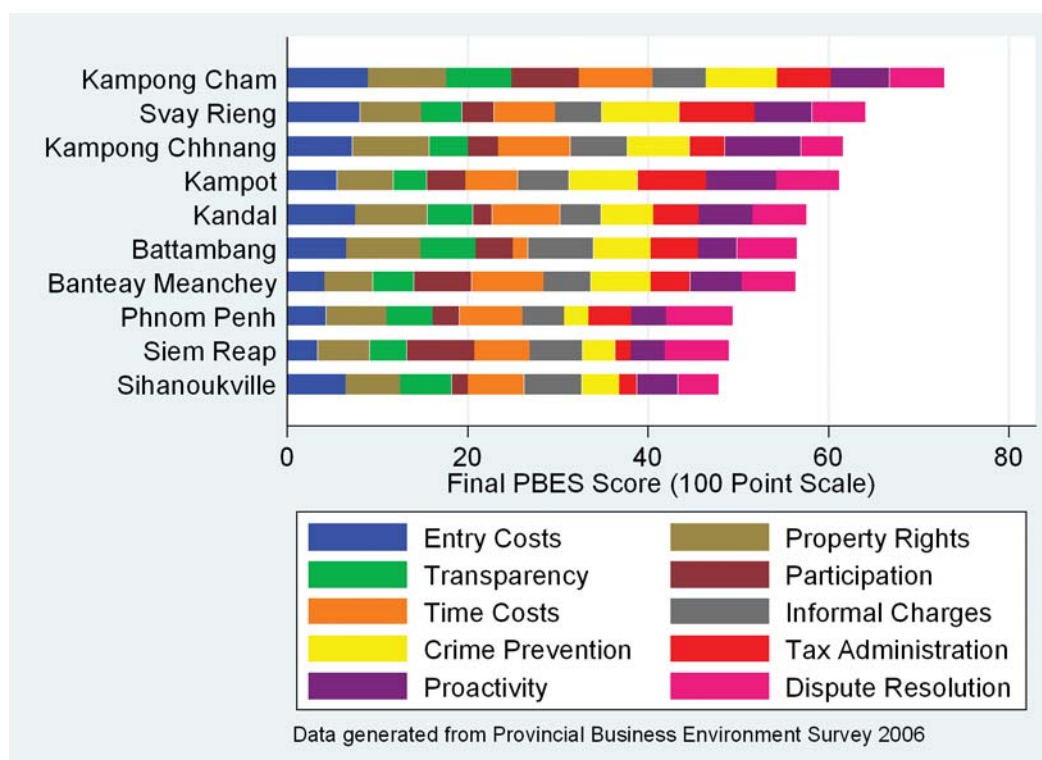


Table 1: Final Provincial Business Environment Scorecard

Province	Entry Costs	Property Rights	Transparency	Participation	Time Costs	
Kampong Cham	8.95	8.62	7.29	7.48	8.18	
Svay Rieng	8.08	6.74	4.56	3.56	6.72	
Kampong Chhnang	7.20	8.52	4.32	3.28	8.10	
Kampot	5.49	6.31	3.68	4.24	5.86	
Kandal	7.49	8.04	5.08	2.08	7.57	
Battambang	6.50	8.23	6.16	4.12	1.67	
Banteay Meanchey	4.13	5.40	4.50	6.40	8.00	
Phnom Penh	4.33	6.65	5.13	2.95	7.02	
Siem Reap	3.40	5.73	4.16	7.46	6.10	
Sihanoukville	6.41	6.08	5.72	1.84	6.25	
Province	Informal Charges	Crime Prevention	Tax	Proactivity	Dispute Resolution	PBES
Kampong Cham	5.86	7.89	6.57	5.96	6.11	72.90
Svay Rieng	5.22	8.59	6.38	8.33	5.96	64.14
Kampong Chhnang	6.30	6.87	8.43	3.92	4.73	61.67
Kampot	5.66	7.64	7.77	7.58	6.94	61.18
Kandal	4.54	5.75	6.01	5.02	5.98	57.55
Battambang	7.30	6.29	4.34	5.23	6.62	56.46
Banteay Meanchey	5.23	6.62	5.71	4.39	5.97	56.35
Phnom Penh	4.58	2.70	3.88	4.77	7.36	49.36
Siem Reap	5.87	3.65	3.74	1.70	7.11	48.95
Sihanoukville	6.40	4.09	4.60	1.96	4.46	47.82

It is important to note that the PBES is solely a measure of economic governance and regulatory policy. It should not be confused with a measure of Total Investment Environment that includes both governance and measures of initial endowments (i.e. structural conditions). If we were measuring the Total Investment Environment, it is obvious that Phnom Penh, Sihanoukville, and Siem Reap would rank higher.

Yet such a total investment environment is uninteresting analytically because provinces with relatively poor initial endowments such as Banteay Meanchey can do little to improve endowments in the short term. Far more useful is the impact in business development than can come from

improving the economic governance (measured by the PBES) in the short term.

Indeed, all provinces have a great deal of work to do on improving economic governance in particular arenas. The star chart in Figure 3 demonstrates the weaknesses and strengths of every province relative to the perfect score. No province excels in all areas. Even top-ranked Kampong Cham scores poorly on the Informal Charges, Proactivity, and Dispute Resolution Sub-Indices. Provinces such as Battambang and Kampong Chhnang show highly skewed governance scores with some excellent marks and other areas in need of tremendous improvement. The lowest scoring provinces have room for improvement on every sub-index.

Figure 2: Total Investment Environment

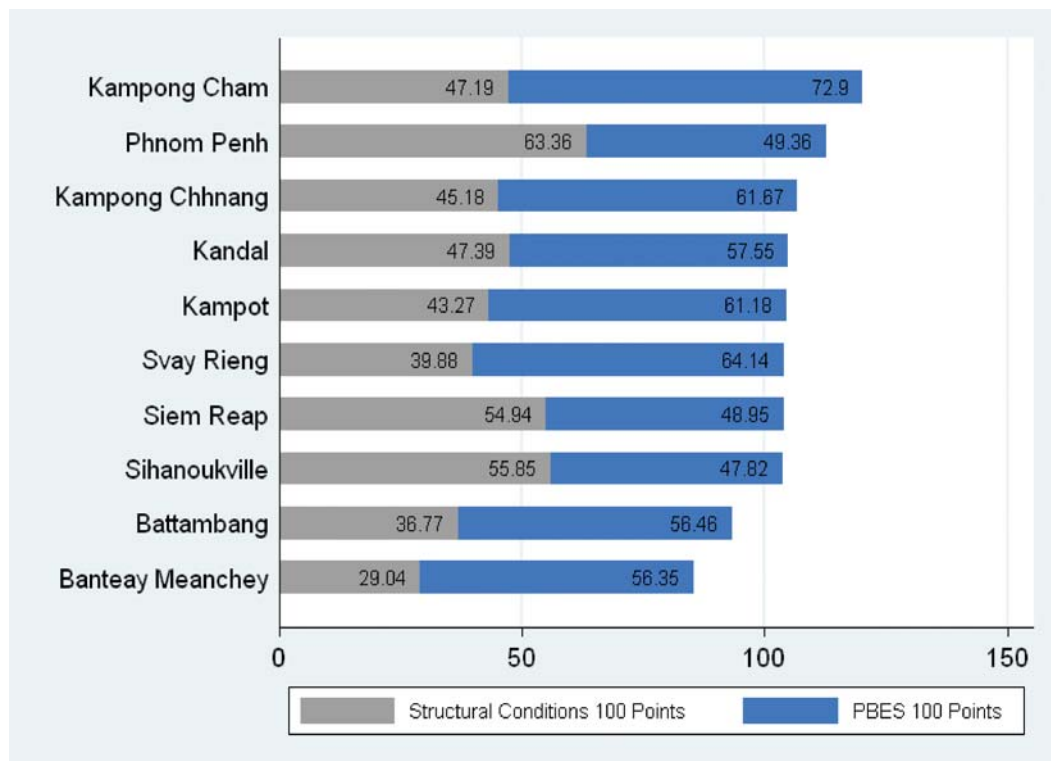
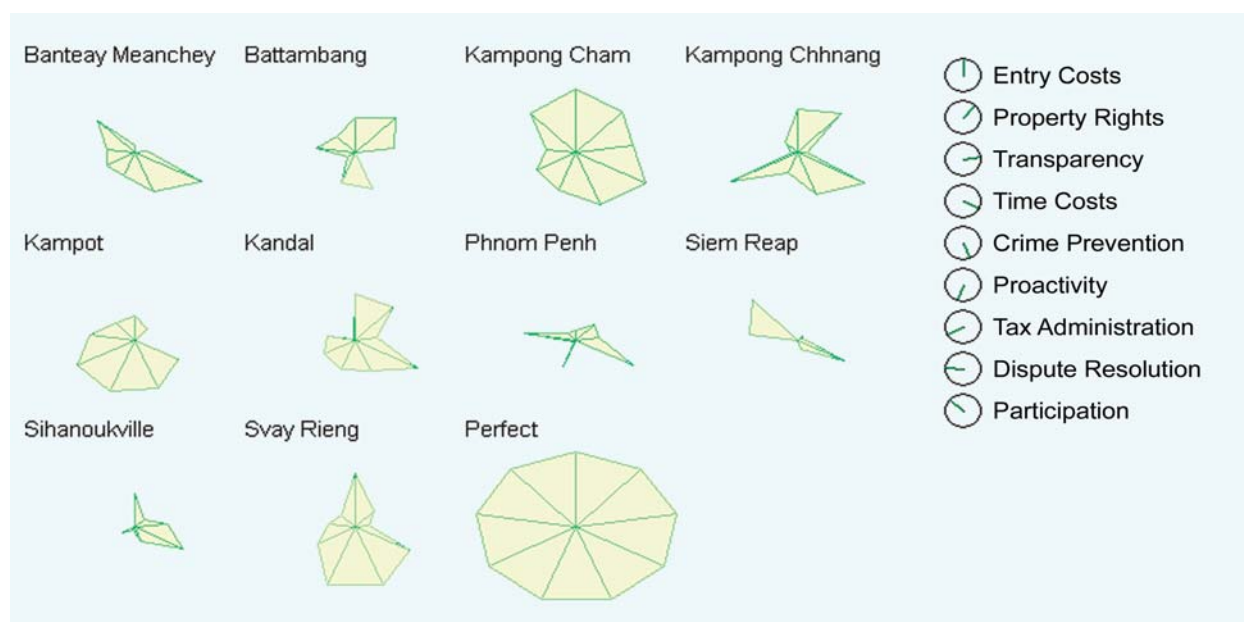


Figure 3: Star Chart of Provincial Scores on Each Sub-Index



1.4. The Impact of Provincial Business Environments

While some of these changes may be time consuming and perhaps politically difficult to accomplish, improved governance will almost certainly have an immediate effect on the business development in the region. Statistical analysis of the PBES indicators bears this out. Controlling for firm-level variables such as age, sector, size, and costs, and the provincial-level factors of infrastructure and tourist attraction potential, it can be shown that a one-point improvement on the PBES index from the mean score of 56.30 would lead to a 1.20% increase in the probability of firm expansion. Thus, a one standard deviation improvement (7.27 points) from the mean would generate a predicted 8.20% increase in the probability that existing firms will expand their businesses over the next two years.⁶ To make this more tangible, if Battambang (given its existing infrastructure, tourist potential, and human capital) were to improve from its present PBES score (56.46) to the level of Kampong Cham (72.90), it could expect nearly a 17% improvement in the willingness of existing firms to expand their businesses in the future.

Table 2 takes this one step further by looking at the relationship between governance and willingness to expand in the manufacturing sector – thought to be a future source of growth in Cambodia due to its labor cost advantages.⁷ On average, there is statistically no difference between the willingness of firms engaged in manufacturing and construction (63.60%) to expand their business than firms in other industries (62.50%). This relationship changes drastically, however, if we look at the options for manufacturing firms in well-governed provinces (defined as provinces with a total PBES score of 59 points or above). Here, we find that in provinces with low PBES scores, manufacturing firms are more reluctant to expand their businesses than firms in other industries (53% to 58%). In provinces with high PBES scores, however, both types of firms envision significant expansion over the next two years with manufacturing far more likely than their peers in commerce or services (73% to 67%). The results are quite striking: the predicted impact of manufacturing expansion will be most pronounced in well-governed regions.

⁶ Derived from a firm-level regression with standard errors clustered at the provincial level using Survey Question B_8, “Which statement best characterizes your firm’s investment plans over the next two years?” Please see Appendix 2A for more details on regression and robustness analysis.

⁷ World Bank 2004b; Mohan, T. 2005. “SMEs can be the Drivers of Competitiveness in Cambodia.” *Cambodian Review*, August, p. 10.

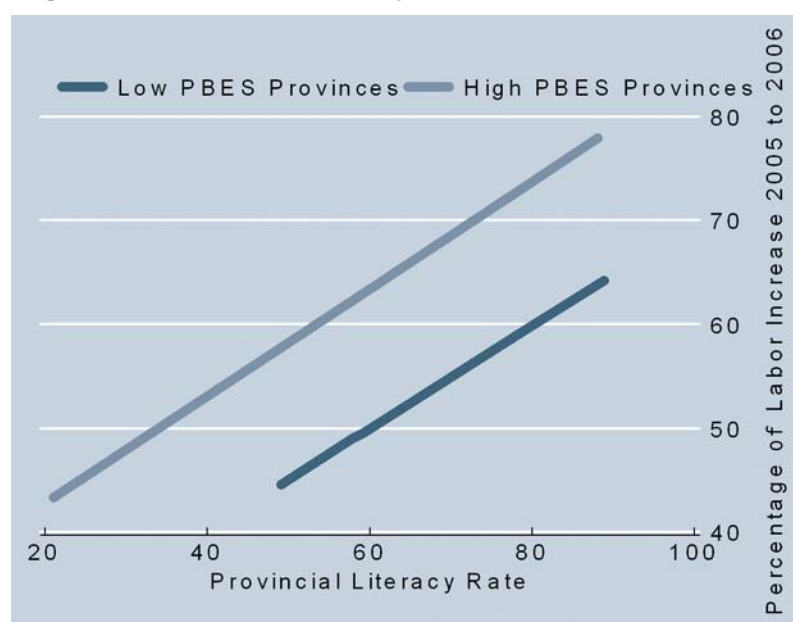
**Table 2: Predicted Probability of Expansion in Next Two Years
(By Provincial Business Environment Score and Sector)**

	<i>Low PBES</i>	<i>High PBES</i>
Non-Manufacturing Firms	0.58	0.67
Manufacturing Firms	0.53	0.73

Of course, a simple willingness to expand can be misleading due to the sometimes irrational optimism of many entrepreneurs. A more realistic measure of the impact of governance on firm expansion is the actual percentage of employees each firm has added to the labor force over the past year. Once again, we find that governance is quite influential. A one-point increase in PBES from the mean score would likely yield a 2.39% increase in average firm employment.⁸ Thus, if Banteay Meanchey were to improve its existing PBES score of 56.35 to the level of Kampong Chhnang (61.67) without changing its infrastructure or human capital, it could expect firms within its border to increase their employment by 12.70% on average. Indeed, such an improvement would be a much easier short-term goal to accomplish than Banteay Meanchey raising, for example, its provincial literacy rate from 62% to the Kampong Chhnang level of 88%, which would yield a predicted 9.36% increase in labor growth per firm.

Figure 4 demonstrates the results of the interaction between governance and literacy on net firm hires, controlling for other firm and provincial-level factors. Additional hiring in firms is strongly related to improvements in literacy in both high and low scoring provinces. Indeed, the slopes of the two lines are roughly the same indicating that a 10-point improvement in literacy would have about the same 5% increase in labor growth in both types of provinces. But if we take literacy as given, we can see that at each literacy level, firms in well-governed provinces hired more workers on average than those in lower performing regions, controlling for other factors. At the 60% literacy rate, for example, a province with a low PBES score would have experienced a 50% increase in employment on average, whereas a well-governed province would have experienced a 62% increase in employment.

Figure 4: PBES and Literacy Rates on Firm Labor Growth



⁸ Derived from a firm-level regression with standard errors clustered at the provincial level using three survey questions: [Q7_7a (Number of Permanent Employees Hired 2006) – Q7_7b (Number of Permanent Employees Fired 2006)]/ Q6a_b (Number of Permanent Employees in 2005)]. Please see Appendix 2B for more details on regression and robustness analysis.

Table 3: Predicted Impact of Sub-Indices on Labor Growth 2005-2006⁹

<i>Sub-Index</i>	<i>Impact of a 1 Point Increase in the Sub-Index on Labor Growth</i>
Entry Costs	10.25%*
Property Rights	17.44%**
Transparency	10.94%
Dimension 1: Access to Regulatory Information	8.80%***
Participation	8.00%*
Informal Charges	20.90%**
Crime Prevention	12.70%**
*** p<0.01, ** p<0.05, * p<0.1	

For provincial officials wishing to prioritize their reform interventions, Table 3 demonstrates that improvements in Entry Costs, Property Rights, Transparency (specifically access to regulatory information), Participation, Informal Charges, and Crime Prevention play the largest role in explaining labor growth. Provincial officials are advised to concentrate on policies that will improve these indicators first before concentrating on the others. Increasing performance on informal charges alone will yield a potential 21% increase in firm labor for every one-point improvement. Simply improving the availability of information on registration and licensing would generate a potential 8% average growth in firm level employment.

1.5. Conclusions

This summary has tried to demonstrate three critical points:

1. Provincial governance, as measured by the PBES, differs drastically across the different regions of Cambodia;

2. All provinces, no matter how high their scores, have room for improvement; and
3. Any governance improvements could generate a large impact on provincial business expansion and employment, but a few key areas will yield enormous returns.

Section 2 documents how each of the PBES sub-indices was created and how the final scores were assembled into the PBES. Provincial leaders will be best served by paying careful attention to the indicators that comprise each index, as they offer the most vivid portrayal of where they can target their policy initiatives for improvement. The section concludes with an analysis of the impact of individual sub-indices on labor growth.

Section 3 provides a detailed methodological discussion of the various phases of the PBES research program.

Section 4 discusses potential areas for additional research and technical assistance projects.

⁹ Appendix 3 shows the full regressions that generated these results.



Sub-Indices of the PBES

2. Sub-Indices of the PBES

2.1. Entry Costs

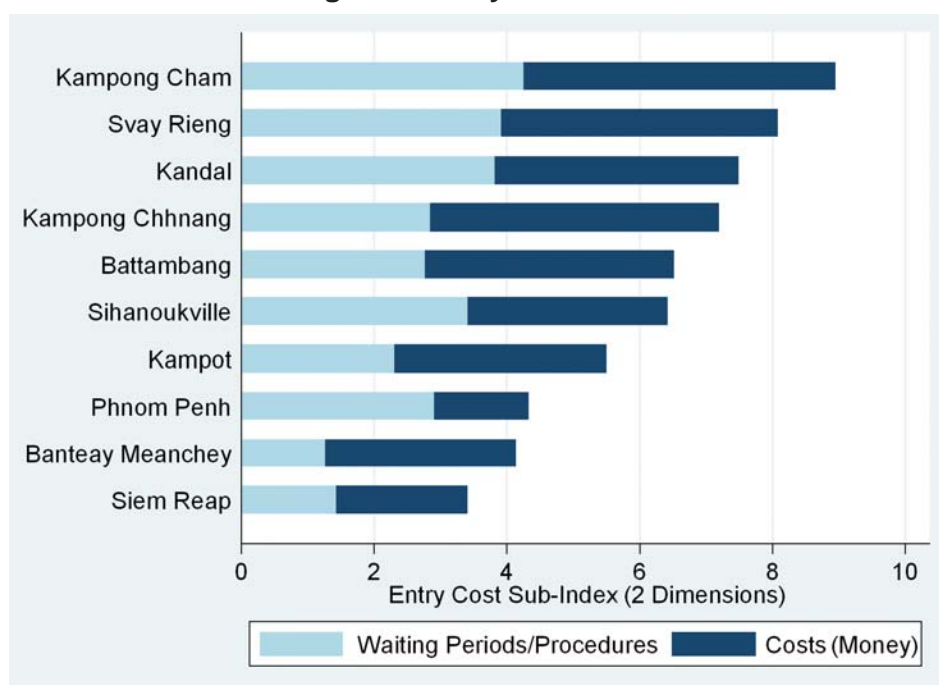
The Entry Costs Sub-Index draws upon widespread and extensive research which indicates that starting a business anywhere in Cambodia can be difficult, expensive and time consuming.¹⁰ Because business entry is so complicated, we divided this sub-index into two dimensions, capturing: 1) the length of waiting periods and the number of required documents and procedures involved with starting a business; and 2) the official expense of acquiring each required document. The final results from this sub-index are shown in Figure 5 below. Answers were re-scaled, so that the shortest wait and lowest expense payments were re-coded as 10, while the most cumbersome and expensive environments received a 1. In other words, the best-performing provinces get the highest scores. Using our approach, Kampong Cham has the lowest entry costs, while Siem Reap has the most burdensome procedures and costs.

Developing a simple gauge of Entry Costs in the Cambodian context was difficult for two main reasons.

First, depending on their level of formalization, different firms confront varying start-up procedures. Using its specific methodology for limited liability companies in the national capital, the World Bank documented at least 10 separate steps that an entrepreneur must complete to turn a business idea into a legal enterprise. Moreover, the official fees required to start a business were calculated to be 236% of per capita income, which is 17 times more expensive than in neighboring Vietnam and places Cambodia's business entry costs among the highest in the world.¹¹ However, most firms in Cambodia do not meet the rigid criteria used in the World Bank's *Doing Business* report. Indeed, only 15 of the 500 firms in our sample had a registration certificate from the Ministry of Commerce, and almost 300 (or 59%) lacked the common one-year provincial certificate that is often issued in lieu of full registration but that does not establish clear legal authority.¹² When asked both in focus groups and the survey why they have not registered, most firms cited their small size and unnecessary registration costs, which more often than not also invite unwanted attention from the tax authorities.

The Asian Development Bank (2003) and Chandararot, Salze-Lozac'h, and Darnet (2006) recognize that the

Figure 5: Entry Costs Sub-Index



¹⁰ Development Consulting International, 2003, p. 55-64; World Bank, 2004a, p. 12-14; World Bank, 2004b, p. 17; Chandararot and Darnet, 2006.

¹¹ World Bank, 2007a, p. 102.

¹² Development Consulting International, 2003, p. 55.

vast majority of Cambodian firms do not meet the *Doing Business* criteria and analyze in detail other activities that firms must undertake. Table 4 summarizes the five levels of formalization identifiable in the Cambodian business context: 1) Fully Formal – National Level; 2) Fully Formal – Provincial Level; 3) Unregistered with

Table 4: Levels of Cambodian Business Formalization

Levels	Description	Key Documents Required	Representation in PBES Random Sample
1	<i>Fully Formal – National</i>	<ul style="list-style-type: none"> • Registration at the Ministry of Commerce • Three-year Operating License from relevant ministry† • Patent Tax registration at Central Tax Authority^ψ • Value Added Tax (VAT) identification number from Ministry of Economy and Finance • Paying profit tax under real tax regime. • Labor permit certifying approval of company's internal rules for enterprise with over 8 employees • Environmental Certificate governing solid waste and water disposal from the Ministry of Environment • Other licenses when applicable‡ 	3%
2	<i>Fully Formal – Provincial</i>	<ul style="list-style-type: none"> • License to Operate Commercial Enterprises from Provincial/Municipal Department of Commerce* • One-Year Operating License from Ministerial Department at Provincial Level† • Patent Tax registration at Provincial/Municipal Tax Authority^ψ • Paying estimated tax if under \$1500 annual profits • Other licenses including Labor Permit and Environmental Certificate when applicable‡ 	38%
3	<i>Unregistered w/ Operating License</i>	<ul style="list-style-type: none"> • One-Year Operating License from Ministerial Department at Provincial Level† • Patent Tax registration at Provincial/Municipal Tax Authority^ψ • Other licenses including Labor Permit and Environmental Certificate when applicable‡ 	21%
4	<i>Patent Tax</i>	<ul style="list-style-type: none"> • Patent Tax registration at Provincial/Municipal Tax Authority^ψ 	22%
5	<i>Fully Informal</i>	<ul style="list-style-type: none"> • No formal documentation 	16%

† The four most common are the: 1) Factory Operating License for Industrial Enterprises from MIME's Department of Industrial Affairs; 2) Handicraft Operating License from MIME's Department of Small "Industry" and Handicraft; 3) Service Sector Operating License from the Ministry of Tourism; and 4) the Agricultural, Forestry, and Fisheries Operating License from the Ministry of Agriculture, Forestry, and Fisheries.

^ψ Patent tax is an annual registration (or license) fee levied on all businesses, industries and professions except for farmers. Patent tax is based on turnover from the previous year. New businesses must register with the tax authorities within 15 days after economic activity commences (Law of Taxation, 1999). The first patent tax is estimated on the basis of the performance of similar enterprises.

‡ These include Construction Permits from the Ministry of Land Management, Urban Planning, and Construction; the Road Construction License from the Ministry of Public Works and Transport; Health/Sanitation Permits from the Ministry of Health; and Import/Export Licenses from the Customs Authority.

* Firms that do not wish to export and are ineligible to pay profit taxes under the "real regime" because their annual profits are below \$1500 (Article 12 of Law on Commercial Enterprises and Registration) may register with the Provincial/Municipal Department of Commerce, according to Prakas 78-MOC-2002, but they are not considered legal entities.

an Operating License; 4) Possession of Patent Tax; and 5) Fully Informal. Because each of the five levels involves different interactions with provincial authorities and varying waiting periods, it was important that the Entry Costs Sub-Index incorporate these nuances by considering the opportunity costs of detailed procedures on businesses while not penalizing provinces for implementing national laws that require documentation.

A second obstacle to proper measurement of Entry Costs is that many firms do not actually experience

these bureaucratic waiting periods directly. In the PBES sample, 32% of the firms hired facilitators to handle business registration activities on their behalf. In the majority of cases, the facilitator was an employee of a local government agency; other firms hired family members or individuals who did not work for the government. Because facilitators took care of all paperwork, these enterprises could not always answer detailed questions about the waiting periods or about the official costs of obtaining documents. Consequently, firms that used facilitators were asked only whether they possessed specific documentation.

They were not invited to answer detailed questions about the cost of business registration activities.

2.1.1. Waiting Periods and Procedures

The Waiting Periods Dimension consists of five different measures, each one re-scaled to 10 points.¹³ It is a composite measure of the time burden involved for a firm to become a legal enterprise.

- *The percentage of fully formal enterprises (national or provincial) is the first measure of procedural costs. The key assumption of this indicator is that if more firms have taken all necessary steps to become fully legal, then the provincial administration can be considered more encouraging toward formalization and ensuring the ease of procedures. Before using this indicator, diagnostic checks by the research team confirmed that variation in registration was not determined by differences in the average size of businesses or manufacturing firms at the provincial level – rather, the measure is primarily an indicator of bureaucratic procedures.*¹⁴
- *The percentage of firms in the province requiring less than five formal documents (including all registrations, licenses, and permits) to start their business. This measure captures the number of bureaucratic steps that are required for a firm to be fully legal in each province. Most firms in the PBES survey actually needed to complete only a few steps. Though fully formal enterprises required slightly more documentation, the burden imposed by the number of procedures they needed to complete was still not that large. 10% of fully formal enterprises needed more than five documents, as opposed to only 1% of those at lower levels of formalization.*

The next three indicators measure the median waiting period required to obtain the three most common types of firm documentation. Only firms that had completed the necessary procedures themselves and possessed the actual document were eligible to answer the questions. These three indicators are:

- *Median waiting period for Registration Certificate from the Provincial/Municipal Department of Commerce.*
- *Median waiting period for a One-Year Operating License from the relevant provincial department for a firm's products or services.*

- *Median waiting period for Patent Tax registration from Local (Provincial/Municipal) Tax Authority.*

Table 5 summarizes individual provincial scores and the final Entry Costs' Waiting Periods/Procedures Dimension. As can be seen, Kampong Cham and Svay Rieng perform the best for these indicators, while Siem Reap and Banteay Meanchey, which require the most cumbersome entry procedures, rank at the bottom.

2.1.2. Monetary Costs of Business Entry

This is a composite measure of the official costs required for a firm to become a fully legal enterprise. The Money Dimension consists of five different measures, each one re-scaled to 10 points.

The first three indicators measured the median costs charged to firms for obtaining the three most common types of firm documentation. As mentioned above, only firms that had completed the procedures themselves and possessed the actual document were eligible to answer the questions. Though the research team labeled these indicators as "official" costs, this is a euphemism. Although the registration fees are set by national law that does not allow for provincial variation, in reality the variation is quite high. While the official fee for a provincial registration certificate should be \$10, the median fees charged to firms varied from \$2.25 in Kampong Cham to \$35 in Phnom Penh.¹⁵ Thus, "official" fees almost certainly include additional informal charges levied by provincial officials, who might be taking advantage of the ignorance of their clients. When the PBES research team asked provincial officials for verification of the official fees cited by firms, the appropriate departments in each province and municipality claimed they did not have the necessary information.

¹³ Re-scaling uses the following formula, in which Province_i is the individual provincial value, minimum is the smallest provincial value in the sample, and maximum is the largest provincial value in the sample.

$$9 * \left[\frac{\text{Province}_i - \text{Minimum}}{\text{Maximum} - \text{Minimum}} \right] + 1$$

For some calculations, a large number has a negative interpretation. In these cases, we reverse the index by subtracting the entire quantity from 11.

$$11 - \left[9 * \left[\frac{\text{Province}_i - \text{Minimum}}{\text{Maximum} - \text{Minimum}} \right] + 1 \right]$$

¹⁴ Bivariate Correlations with the percentage of fully formal firms are: 0.21 with the provincial average of total assets; 0.25 with employment size, and 0.35 with the percentage of manufacturing firms. None are significant at the 10% level.

¹⁵ World Bank, 200a, p. 12.

Table 5: Indicators Comprising Entry Costs (Dimension 1)

Waiting Periods/Procedures

Province	Fully formal firms (%)	Firms requiring less than 5 legal documents (%)	Wait for Provincial Registration Certificate (Median Days)	Wait for Provincial Operating License (Median Days)	Wait for Patent Tax Certificate (Median Days)	Dimension 1 Score*
Kampong Cham	45	100	10	7	15	8.50
Svay Rieng	67.5	92.5	20	9	10	7.82
Kandal	45	100	15	7	20	7.63
Sihanoukville	55	92.5	20	15	10	6.82
Phnom Penh	26.67	97.65	21	15	15	5.80
Kampong Chhnang	35	86.49	20	10	8.5	5.69
Battambang	32.31	95.16	19	25	10	5.52
Kampot	45	95	30	20	20	4.60
Siem Reap	60	89.23	30	30	30	2.85
Banteay Meanchey	25	97.37	30	15	30	2.52

*Dimension 1 is the mean of all five indicators after re-scaling to a 10-Point Scale

- *Official fee for Registration Certificate from the Provincial/Municipal Department of Commerce.*
- *Official fee for One-Year Operating License for firm products or services from relevant provincial departments.*
- *Official fee for Patent Tax registration from Local (Provincial/Municipal) Tax Authority.*

Official fees for firms' legal documents were never meant to be a primary source of revenue for provincial administrations. Instead, they are intended to reflect the labor and material costs of processing such documentation. Nevertheless, according to provincial budget information, these fees comprise a healthy

portion of revenue in some provinces – ranging from a total of 1.7% in Kampong Chhnang to 45% in Siem Reap. The heavy reliance of provincial administrations on processing fees for revenue is a clear indication that firms are over-paying to formalize and subsidizing a significant portion of provincial services. Consequently, two measures derived from provincial budgets offer a useful complement to official fees in the Money Dimension of the Entry Costs Sub-Index. These are:

- *Percentage of provincial revenue derived from processing Patent Tax registration.*
- *Percentage of provincial revenue derived from enterprise registration and stamps processing.¹⁶*

Table 6: Indicators Comprising Entry Costs (Dimension 2)

Official Fees

Province	Official fee for Provincial Registration Certificate (Median \$)	Official fee for Provincial Operating License (Median \$)	Official fee for Patent Tax Certificate (Median \$)	Revenue derived from processing Patent Tax Certificate (%)	Revenue derived from enterprise registration and stamps processing (%)	Dimension 2 Score*
Kampong Cham	3.75	2.25	5.5	4.17	1.92	9.40
Kampong Chhnang	12.5	10	8	1.24	0.46	8.70
Svay Rieng	10	8	10	2.30	5.76	8.34
Battambang	10	17.5	12	4.12	3.15	7.49
Kandal	15	10	5	3.68	19.77	7.35
Kampot	30	20	10	2.80	2.95	6.38
Sihanoukville	20	20	12.5	4.74	12.53	6.00
Banteay Meanchey	15	25	25	2.74	4.11	5.73
Siem Reap	11.5	12.5	20	12.27	33.30	3.96
Phnom Penh	30	35	24	8.03	13.75	2.85

*Dimension 2 is weighted average of the five indicators. Note: Hard Data accounts for 40% of this dimension.

¹⁶ Ministry of Economy and Finance, 2006.

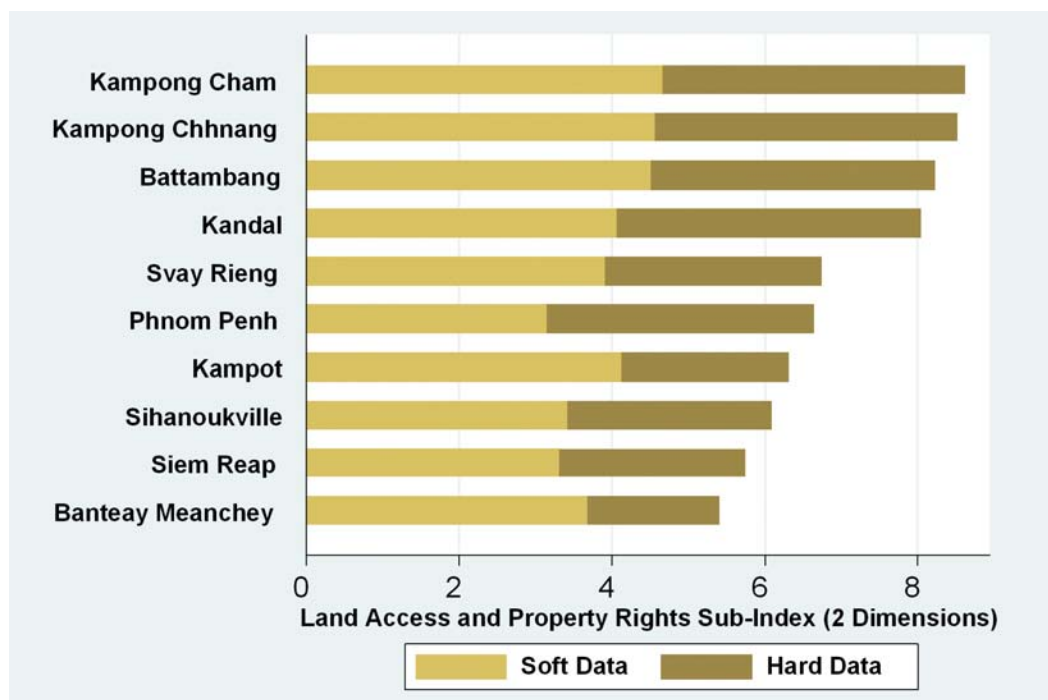
Table 6 summarizes individual provincial scores and the final Entry Costs' Official Fees Dimension. Kampong Cham (9.40) and Kampong Chhnang (8.76) offer the lowest cost environments, while start-up procedures prove most costly in Phnom Penh (2.85) and Siem Reap (3.96).

2.2. Property Rights

Hernando de Soto, a Peruvian economist, demonstrated the importance of land titles in economic development by pointing out that legal property rights encourage investment in fixed assets and that, by allowing the use of title land as collateral, access to capital markets is enhanced.¹⁷ Recent research on Cambodia has demonstrated that formal property rights still remain relatively weak due to limited land ownership and titling. The Land Law of 2001 developed a legal regime for property rights and laid forth a plan for systematic

land registration, which our data indicates had progressed admirably – 49% of the firms in our samples possess full titles. Nevertheless, in many provinces implementation of these procedures has barely commenced, and in those where it has, it varies greatly. Sophal and Acharya (2002) found that 20% of all rural households lacked any land at all, 25% owned less than ½ hectare, and 20% possessed between 1.2 and 1 hectare.¹⁸ An even smaller percentage of land that is owned is officially titled. The Asian Development Bank (ADB) reported that as of April 2003, only 80,000 certificates from a total target of 1 million had been issued by provincial and/or municipal Departments of Land Management, Urban Planning, and Construction.¹⁹ Figure 6 demonstrates that Kampong Cham is the leading province in terms of safeguarding general property rights, while Phnom Penh and Siem Reap lag furthest behind.

Figure 6: Property Rights Sub-Index



¹⁷ De Soto, Hernando. 2000. *The Mystery of Capital*. New York: Basic Books.

¹⁸ Chan, Sophal and Sarthi Acharya, 2002. "Facing the Challenge of Rural Livelihoods: A Perspective from Nine Villages in Cambodia." *Cambodian Development Research Institute Working Paper 25*, Phnom Penh, Cambodia.

¹⁹ Development Consulting International, 2003, p. 64-65.

2.2.1. Soft (Perceptions) Data

Five indicators are used to generate the survey-based Dimension 1:

- *Percentage of provincial firms with any documentation regarding the ownership of purchased or household land.* As with formal business registration, the definition of land titles is quite complicated; it involves four different levels of formality that are roughly equal to the security of property rights offered by proper land titles. These are summarized in Table 7 below. For the first indicator, we take the percentage of firms in each province that have any type of documentation related to their land. In the PBES sample, 87% of firms operating on purchased or household land have some documentation, but this figure varies regionally, from 70% in Sihanoukville to 96% in Battambang.

age of firms in each province that have the highest level of security. Note that to prevent confusion over which type of title they possessed, firms were shown photocopies of each of the relevant documents. Given recent literature on the process and the purported inefficiency of land administration offices, the number of firms generated from our sample with Solid Titles turned out to be a surprisingly high 49%. Clearly, the systematic land registration put forth in the 2001 Land Law is having some effect. The highest possession of Solid Titles was found in Kampot and Kampong Cham.

- *Percentage of firms that consider expropriation by provincial officials to be a frequent or constant risk.* Simple possession of a title is not enough if the government can still seize land that it deems is necessary for local development projects or for officials' personal use. In the past, such

Table 7: Levels of Cambodian Land Titling

Levels	Description*	Description	Representation in PBES Random Sample of Firms Owning Land (265 firms)
1	<i>Solid Title</i>	Full land title issued as a result of the procedures put forth in the 2001 Land Law that allows for all transactions, including exchange and mortgage. Generally issued by Provincial or District Land Authorities but also more recently by national officials performing systematic land registration in accordance with the 2001 Law. Roughly 1/4 of firms with solid titles in the PBES received their title through systematic registration.	49%
2	<i>Pre-2000 Title</i>	A land ownership certificate issued by district authorities at a very low fee that lacks the Solid Title's requirement for investigation of ownership or public announcement. Many firms were issued these titles before 2000. Their authenticity remains in dispute with banks and potential purchasers that are wary of taking large risks that holders are the legitimate owners of the land in question. Under the new law, these documents should be converted to Solid Titles.	13%
3	<i>Soft Title</i>	Not an official certificate, just the receipt for beginning the process of registration. Because land titling has often taken a long time, many firms simply began trading these certificates. While the certificates are sometimes accepted in transactions, they do not offer formal security of property.	25%
4	<i>No Title</i>	No documentation at all.	13%

* To prevent confusion about which titles they held, firms were all shown photocopies of different types of documentation.

- *Percentage of firms with Solid Titles to purchased or household land.* As Table 7 makes clear, only Solid Titles offer the full range of *property* rights that DeSoto considers important for encouraging firms to invest and expand their business. For that reason, we also calculate the percent-

seizures have occurred regularly, with little or poor compensation offered to local entrepreneurs. Focus group participants in Siem Reap and Battambang mentioned press coverage of such activities. The PBES survey, however, revealed very little perception of expropriation risk. In most

provinces, less than 5% of entrepreneurs indicated severe risk; in Phnom Penh, the most dangerous environment, 14% of firms perceived expropriation as a problem.

For 321 firms (36% of the PBES), the majority of business operations occur on land that is leased or rented from another party. For these firms, property rights have less to do with land titling than with their ability to operate and plan future investments without the fear that rental arrangement changes can materially affect their business. Damaging contractual changes may include rental increases, sales to new parties, new contractual terms that limit business activity, and higher fees for property-related services. For firms that rent and lease land, we developed two further indicators of property rights.

- *Percentage of firms that consider the risk of changes in rental contracts is high or very high.* This question was designed to complement the expropriation question above for firms that rent property. As with expropriation risk, it is a good indicator of the firms' belief that they will be able

to hold on to their property long enough to recoup their investments.

- *Percentage of firms renting from national, provincial, or municipal government agencies.* Firms renting from national and local government agencies are in the most precarious position, because it is very difficult to use the Cambodian court system to appeal changes in rental contracts. While use of the court system is generally rare for any type of case, suits against the Cambodian government are even less likely due to the widespread perception that it is difficult for claimants to receive fair and unbiased treatment.

Table 8 summarizes individual provincial scores and the final Property Rights Perception Dimension. According to firms in this PBES survey, Kampong Cham (7.77) and Kampong Chhnang (7.60) are perceived to have the strongest property rights. Rights are considered weakest in Phnom Penh (5.25) and Siem Reap (5.51).

Table 8: Indicators Comprising Property Rights (Dimension 1)
Perceptions

Province	Firms with any documentation for household or business land (%)	Firms with Solid Land Titles (%)	Firms that consider expropriation is often or always a risk. (%)	Firms renting from national, provincial or municipal governments (%)	Firms that consider risk of material change in rental contracts is high or very high (%)	Dimension 1 Score*
Kampong Cham	92.00	36.00	0.00	0.00	14.28	7.77
Kampong Chhnang	91.17	50.00	5.88	0.00	16.67	7.60
Battambang	95.84	62.50	2.08	5.26	36.84	7.51
Kampot	88.89	66.67	3.70	25.00	16.67	6.87
Kandal	85.71	53.57	0.00	0.00	40.00	6.76
Svay Rieng	94.11	35.29	0.00	16.67	16.67	6.52
Banteay Meanchey	84.22	42.11	5.26	4.35	21.74	6.13
Sihanoukville	69.56	56.52	8.70	0.00	23.53	5.70
Siem Reap	77.78	48.15	7.41	5.00	25.00	5.51
Phnom Penh	79.06	34.88	13.95	0.00	10.42	5.25

*Dimension 1 is the average of the five indicators, re-scaled to 1-10 points.

2.2.2. Hard Data

Two indicators are used to generate the data-based Dimension 2. These indicators were selected as proxies for the perception-based data on property rights.

Effective price of land in the province: High land prices, which are predominantly determined by the demand for and supply of available land in a particular area, limit the ability of entrepreneurs to purchase enough property to meet their expansion plans. A strong demand for business premises can also drive property values up further, particularly when useful land is scarce. A regression model that controls for supply and demand can provide us with a residual that is the effective price of land. More specifically, the residual is the difference between the predicted price of land (from structural conditions) and its actual price. Firms with negative residuals have under-priced land, while firms with positive residuals have land that is more expensive than what structural determinants would predict. What is left is the part of the land price that is affected by government policy, especially by extra costs related to obtaining titles, the transparency of land registries, and information regarding zoning policies. As one Phnom Penh firm commented, "If a title is urgently needed, a firm has to provide money to government staff to get the title on time." Some focus groups participants estimated that these extra costs can be as high as \$1,000.

Table 9 presents the results from this regression, in which the team controlled for the number of firms competing for scarce land, the size of the province, and the proportion of manufacturing firms, who often need larger spaces. Although in theory more controls could have been added, limited degrees of freedom prevented their use in this analysis. Already seven degrees of freedom and only 10 observations require that we treat the point estimates with caution and instead rely on the rank-ordering of the residual land costs of provinces. In short, Table 9 shows that land price is significantly related to the number of firms in the province, the percentage of firms in manufacturing, and the province's surface area. As this is an ordinary least squares (OLS) analysis, coefficients can be read directly from the table. For instance, every 100 firms in the province collectively add about \$1.80 to the predicted price of land. All told, the three variables explain about 73% of variance in the price of land. The unexplained 27% of the variance is caused by other factors which we capture in the residual land price.

These residuals are shown in column 3 of Table 10. Provinces with negative scores have undervalued land because of demand conditions, while provinces with positive scores tend to have prices that are higher than what would be predicted, due to demand and supply conditions. Land appears to be most egregiously overvalued in Sihanoukville and Banteay Meanchey.

Table 9: Regression Determination of Effective Land Price	
Independent Variables:	Dependent Variable:
Dependent Variable = Price of M ² land	
Number of Firms in Province	0.0181*** (0.00055)
Percentage of firms in manufacturing	902.2* (479)
Size of province in square KM	0.00619*** (0.0012)
Constant	9.792 (22.6)
Observations	10
R-squared	0.73
Root MSE	92.43
Standard errors in parentheses;*** p<0.01, ** p<0.05, * p<0.1	

Nevertheless, due to the very low degrees of freedom in the analysis, some caution must be taken in interpreting the results too literally.

Tax revenue from land rental to firms in province per province: Once again, we use the provincial budget data to derive this hard indicator. We use the specific line item of income from rent in market and divide it by the estimated percentage of total firms in the province that, based on the survey results, are renting from the government. This indicator clearly depicts the proportion of provincial revenue that is derived from firms that rent from their local government. The highest rental burden faced by firms occurs in Kampot and Svay Rieng.

Table 10 summarizes individual provincial scores and the final Land Access and Property Rights Perception Dimension. Four provinces appear to have excellent scores – all above 9 – on the hard data dimension. These are Kandal, Battambang, Kampong Cham, and Kampong Chhnang. Banteay Meanchey has the lowest score on the hard data dimension.

2.3. Transparency

Transparency is highlighted by academics and development practitioners as one of the most crucial factors in determining how conducive different environments are to private businesses.²⁰ World Bank economists Tara Vishwanath and Daniel Kaufman define transparency as:

The increased flow of timely and reliable economic, social and political information about government service provision, monetary and fiscal policy...Contrariwise, a lack of transparency may be described as someone....deliberately withholding access to, or misrepresenting, information or failure to ensure that the information provided is of adequate relevance and quality.²¹

A working measure of transparency should therefore encompass the following four dimensions: access,

Table 10: Indicators Comprising Property Rights (Dimension 2)
Hard Data

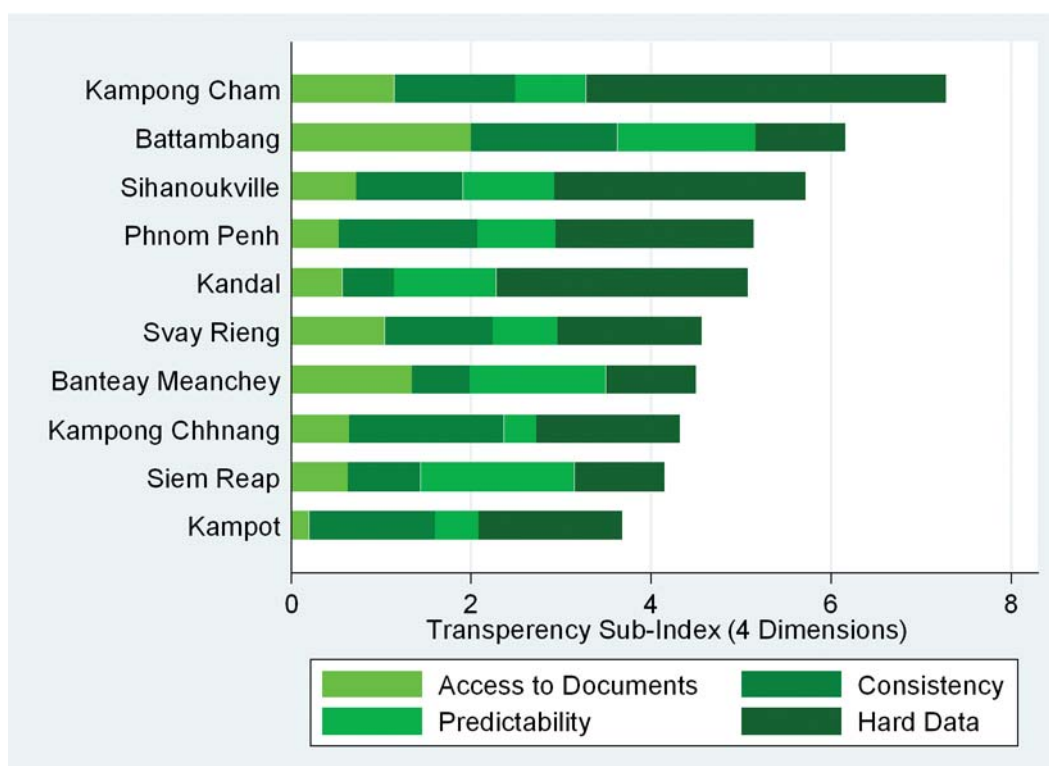
Province	Actual land price per lot (\$/ M ²)‡	Effective land price per lot (Difference between predicted and actual price \$/M ²)	Revenue borne by firms renting from government (\$)	Dimension 2 Score*
Kandal	48.44	-78.77	0.00	9.94
Kampong Cham	81.78	-76.57	0.00	9.91
Kampong Chhnang	17.44	-76.20	0.00	9.90
Battambang	139.67	-36.97	0.00	9.31
Phnom Penh	512.25	-0.49	0.00	8.76
Svay Rieng	12.38	-82.60	189.54	7.07
Sihanoukville	225.70	140.04	0.00	6.64
Siem Reap	242.40	62.38	113.25	6.06
Kampot	14.22	-81.57	291.50	5.48
Banteay Meanchey	335.56	215.48	78.39	4.29

*Dimension 2 is the average of the two indicators, re-scaled to 1-10 points.
‡ Actual land prices are shown for comparison only; they were not used to calculate the index.

²⁰ Kaufman, Daniel et al, 2002, 'Governance Matters', World Bank Policy Research Working Paper No. 2772, February, p. 5-7. Florini, Ann M., 1999, 'Does the Invisible Hand Need a Transparent Glove? The Politics of Transparency', paper prepared for the World Bank Conference on Development Economics, Washington, D.C., April; Tenev, Stoyan, Amanda Carlier, Omar Chaudry, and Quynh-Trang Nguyen, 2003, *Informality and the Playing Field in Vietnam's Business Sector*, Washington, D.C: International Finance Corporation.

²¹ Vishwanath, Tara and Daniel Kaufmann, 1999, 'Towards Transparency and Finance and Governance', World Bank Mimeo found at www.worldbank.org/wbi/governance/pdf/tarawish.pdf.

Figure 7: Transparency Sub-Index



equity, consistency, and predictability. The research team attempted to measure transparency according to these attributes by using the nine different indicators discussed below.²²

2.3.1. Access to Information

The first attribute of transparency is access, which is defined as the timely dissemination of information. While legally, information on regulatory policy and provincial planning may be available to all, actually accessing that information can often be problematic. In the Cambodian context, this can constrain private sector growth because firms may not be well-positioned to take advantage of provincial initiatives. Access also includes the availability of new laws, implementing documents, or provincial decisions. When changes in the legal regime are not readily

accessible, a firm may unintentionally operate illegally for several years. In most cases, such ignorance will not cost the firm very much, but there is always the potential for an unscrupulous government official to exploit the error for personal gain. In PBES focus groups, firms noted this was often the case when it came to tax laws and investigations by the provincial economic police. Conversely, a firm may be eligible for savings, investment opportunities, or tax refunds, but never take advantage of them because it is unaware of the benefits. Even when information can be located, it is often opaque and unhelpful. The research team used two indicators to calculate access:

- *Percentage of firms that did not know what the provincial budget was:* The research team took a unique approach to measuring access to information across the surveyed provinces. A list of the 10 provincial documents that are most vital to business operations was given to each firm. They were then asked to rate their access to

²² Vishwanath and Kaufman concede, however, that transparency is notoriously difficult to measure, because it involves agents who may actively be trying to hide information. Measuring transparency in Cambodia can be particularly troublesome, because its meaning is not obvious to many respondents. Transparency can take on different connotations across geographical boundaries and across firms that have differing relations with their provincial governments. Misunderstanding of the term can also vary according to the extent of firms' interactions with Western donors and investors.

Table 11: Important Provincial Documents and Firms' Knowledge of their Existence

Type of Document	Factor Loadings*	Firms that did not know document (%)
1. Information on which permits and stamps are required for business	.81	32%
2. Information on how to acquire operating licenses	.78	25%
3. Applications for business registration from Ministry of Commerce or Provincial Department of Commerce	.73	30%
4. Information on land titling	.58	27%
5. Plans for new infrastructure projects in province		38%
6. National Government Laws and Prakas		41%
7. Land use allocation plans and maps (provincial zoning decisions for different types of lands)		42%
8. Provincial Government policies		47%
9. Provincial Budget (information on provincial expenditures & revenue collection)		50%
10. National/Provincial investment incentive policies		50%
<i>Eigenvalue / Percentage of Variance Explained</i>	2.2/53%	

*Factor Loadings are the result of a Factor Analysis procedure on 500 firm responses with varimax rotation. Firms that answered they were unfamiliar with the document had their responses re-coded to 0.

these documents on a scale ranging from very easy to impossible. Unfortunately, 35% or more of the firms did not recognize six of the documents, which indicates how severely limited transparency is in Cambodia. Not only do firms lack access to documents that are supposedly publicly available, but many do not even know what they are. The percentage of recognition is

shown in Column 3 of Table 11. To capture firms' limited knowledge of basic information, we used the percentage of firms from each province that did not know what the provincial budget was or why access to it would help their business. The highest figures were found in Svay Rieng (75%) and, surprisingly, in Phnom Penh (67%), the country's capital.

Table 12: Indicators Comprising Transparency (Dimension 1)
Access to Regulatory Information

Province	Firms that did not know Provincial Budget (%)	Access to regulatory information (Factor Score)	Access to regulatory information (Mean) [†]	Dimension 1 Score*
Battambang	4.62	0.589	2.75	10.00
Banteay Meanchey	17.5	0.063	2.14	6.69
Kampong Cham	37.5	0.119	2.18	5.77
Svay Rieng	75	.462	2.66	5.19
Sihanoukville	55	-0.117	1.96	3.59
Kampong Chhnang	70	-0.014	2.08	3.19
Siem Reap	45.31	-0.326	1.67	3.16
Kandal	60	-0.213	1.83	2.83
Phnom Penh	66.67	-0.171	1.86	2.63
Kampot	80	-0.344	1.68	1.00

*Dimension 1 is the average of the two indicators, re-scaled to 1-10 points.

[†]Factor scores were calculated using an approach similar to saving the predicted results of a regression, but taking the simple mean access per province yielded the exact same rank-ordering (i.e., statistically, they are perfectly correlated). For ease of interpretation, the mean scores are shown as well, but they were not used in the creation of the index.

- *Access to regulatory information:* All four documents that were recognizable to the sample of firms were related to the provision of regulatory information. The research team then performed a factor analysis on these documents to see how closely they are related. Factor analysis is a procedure for reducing several highly correlated variables to a single variable. The loadings are the bivariate correlation between each of the different documents and the unobserved latent variable, which can be thought of as a general measure of access to all regulatory information. The loadings are all quite high, which indicates that the provinces that do a good job of providing one of these documents also do a good job of providing the others. This simple fact allows us to calculate factor scores for each province, which represent overall access to regulatory documents. The result of the analysis was one factor (or basket) of documents that had very strong correlations with each other (shown by the Shaded Factor Loadings in Column 1 of Table 11).

Table 12 summarizes the results on the first dimension. According to firms, Battambang has the highest access to documentation with a perfect score of 10. While this means that Battambang performs the best in the sample, it does not, however, mean that Battambang has achieved perfect access – there is still room for improvement. Kampot, in which nearly 80% of firms did not recognize what the provincial budget was,

received a score of 1, indicating an urgent need for improvement.

2.3.2. Equity and Consistency of Application

While the two indicators above capture access to the documents, they do not necessarily represent equitable access, the lack of which can result in the inefficient use of provincial resources. Such inefficiencies can constitute more than a simple transfer of resources from one party to another. Take, for instance, the example of provincial planning. The beneficial impact of infrastructure and land conversion plans on the overall province is limited if their details are available to only a select few insiders. The firms that can access provincial documents may only be able to do so by exploiting favored connections to provincial government officials. A follow-up question therefore sought to measure different aspects of equitable access in the transparency sub-index. Two variables used to capture equitable access were:

- *Access dependent on a relationship with provincial government measured the percentage of firms that considered a connection with someone in the provincial government to be important or very important in facilitating access to the above documents.*
- *The percentage of firms that agreed or strongly agreed that favoritism toward firms with political connections is an obstacle to their business.*

Table 13: Indicators Comprising Transparency (Dimension 2)
Consistency of Application

Province	Access dependent on relationship with provincial government (%)	Favoritism toward firms w/ political connections is a business obstacle (%)	Dimension 2 Score*
Kampong Chhnang	7.5	47.5	8.67
Battambang	13.85	35.39	8.15
Phnom Penh	10	44.44	7.68
Kampot	17.5	40	6.99
Kampong Cham	15.38	52.5	6.71
Svay Rieng	17.5	52.5	6.02
Sihanoukville	15	67.5	5.97
Siem Reap	29.24	63.08	4.06
Banteay Meanchey	12.5	65	3.21
Kandal	17.5	65	2.85

*Dimension 2 is the average of the two indicators, re-scaled to 1-10 points.

2.3.3. Predictability of Laws and Policies

The third dimension of transparency is predictability, or the notion that national laws and regulations are implemented in a consistent and foreseeable manner across the provinces. One important role of provincial government officials is to adequately inform firms about changes in central laws or in the implementation of those laws. Three indicators were used to capture whether firms understand how provincial decisions are made and how they will be implemented, so that they can gauge the direction of long-term strategies and find it easier to make informed investment decisions. Table 14 demonstrates that most firms in Cambodia are poorly informed about national laws. Kampong Chhnang, Kampot, and Svay Rieng rank lowest in the sample when it comes to information provision, but no single province excels in this dimension. Table 14 summarizes the score for these indicators, which are as follows:

- *How often do representatives from the provincial governor's office or province meet with you and other private domestic businesses to discuss changes in laws or policies? (% Seldom or Never)*
- *How informed are you about new rules, laws, and regulations that are related to economics and finance and/or that materially affect your business? (% Not at all or Poorly)*

- *How often do you receive advance notice about changes in central government laws? (% Seldom and Never)*

2.3.4. Hard Data

The final dimension of transparency is derived from our own test for provincial information provision. Rather than relying solely on the perceptions of individual firms, the PBES research team traveled to all 10 of the sample provinces and, posing as private entrepreneurs, attempted to access applications for and information about registration (from the Provincial Department of Commerce) and operating licenses (from the Provincial Department of Industry, Mines, & Energy). We recorded the transparency of information from the departments on the following four-point scale (from 4 being good to 1 being bad):

4. *Information is posted and applications are readily available without having to contact an official.*
3. *Information is clearly posted, but applications must be requested from an official.*
2. *Both information and application require requests to an official.*
1. *Requests that were made did not yield information or applications.*

Table 14: Indicators Comprising Transparency (Dimension 3)
Predictability of Laws and Policies

Province	Firms that seldom or never meet with officials to discuss changes in law or policies (%)	Firms that have no or poor information on new rules, laws, and regulations (%)	Firms that seldom or never receive advance notice about changes in central government laws (%)	Dimension 3 Score*
Siem Reap	80	67.7	69.23	8.57
Battambang	67.7	78.46	76.92	7.67
Banteay Meanchey	80	77.5	67.5	7.58
Kandal	85	77.5	80	5.71
Sihanoukville	87.5	87.5	72.5	5.07
Phnom Penh	85.56	84.44	84.44	4.33
Kampong Cham	82.5	85	90	3.96
Svay Rieng	97.5	80	85	3.60
Kampot	95	87.5	90	2.40
Kampong Chhnang	90	92.5	95	1.76

*Dimension 3 is the average of the three indicators, re-scaled to 1-10 points.

Table 15: Indicators Comprising Transparency (Dimension 4)
Hard Data Information Request

Province	Information request at Provincial/Municipal Department of Commerce	Information request at Provincial/Municipal Department of Industry, Mines, and Energy	Dimension 4 Score*
Kampong Cham	4	4	10.00
Kandal	3	3	7.00
Sihanoukville	4	2	7.00
Phnom Penh	2	3	5.50
Kampong Chhnang	2	2	4.00
Kampot	2	2	4.00
Svay Rieng	2	2	4.00
Banteay Meanchey	1	2	2.50
Battambang	2	1	2.50
Siem Reap	1	2	2.50

*Dimension 4 is the average of the two indicators, re-scaled to 1-10 points.

As Table 15 shows, through this exercise, Kampong Cham emerged as the most transparent province. In both departments, all the necessary information was readily available in the foyer of the buildings, so there was no need for a firm to contact an official. This offers an interesting contrast to the survey results for Kampong Cham, which has relatively low access. Banteay Meanchey, Battambang, and Siem Reap proved to be the least transparent provinces. In these three provinces, firms always had to contact provincial officials, and in at least one case, even after a request was made, the regulatory information never materialized. The results of this part of the analysis also contrast with those for Dimension 1, in which Battambang was recognized as having the greatest access. The seemingly contradictory findings are an example of why the PBES mixed both hard data and firms' perceptions – sometimes firms' perceptions can

be misleading and when possible, it is important to subject their views to direct tests when possible. The research team had this final dimension comprise 40% of the entire transparency index.

2.4. Time Costs of Regulatory Compliance

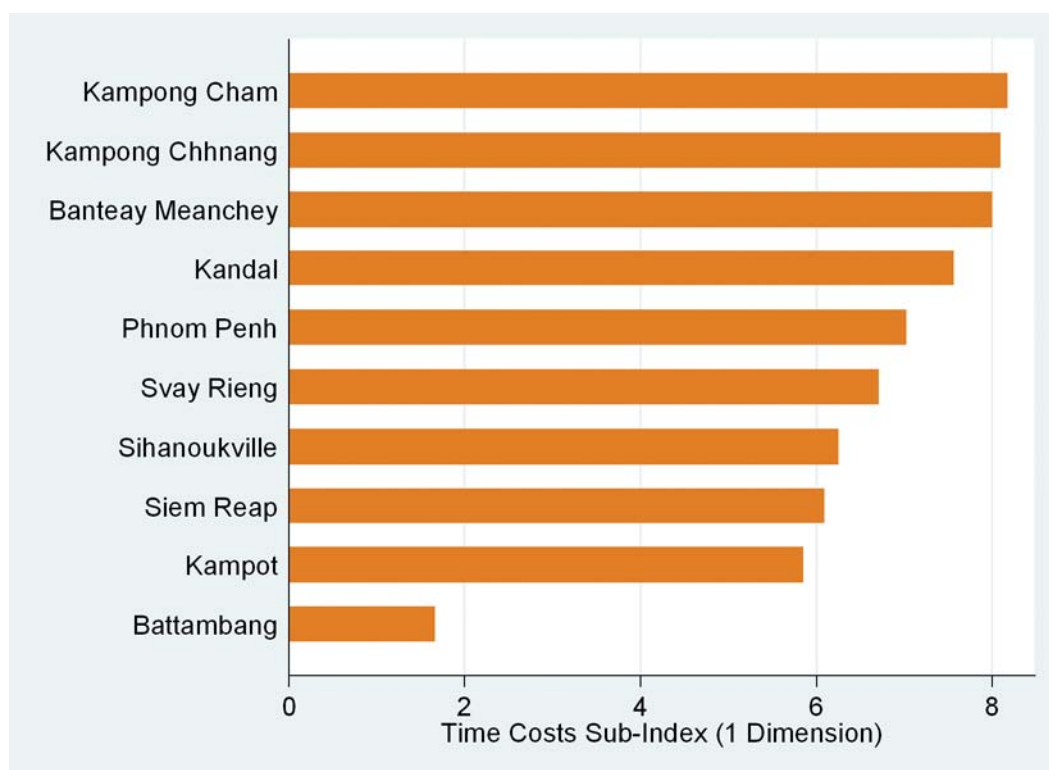
The study of transaction costs in time has been an important element of economic transition literature.²³ The old business maxim "time is money" is particularly relevant in the Cambodian provinces. Firm managers are often torn away from their business operations to deal with and attend to mundane bureaucratic problems. When this occurs, they lose valuable time that could be more productively spent managing their company operations.

The survey considered three indicators of time costs, which are weighted equally:

- *Bureaucratic procedures:* To create this indicator we asked the question, "In a typical week in 2005, what percentage of the total time of owners or high-level managers was spent on dealing with requirements imposed by government regulations [e.g., taxes, customs, labor regulations, licensing and registration, including dealings with officials, completing forms, etc.]"

²³ European Bank of Reconstruction and Development, *EBRD Transition Report 1999*, London: 1999, p. 120-128. World Bank, 2002, *Transition: The First Ten Years: Analysis for Eastern Europe and the Former Soviet Union*, Washington D.C., 2002, p. 103-107. Hellman, Joel et al, 2002, 'Seize the State, Seize the Day: State Capture, Corruption, Influence in Transition', *World Bank Policy Research Working Paper No. 2444*, World Bank Institute, September, p. 7-14. Hellman, Joel et al, 2002, 'Measuring Governance, Corruption, and State Capture: How Firms and Bureaucrats Shape the Business Environment in Transition Economies', *World Bank Policy Research Working Paper No. 2312*, World Bank Institute, April.

Figure 8: Time Costs of Regulatory Compliance Sub-Index



This question is generally asked by the World Bank's Investment Climate Analysis (ICA) researchers in the form of a five-point Likert scale.²⁴ Unfortunately, firms in the PBES focus groups had trouble calculating percentages. As a result, they were asked to record the total number of days during the year that they had spent on such procedures, and annual averages were calculated using those responses. The percentage of firms that spent over 16 days (4.5% of a year) of senior management's annual activity on bureaucratic procedures was taken as the final indicator. Provincial scores varied from 0% in Banteay Meanchey to 26% in neighboring Battambang.

- *Inspections policy:* A common complaint made by private firms is that inspections policy remains a burden. Local agencies inspect firms too frequently and their inspections are excessively long.²⁵ Of course, to some extent, inspections are necessary, especially as Cambodia attempts to move to a full regulatory system. As more environmental, health, and safety licenses that apply to initial business activities are being removed, the responsibility for ensuring that such private firms continuously meet such standards is shifting to regulatory agencies. A key challenge

for these bodies is how to manage their responsibilities effectively while also inexpensively.

The World Bank's Investment Climate Analysis estimated that firms endure 16 inspections a year, primarily by tax authorities and the local police. Our PBES survey, which involved smaller, less-sophisticated firms, confirmed that it was the tax officers and the police rather than regulatory agencies that conducted the majority of inspections, although it also found that the average burden faced by firms was much lower than was indicated by the ICA (four median inspections). Firms in Battambang, however, face an inspection burden quite close to the ICA estimate of 12 median inspections. Our survey shows that the length of these inspections was short – often less than an hour – and did not vary regionally.

- *Wait for formal land title:* The final indicator measures the median number of days it took firms to receive their formal land titles from the

²⁴ World Bank, 2004b.

²⁵ World Bank, 2004b, p. 20.

Table 16: Indicators Comprising Time Costs of Regulatory Compliance

Province	Firms spending over 16 days per year on bureaucratic procedures (%)	Total annual inspections (Median)	Wait for land title (Median Days)	Time Costs Sub-Index Score*
Kampong Cham	14.29	4	30.00	8.18
Kampong Chhnang	15	4	30.00	8.10
Banteay Meanchey	0	4	55.00	8.00
Kandal	2.5	5	52.50	7.57
Phnom Penh	23.54	3	38.00	7.02
Svay Rieng	7.5	4.5	60.00	6.72
Sihanoukville	5.56	3.5	75.00	6.25
Siem Reap	15	4	60.00	6.10
Kampot	20.51	3	60.00	5.86
Battambang	28.81	12	65.00	1.67

*The Time Costs of Regulatory Compliance Sub-Index is the average of the three indicators, re-scaled to 1-10 points.

time they received their land and submitted their applications. It provides an excellent picture of the bureaucratic efficiency of local authorities.

Data from these three indicators and the final Time Costs of Regulatory Compliance Index are shown in Table 16 above. Kampong Cham and Banteay Meanchey were found to have the least bureaucratic barriers, while Battambang, which scored either lowest or second lowest on each indicator, imposes the lengthiest procedures.

2.5. Informal Charges

Recent headlines in Cambodian newspapers have highlighted corruption in many provinces, leading to the dismissal of at least two governors in Kampot and Pursat Province and the filing of a number of formal charges by central prosecutors against other local officials.²⁶ While some commentators consider these dismissals to be politically motivated, none deny that

corruption, particularly the informal charges imposed by local officials, poses a major constraint to private sector development.^{27, 28} One possible solution cited in the ADB report is rapid progress on decentralization, which will better empower local communities to protest and seek retribution against such informal charges. Bearing that in mind, assembling a baseline of the variance in corruption at local levels comprised an important part of determining what factors may mitigate corruption after more decentralization occurs.

Our pre-survey focus group research revealed that informal charges in Cambodia should be considered in three dimensions. The first is micro-corruption, which occurs when businesses pay small bribes to obtain favorable official decisions, expedite bureaucratic procedures and pass regulatory inspections. Micro-corruption is a major problem for domestic investors, as unwarranted delays can cut into firms' profits. One focus group participant claimed that a number of officials considered informal payments to facilitate government procedures as "normal." During inspections, officials charge firms small "fees," expect gifts (beer or cigarettes) in exchange for positive inspection results, or assign fines and penalties that are difficult for firms to appeal in a non-transparent manner. Firms in the PBES focus groups claimed to understand that one of the reasons for micro-corruption is the low salaries that local agencies pay their officials, who then expect "tips," but they also complained about greedy officials who often ask for payments far beyond the means of small entrepreneurs.

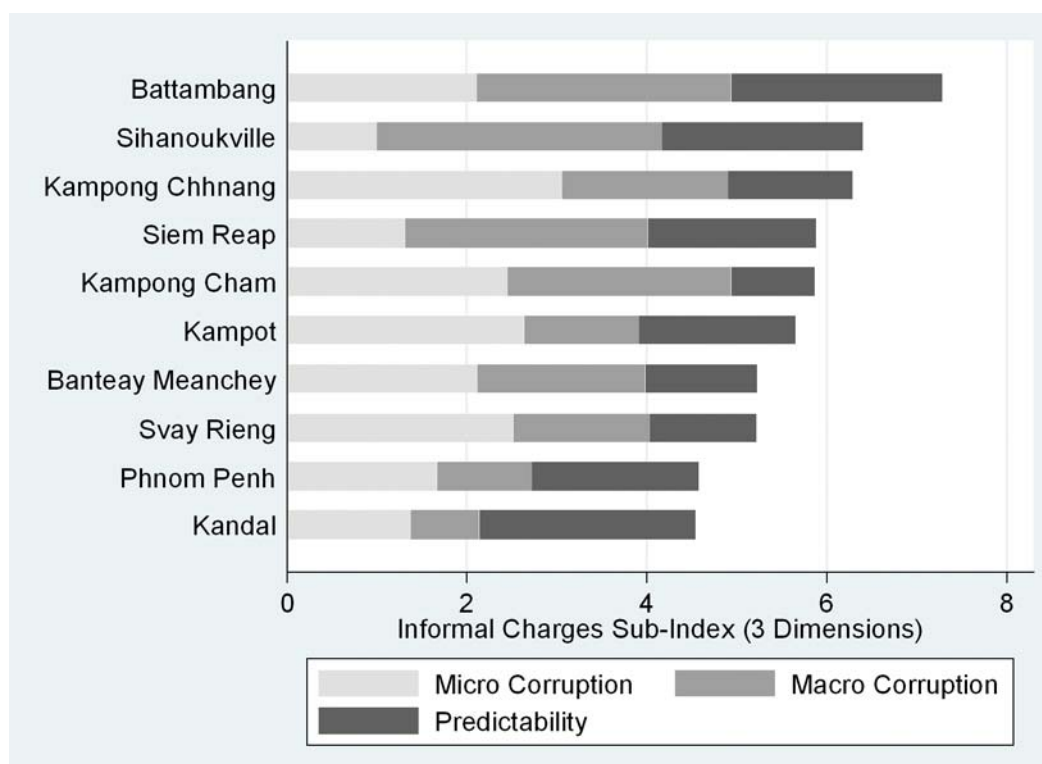
It is worth noting that some firms acknowledged paying bribes to build connections for illicit purposes as well

²⁶ Naren, Kuch, 2006. "Ex-Governor is Innocent, Lawyer Says," *The Cambodian Daily*, Wednesday July 19, p. 1.

²⁷ Samean, Yun, "F'Pec Leader is Confronted by Sacked Officials," *The Cambodian Daily*, Friday July 21, p. 1; Igawa, Miwa, "Consolidating Power in Cambodia: Corruption and Abounds," *Forum Asia*, Bangkok: Asian Forum for Human Rights and Development,

²⁸ Hach, Sok, 2006. *Assessment of Corruption in Cambodia's Private Sector*. Phnom Penh: Economic Institute of Cambodia for United States Agency for International Development, July, p. 11. ; World Bank, 2004b, p. 21 and Development Consulting International, 2003, p. 75-77.

Figure 9: Informal Charges Sub-Index



for as normal business activities. Such payments often enable businesses to receive advance warnings of impending police raids, engage in illegal or unauthorized behavior, and avoid paying higher taxes.

Macro-corruption, the second dimension, relates to bribe requests made by higher ranking officials who are involved in the bidding for public procurement contracts. Such bribes are often assessed as a percentage of the contract or quota amounts, and can reach a sum of hundreds of thousands of dollars. Moreover, the bidding process tends to be unfair and stacked against firms that lack connections. A recent dispute between the World Bank and the Cambodian Government revolved around accusations of macro-corruption in some World Bank-funded infrastructure projects.²⁹

A third dimension of informal charges measures the predictability of corrupt actions. A wide range of literature on corruption indicates that firms may consider informal charges beneficial if these expedite bureaucratic procedures and are predictable (i.e., enable firms to factor bribe costs into their business plans and deliver the expected results).³⁰ While most firms in our focus groups claimed that they could not predict extra payments exactly, there was some consensus that threshold prices exist for most types of assistance from provincial officials. Any payment less than \$5 for a small firm or \$20 for a larger firm would be too low to

yield the desired outcome. Such charges are based on the notion that firms network and, over time, learn from both their own and their peers' experiences about what they are paying for, how much it should cost, and (most importantly) whether they will eventually receive the service that they need. The World Bank's ICA is skeptical of this view, demonstrating that service delivery did not improve for firms that paid extra fees.³¹ Our focus groups confirmed this finding, as firms complained that although they often paid bribes, officials did not try to solve their problems.

²⁹ British Broadcasting Corporation. 2006. "Corruption Curbs Cambodian Cash." May 29, on-line edition.

³⁰ World Bank, *World Development Report 1997*, Washington, D.C., p. 172; Edgardo J. Campos, Donald Lien, and Sanjay Pradhan, "The Impact of Corruption on Investment: Predictability Matters," Elsevier World Development XXVII, vol. 27, issue 6, 1999, pp. 1059-1067; Johann Graf Lambsdorff, Johan Graf, 2002. "How Confidence Facilitates Illegal Transactions: An Empirical Approach" *The American Journal of Economics and Sociology*, October. Lambsdorff's questions were taken from a World Bank/University of Basel survey. Our questions are derivatives of these, which have been made more suitable to the Cambodian context.

³¹ World Bank, 2004b, 15.

2.5.1. Micro-Corruption

Three indicators measure the extent of the problem by gauging the frequency, type, and amount of extra payments:

- *The percentage of firms that believe that enterprises in their line of business are subject to bribes from provincial authorities.* Note that this question was phrased so that firms were answering about firms in general as opposed to their own experience with bribes – thereby substantially increasing the response rate.
- *The percentage of firms that consider corruption to be a major or severe obstacle* is used as a simple measure of the burden that extra payments impose on firms in the sample.
- *The percentage of firms that admit to having paid an informal charge when registering for the patent tax.* Because nearly every firm in the sample had registered for this document, it was a useful indicator of how provincial officials use local regulations to extract rents from firms. If we take firms at their word, only 11% of firms in the entire sample paid extra fees. Kandal (16%) and Phnom Penh (12%) were the only two provinces to have proportions greater than the sample average.

Table 17 demonstrates that micro-corruption poses the least difficulties in Kampong Chhnang and Kampot.

2.5.2. Macro-Corruption

The three indicators that make up our measure of macro-corruption as it relates to public procurement contracts were chosen to cover the entire bidding process. Do all firms have equal information about the opportunity for such contracts? If a firm puts in a bid does it have a fair chance of obtaining the contract? Are bribes expected to facilitate a winning bid? Given the unsophisticated nature of the firms in the sample, there was concern during the survey design stage that firms would not know enough about public procurement to answer these questions. As a result, a “Don’t know” option was provided. 40% of firms used the “Don’t know” response on questions of extra payments, but none chose it on the preceding two questions. The simple reason for this apparent contradiction is that procurement is much more widespread than it would seem, with many provincial agencies ordering construction, repair services, sign-making, and food delivery from local vendors. We concluded from this that firms were familiar with the concept of public procurement but chose “Don’t know” to avoid answering the sensitive question of whether they had paid bribes to win contracts. Due to this phenomenon, when the research team calculated the

Table 17: Indicators Comprising Informal Charges (Dimension 1)
Micro-Corruption

Province	Enterprises in my line of business do <i>not</i> make extra payments (%)	Firms that did <i>not</i> pay informal charge when registering for Patent Tax (%)	Corruption is a major or severe obstacle (%)	Dimension 1 Score*
Kampong Chhnang	60	100.0	27.50	9.19
Kampot	65	85.3	27.50	7.91
Svay Rieng	65	85.7	32.5	7.56
Kampong Cham	65	82.1	30.00	7.35
Banteay Meanchey	52.5	86.2	35.00	6.35
Battambang	67.69	94.2	63.08	6.33
Phnom Penh	38.89	78.2	25.56	5.02
Kandal	52.5	74.1	45.00	4.15
Siem Reap	43.08	84.1	52.31	3.92
Sihanoukville	32.5	87.5	57.50	3.00

*Dimension 1 is the average of the three indicators, re-scaled to 1-10 points.

Table 18: Indicators Comprising Informal Charges (Dimension 2)
Macro-Corruption

Province	Public procurement contracts are often or always transparent (%)	Connections are important for winning public procurement contracts (%)	Firms never or seldom pay commissions when doing business with government (%)	Dimension 2 Score*
Sihanoukville	22.5	45	57.89	9.51
Battambang	26.15	56.93	48.15	8.49
Siem Reap	23.08	56.92	48.15	8.10
Kampong Cham	22.5	72.5	58.33	7.47
Banteay Meanchey	22.5	77.5	33.33	5.59
Kampong Chhnang	2.5	55	46.15	5.51
Svay Rieng	7.5	62.5	28.57	4.52
Kampot	10	75	27.27	3.82
Phnom Penh	10	75.56	16.67	3.14
Kandal	12.5	85	8.70	2.27

*Dimension 2 is the average of the three indicators, re-scaled to 1-10 points.

percentage of firms that never or seldom pay bribes, the firms that answered “Don’t know” were considered part of the relevant sample rather than as missing data.

- *Do you believe that information regarding available public procurement contracts is transparent? (% Often or Always).*
- *How important are personal connections to government officials for winning public procurement contracts? (% Important or Very Important).*
- *When firms in your line of business do business with the government, do they often pay commissions? (% Never or Seldom)*

Battambang and Sihanoukville demonstrate the lowest evidence of macro-corruption in Table 18. By contrast, Kandal and Phnom Penh appear to have the greatest difficulty with macro-corruption. Their low scores likely result from their close geographic proximity to, and therefore access to, central government decision makers.

2.5.3. Predictability of Informal Charges

To obtain a more accurate measure of corruption in the Cambodian context and to test the implications that corruption has for investment, we created a final

measure for the predictability of informal charges. It is made up of three indicators:

- *The percentage of firms answering that they know the amount of extra payments in advance.*
- *The percentage of firms agreeing that after payments, the relevant service was delivered as expected.*
- *Once other government agencies have heard that a firm has paid an additional fee, are they more likely to ask for ‘additional payments’ themselves? (% No)* As with unpredictable fees, private firms cannot calculate whether making a payment to one agency will cause them to have to make future payments to other agencies, and therefore their ability to forecast their expected corruption costs is limited. For this reason, the research team considered the percentage of firms that answered no to this question as analogous to the predictability of fees charged by individual inspectors.

Table 19 illustrates that corruption is least predictable in Kampong Cham and Svay Rieng and highly predictable in Battambang and Kandal. More research may certainly help sort out this puzzle.

Table 19: Indicators Comprising Informal Charges (Dimension 3)
Predictability of Corruption

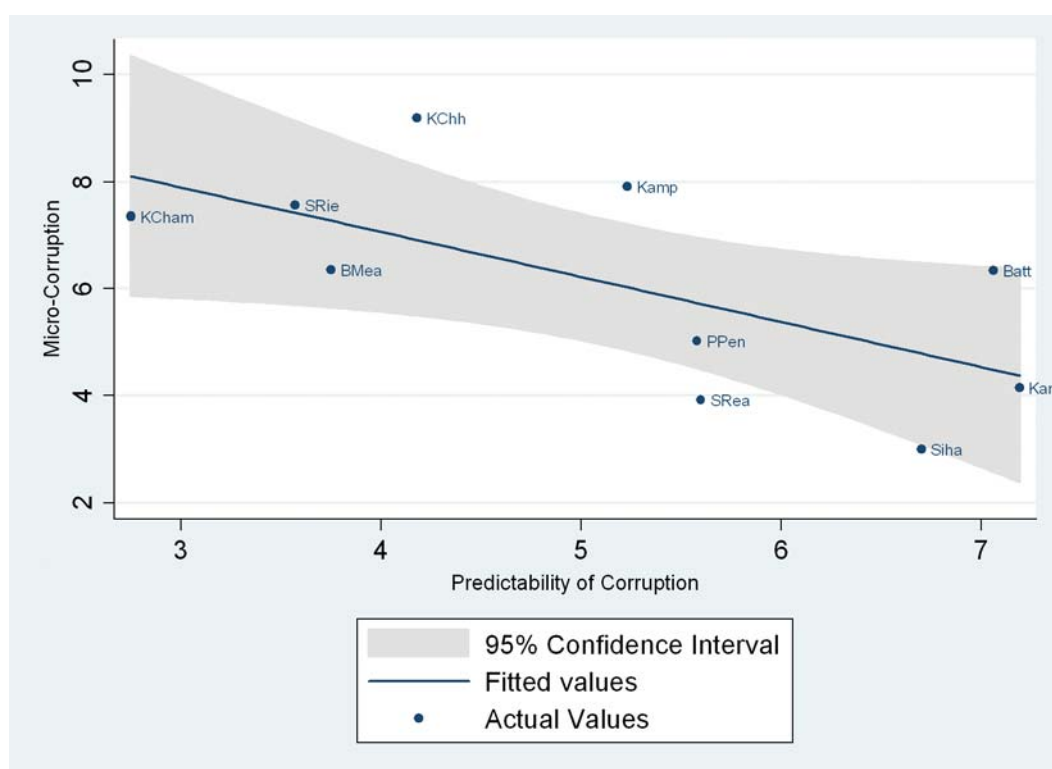
Province	After payment, service was delivered as expected (%)	Firms who know the amount of extra payment in advance (%)	After payment, other agencies are less likely to ask for their own extra payments (%)	Dimension 3 Score*
Kandal	27.5	27.5	92.5	7.19
Battambang	36.92	23.08	83.08	7.06
Sihanoukville	35	37.5	67.5	6.70
Siem Reap	16.93	32.31	83.08	5.60
Phnom Penh	22.23	48.89	60	5.58
Kampot	25	15	85	5.23
Kampong Chhnang	17.5	15	82.5	4.18
Banteay Meanchey	12.5	42.5	57.5	3.75
Svay Rieng	10	12.5	87.5	3.57
Kampong Cham	20	15	62.5	2.75

*Dimension 3 is the average of the three indicators, re-scaled to 1-10 points.

An interesting issue in the Informal Charges Sub-Index is that Micro-Corruption and Predictability are negatively and significantly correlated, as shown in Figure 10. This seems to indicate a trade-off. Provinces such as Kampong Cham tend to not burden their firms with informal charges, but whenever they do charge them, these events are highly unpredictable

for local firms. By contrast, while informal charges in Battambang, Kandal, and Sihanoukville are much more common, they are also for that very reason more predictable. Neither of these conditions is ideal for private firms; charges should be low and predictable. But the question of which condition is better for private sector development is a topic for future research.

Figure 10: Relationship between Micro-Corruption and Predictability



2.6. Participation

Participation represents the flip-side of Transparency. While Transparency indicates how much information provinces voluntarily supply to entrepreneurs, Participation studies provincial officials' receptiveness to the information provided by firms about changes in local policies and initiatives. The Sub-Index measures if firms are consulted during the creation of provincial policies, either through individual discussions with government officials, forums between the government and enterprises, and/or through advocacy on the part of business associations. Because a great deal of effort has recently been made toward empowering associations to advocate on behalf of the private sector, we have focused specifically on this element of governance.

Four indicators comprise the Participation Sub-Index :

- *When a new law, rule, regulation or decree that could have a substantial impact on your business is being discussed, does the provincial government solicit advice from firms like yours regarding the legal document's content or implementation? (% Always or Regularly).* The answer to this question directly indicates firms' evaluations of their roles in local decision making. Compared to levels of participation in neighboring Vietnam, scores in each Cambodian

province were low. The highest value, in Banteay Meanchey, was only 7.5%.

The next three indicators capture the role of business associations in provincial activities. Although business associations fulfill a variety of roles, one of their primary purposes is to advocate on behalf of the private sector.

- *Percentage of firms that could identify active business associations in their province, whether or not they belonged to any.* This indicator is a measure of business associations' visibility.
- *Percentage of firms from the PBES sample who are members of business associations.* This statistic measures the organizations' inclusiveness.
- *Business associations for every 1,000 firms.* This hard data measure of associations' outreach captures the number of business associations registered with the DOC and DIME in every province. It accounts for 40% of the total index score.

Table 20 displays relatively high firm participation scores for Siem Reap and Kampong Cham. By contrast, the urban centers of Sihanoukville, Kandal, and Phnom Penh had very low scores.

Figure 11: Participation Sub-Index

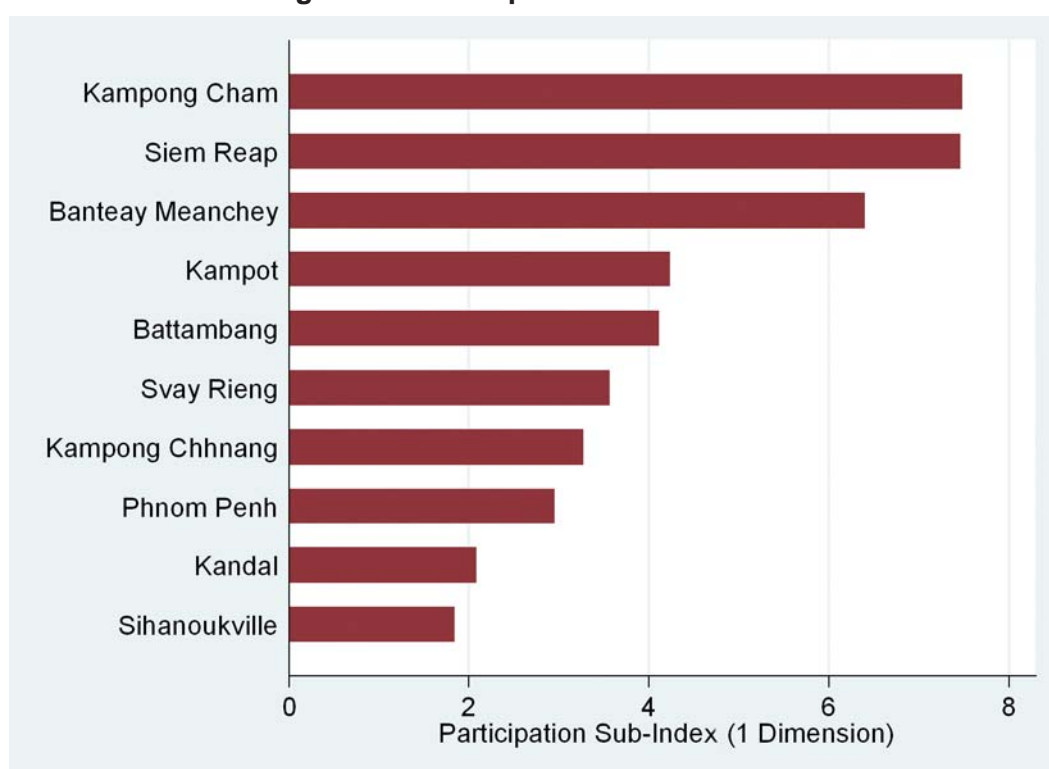


Table 20: Indicators Comprising Participation Sub-Index

Province	Firms regularly or always participating in decision making (%)	Firms able to identify business associations in province (%)	Self-identified members of business associations in province (%) ^ψ	Registered business associations for every 1,000 firms	Sub-Index Score*
Kampong Cham	2.50	12.50	5.00	38.59	7.48
Siem Reap	1.54	26.15	4.62	35.32	7.46
Banteay Meanchey	7.50	40.00	5.00	0.00	6.40
Kampot	2.50	7.50	0.00	25.73	4.24
Battambang	4.62	7.69	1.54	12.95	4.12
Svay Rieng	2.5	7.5	2.5	8.8	3.56
Kampong Chhnang	2.50	2.50	0.00	17.99	3.28
Phnom Penh	0.00	23.33	1.11	5.89	2.95
Kandal	2.50	12.50	0.00	0.00	2.08
Sihanoukville	2.50	7.50	0.00	0.00	1.84

*The Participation Sub-Index is the average of the five indicators, re-scaled to 1-10 points.
^ψ: Firms answering Don't Know were re-coded to No.

2.7. Crime Prevention

Any quick glance at a Cambodian daily newspaper will reveal that crime (often violent) is a common occurrence. The constant threat of crime also affects the decisions of entrepreneurs. Indeed, our focus group demonstrated that crime was an issue in almost all provinces, though its relative importance varied. While firms in Kampot, Battambang, and Kampong Cham said they were satisfied with the level of protec-

tion that local governments offered, firms in Phnom Penh were much more anxious about the increasing numbers of violent crime and robbery. In Siem Reap and Sihanoukville, entrepreneurs worried less about robberies than about the growing criminal drug trade and its potentially negative impact on tourism.

Crime is expensive for firms, even if they never actually experience a robbery. Many firms pay individuals to act as security guards on their premises, while others

Figure 12: Crime Prevention Sub-Index

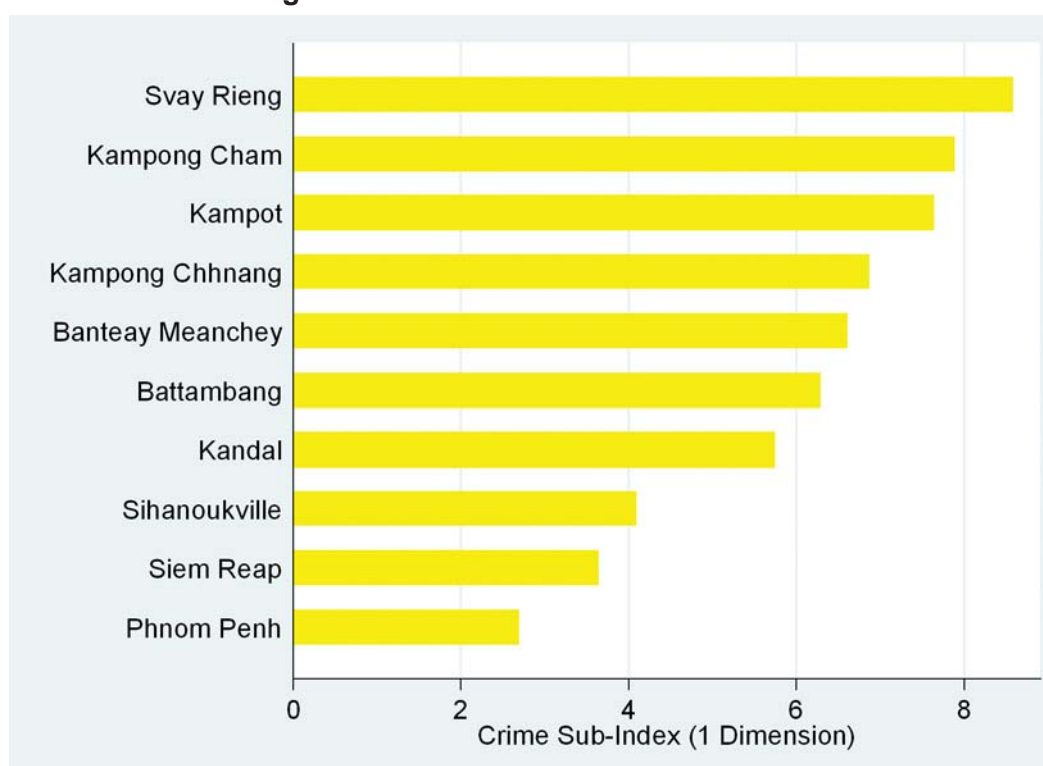


Table 21: Indicators Comprising Crime Prevention Sub-Index

Province	Firms that did not experience a robbery (%) ^Ω	Losses of firms that did experience robbery (Median \$)	Firms paying protection money to local police (%)	Firms paying protection money to other groups or organizations (%)	Sub-Index Score*
Svay Rieng	92.5	50	17.5	0	8.59
Kampong Cham	77.5	65	2.5	7.5	7.89
Kampot	72.5	47.5	5	10	7.64
Kampong Chhnang	70	75	10	5	6.87
Banteay Meanchey	77.5	55	10	15	6.62
Battambang	63.08	50	15.38	9.23	6.29
Kandal	45	55	2.5	15	5.75
Sihanoukville	70	125	25	5	4.09
Siem Reap	55.38	125	12.31	12.31	3.65
Phnom Penh	65.56	100	27.78	18.89	2.70

*The Crime Prevention Sub-Index is the average of the four indicators, re-scaled to 1-10 points.
^Ω: Firms answering Don't Know had their answers re-coded to Yes, so that either firms did or not experience a robbery.

pay local gangs protection money. More often than not, firms even pay police officers to avoid criminal attacks on their business. With this in mind, we developed four indicators of crime prevention for each province:

- *The percentage of firms that did not experience a robbery, vandalism, or arson in the last year* is used to measure the scope of crime in a province. The majority of firms were untouched by crime last year, with the notable exception being businesses in Kandal. 55% of firms within its borders were affected by some type of criminal activity.
- *The value of losses from firms that did experience a crime.* Median losses ranged from \$47 in Kampot to \$125 in Siem Reap and Sihanoukville.
- *Percentage of firms paying protection money directly to police officers.* Police officers are generally the most common recipients of protection-related payments, even though our focus groups indicated that their impact on crime prevention was limited.
- *Percentage of firms paying protection money to other individuals and organizations.*

Table 21 demonstrates that crime poses the least difficulty for firms in the eastern provinces of Svay Rieng, Kampong Cham, and Kampot. It is, however, a severe burden for businesses in Phnom Penh and Siem Reap.

2.8. Tax Administration and Burden

A recent Economic Institute of Cambodia (EIC) survey of 1,500 firms estimated that the Cambodian government collected only 25% of potential revenue because firms avoided paying taxes.³² Using the 2005 budget as a basis, EIC calculated that such informal payments cost the government \$400 million in potential revenue, which could have been spent on social programs and infrastructure projects. Similarly, the ADB has found that the extent of discretion in the tax regime has led to substantial tax shortfalls.³³ Another group of authors demonstrate the strong relationship between the heavy tax burden faced by firms and their negotiations with tax authorities to reduce it.³⁴ They cite a rice miller from Kampong Cham who openly admits to undervaluing his revenue so as to reduce his tax burden:

"I must lie about my revenue to the authorities or else close my business because the tax rate is impossible to meet. Think about it – in 1 ton of milled rice at a price of 1 million riel (\$250), my profit is only 10,000 riel (\$2.50). When I pay the 10% monthly turnover tax and patent tax, I make nothing."³⁵

Local tax officials are not naïve; rather, they encourage this deception by offering entrepreneurs a "personal

³² Hach, Sok, 2006, p. 11.

³³ Development Consulting International, 2003.

³⁴ Chandarot, Salze-Lozac'h, and Dannel (2006)

³⁵ Chandarot, Salze-Lozac'h, and Dannel (2006)

or sentimental discount" in exchange for free samples or service fees.³⁶ The result is a complex web of informal activity that benefits only individual tax inspectors. It deprives provincial governments of revenue, makes firms dependent on local authorities (because the firms' growth corresponds with a proportionate increase in payments), and denies individual citizens public services that could be provided through a larger tax base.

To capture these taxation issues at the provincial level, the PBES research team developed a Sub-Index entitled Tax Administration and Burden that includes six indicators:

- *The percentage of firms in each province that do not pay any taxes.* While Cambodian firms are legally subject to a number of different taxes, including VAT, salary taxes, and excise taxes, it is profit (turnover) taxes that vary most at the provincial level. All three legal categories of profit tax rates (described in Table 22) are represented in our sample. While there are only 11% of "real regime" (see Table 22 below for a definition) members in the entire sample, 40% of those in Kampong Cham sample fit in this category. In Kampot province, 38% of firms pay the estimated tax, a figure that is two standard deviations greater than the entire sample mean. Other provinces have been less diligent about registering their firms for profit taxes. 48% of firms in Phnom

Penh and 40% of firms Siem Reap do not pay any taxes; together, businesses in these two provinces account for over half the non-paying firms in the entire sample. As a result, the percentage of firms that do not pay any taxes serves as a useful indicator of the capacity of local tax authorities.

The next three indicators capture the arbitrary nature of tax collection at the provincial level for all types of taxes, including profit taxes, VAT and the tax burden negotiations that firms must have with tax authorities:

- *The percentage of firms that view bribes paid to public officials for avoiding taxes as an obstacle to their business.*
- *The percentage of firms that pay bribes to local tax authorities to expedite the tax collection process.* In some provinces, firms may face additional fines for not paying taxes on time even though the timing of tax collection rests with tax officials. Such businesses have taken it upon themselves to accelerate the collection process with extra payments.
- *The percentage of firms that agree or strongly agree that negotiations with the tax authority are an essential part of doing business.* While the "estimated regime" (see Table 22 above for a definition) legally requires an estimated sales

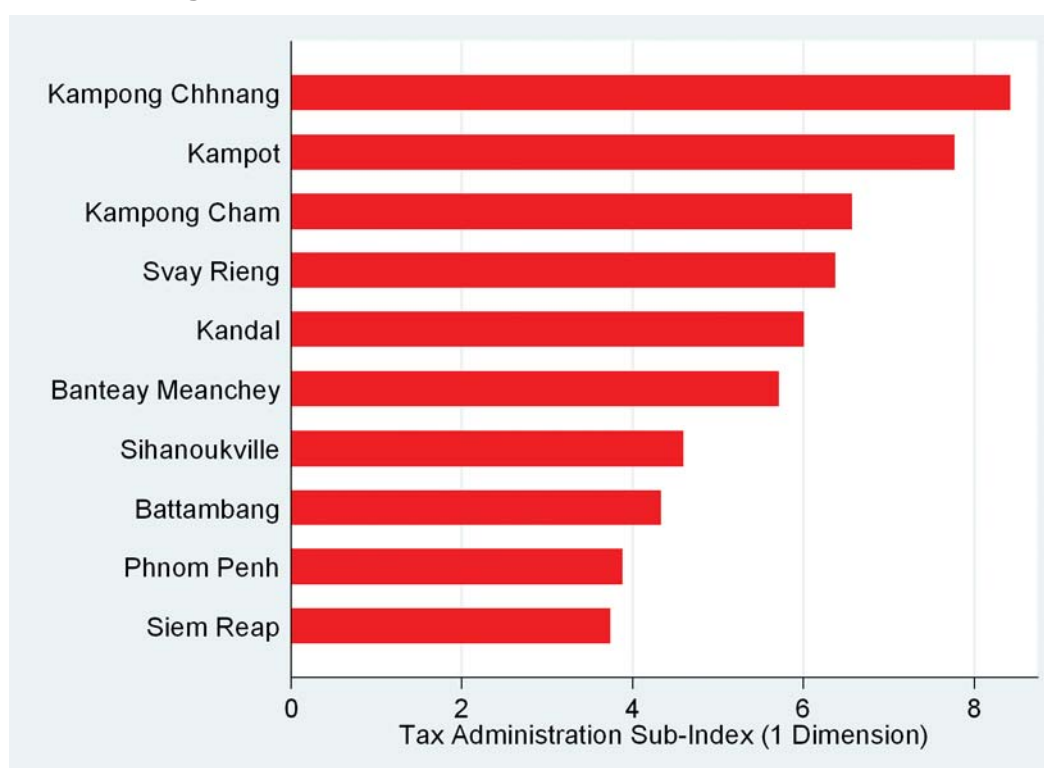
Table 22: Profit Tax Categories for Private Firms

Categories	Description	Representation in PBES Random Sample of Firms Owning Land (265 firms)
1 <i>Real Regime</i>	Firms with annual turnover over KR 500 million and service sector enterprises with over KR 250 million are required to file financial statements with the Tax Department of the Ministry of Economy and Finance. Any firm supplying goods or services to the government is also required to enter this regime. This tax category is known as the "real regime," which necessitates a tax license, patent tax registration, and commercial registration with the MOC. [†]	11%
2 <i>Estimated Regime</i>	Firms whose turnover is too small for the real regime enter the "estimated regime," where taxes are determined based on provincial Tax Departments' estimates of enterprise sales. These are typically monthly lump-sum payments that are determined through a negotiation process.	11%
3 <i>Patent Tax</i>	Firms not registered with the Provincial/Municipal Department of Commerce pay an initial patent tax but do not pay profit taxes.	52%
4 <i>No taxes at all</i>		26%

[†] Development Consulting International, 2003, 70.

³⁶ Chandararot 2006.

Figure 13: Tax Administration and Burden Sub-Index



value, negotiations can yield a lower tax burden in exchange for informal payments.

The final two indicators were taken directly from the World Bank's Investment Climate Analysis (ICA) questions on obstacles to business performance. These questions are posed on a 5-point scale, with 5 representing a severe obstacle and 1 representing a minimal obstacle. The two indicators are:

- *The mean obstacle imposed by Tax Administration.*
- *The mean obstacle posed by the Tax Burden (which is interpreted as the amount paid).*

While these figures generated statistically significant differences, it is interesting to note that no provinces have a mean score greater than 3, which is defined as a moderate obstacle.

Table 23: Indicators Comprising Tax Administration and Burden Sub-Index

Province	Firms not paying any taxes (%)	Tax burden as obstacle (Mean)	Tax administration as obstacle (Mean)	Bribes to officials are an obstacle to business (%)	Firms paying bribes to expedite collection (%)	Firms negotiating with Tax Authority (%)	Tax Sub-Index Score *
Kampong Chhnang	5.00	1.55	1.05	81.58	0.00	47.37	8.43
Kampot	15.00	1.98	1.15	50.00	0.00	58.83	7.77
Kampong Cham	20.00	1.25	1.28	84.39	0.00	71.88	6.57
Svay Rieng	15.00	2.40	1.25	61.76	0.00	64.71	6.38
Kandal	27.50	1.95	1.23	51.72	3.45	72.41	6.01
Banteay Meanchey	22.50	2.15	1.58	77.42	3.23	51.61	5.71
Sihanoukville	10.00	1.75	1.40	97.23	11.12	63.89	4.60
Battambang	23.08	2.20	2.05	88.00	8.00	44.00	4.34
Phnom Penh	47.78	1.89	1.22	82.98	10.64	63.83	3.88
Siem Reap	40.00	2.32	1.58	79.48	5.13	66.67	3.74

*The Tax Sub-Index is the mean of all six indicators after re-scaling to a 10-Point Scale

Table 23 shows that firms in Kampong Chhnang and Kampot suffer the least from the burden imposed by the Provincial Authority, while firms in Phnom Penh and Siem Reap consider the Tax Authority their biggest problem.

2.9. Proactivity of Provincial Authorities

Legal ambiguity, which results from unclear wording in legal documents, delays in the promulgation of implementing documents related to central laws; and inconsistencies between implementing documents and the central laws themselves, is a standard part of doing business in Cambodia. In addition, a clear legal regime is lacking for many emerging industries. When legal ambiguity is a factor in delays, a provincial government's choices can greatly affect the success of a business venture. Provincial officials can cost businesses considerable time and money by forcing them to wait for clarification through subsequent implementing documents or an appeal to central authorities. In a few provinces, officials may even use such uncertainty to prevent firms from competing with their preferred local champions. Given these problems, those provincial governments that are creative and clever in their application of central law can greatly assist businesses. Similarly, officials with a knack for crafting proactive provincial initiatives that resolve problems facing firms can have a major impact on private sector development.

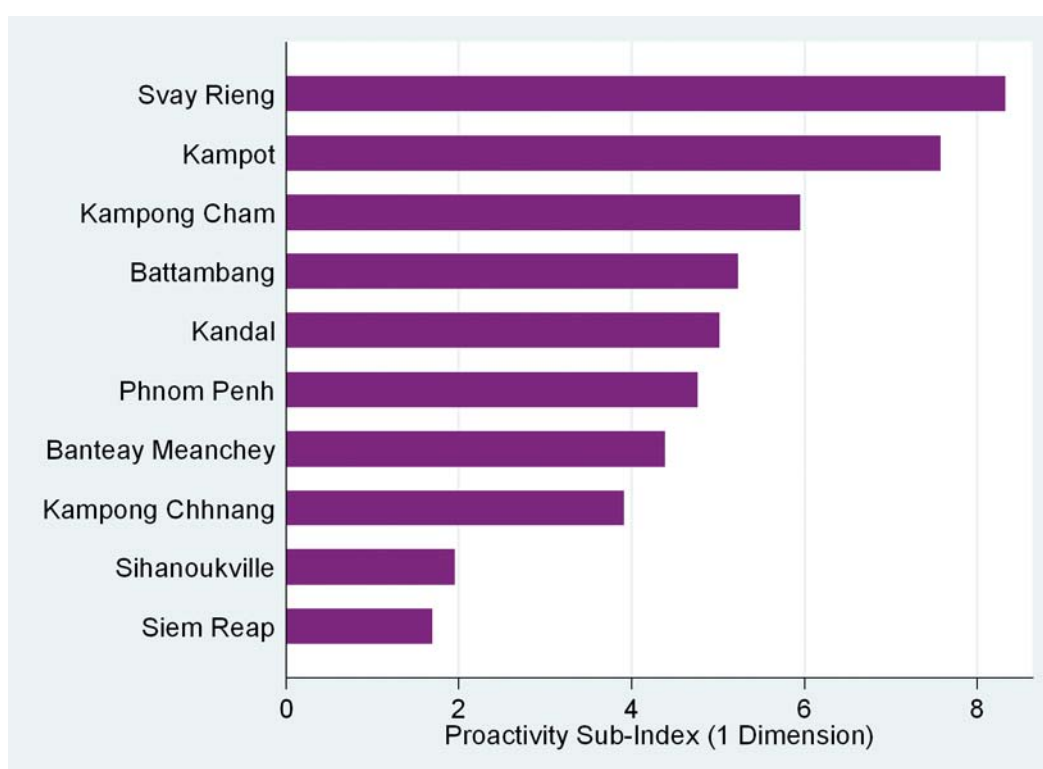
Focus groups revealed that firms' attitudes regarding the helpfulness of Cambodian provincial governments in ambiguous situations are generally negative. A common refrain of businesspeople in each focus group was, "they ignore our problems," which was then often followed by a monologue on problems in the firm's specific sector. Only in Kampong Cham did firms indicate any satisfaction with their government's initiatives, particularly with major improvements in safety and security. Sihanoukville firms expressed the greatest frustration, complaining that the provincial government had not even managed to resolve the problem of drug addicts haranguing tourists.

Eight indicators were used to determine the extent of provincial dynamism. The results are depicted in Table 24.

The first two indicators capture firms' perceptions regarding the government's general attitude toward private business in the province:

- *Percentage of firms that regard their provincial government's attitude toward private business as positive.*
- *Percentage of firms that believe their provincial government's attitude toward private business has improved over time.*

Figure 14: Proactivity of Provincial Authorities Sub-Index



The next two indicators capture how well the provincial governor and local agencies deal with legal ambiguity:

- *Percentage of firms that believe that their provincial government will interpret in their favor if there is ambiguity in central regulations.*
- *Percentage of firms that believe that their local agencies will interpret in their favor if there is ambiguity in central regulations.*

The third group of three indicators captures the willingness and competence of provincial officials in resolving private firms' problems through the existing legal framework:

- *Percentage of firms that believe that their provincial officials know enough about current national laws to resolve their problems by finding opportunities within those laws.*

- *Percentage of firms that believe that their provincial officials are creative and clever in applying national laws to resolve their problems.*
- *Percentage of firms that believe that their provincial officials are willing to risk punishment from the central government to pass decisions that aid business.*

The final indicator simply records the:

- *Percentage of firms that disagree or strongly disagree that their provincial leadership has nothing to do with new initiatives that aid the private sector and that instead, all important policies come from the central government.*

Table 24 summarizes the Proactivity of Provincial Authorities indicators. Svay Rieng ranks highest compared to the other provinces on this aspect of

Table 24: Indicators Comprising Proactivity of Provincial Authorities Sub-Index

Province	Positive attitude of provincial government toward private sector (%)	Attitude of provincial government is improving (%)	In case of ambiguity, provincial government finds in firms' favor (%)	In case of ambiguity, relevant provincial departments find in firms' favor (%)	
Svay Rieng	35.00	45.00	37.5	30	
Kampot	52.50	37.50	25.00	25.00	
Kampong Cham	47.50	55.00	15.00	12.50	
Battambang	43.08	41.54	16.92	20.00	
Kandal	30.00	32.50	17.50	17.50	
Phnom Penh	42.22	40.00	32.22	26.67	
Banteay Meanchey	37.50	35.00	17.50	15.00	
Kampong Chhnang	30.00	32.50	15.00	22.50	
Sihanoukville	30.00	30.00	7.50	2.50	
Siem Reap	24.62	32.31	7.69	12.31	
Province	Provincial government good at working within central laws (%)	Provincial government creative and clever about solving firms' problems (%)	Provincial government willing to risk punishment to assist private firms (%)	All policies come from central government (%) Disagree)	Sub-Index Score *
Svay Rieng	82.50	77.50	35.00	37.50	8.33
Kampot	67.50	60.00	47.50	40.00	7.58
Kampong Cham	67.50	50.00	25.00	32.50	5.96
Battambang	60.00	53.85	20.00	32.30	5.23
Kandal	55.00	62.50	32.50	40.00	5.02
Phnom Penh	54.44	41.11	17.78	18.89	4.77
Banteay Meanchey	55.00	57.50	25.00	27.50	4.39
Kampong Chhnang	62.50	55.00	25.00	17.50	3.92
Sihanoukville	55.00	42.50	12.50	22.50	1.96
Siem Reap	49.23	33.85	18.46	15.39	1.70

*The Pro-Activity Sub-Index is the mean of all eight indicators after re-scaling to a 10-Point Scale

economic governance. The lowest scores were recorded in Sihanoukville and Siem Reap.

2.10. Dispute Resolution

According to the World Bank's ICA, the weak rule of law in Cambodia increases firms' investment risks and costs, constrains their business operations and ultimately limits their growth.³⁷ To resolve this problem, the ICA recommended that the functioning of the courts be improved "so that impartial and legal-based judicial decisions can underpin contracting and backstop alternative dispute resolution." The notion of backstopping alternative resolution is particularly important, as few firms in any of the provinces sampled rely on the court system, due to their belief that the courts are biased and prove expensive. As a participant in focus groups claimed, "if the victim is uneducated and poor, the court will not find justice for him." In fact, firms believed that using the courts actually made their problems worse because it involved new expenses and fines. Another participant remarked, "I don't want a small problem to become bigger."

Our survey results bear out these anecdotal claims: less than 1% of firms cited local courts as their most common mode for resolving disputes; less than 5% chose it as their second most common mode; and only 23% of firms that have had disputes cited the courts

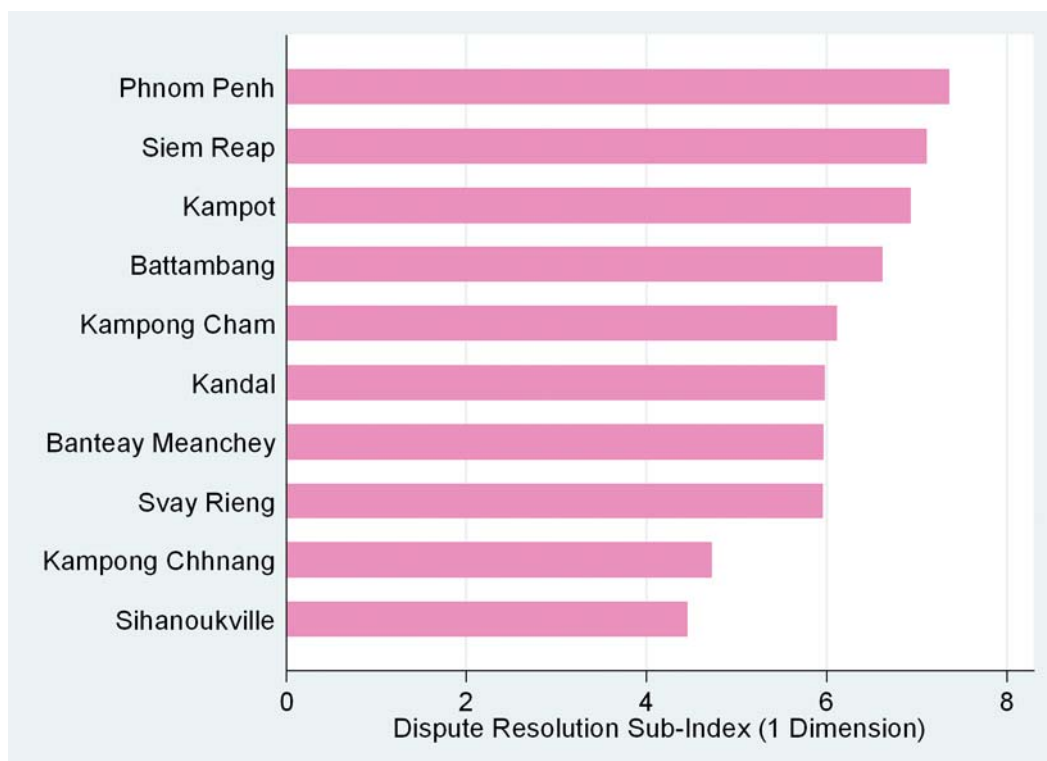
as their third most common method. Instead, firms preferred to go through independent negotiations (cited by 92% of firms as their top option), and negotiations facilitated by friends and relatives (considered by 51% of firms as their second-best option). These figures are for the 32% of firms that claimed to have had a business dispute in the past year.

Because formal modes of dispute resolution were used so infrequently, this index not only sought to capture the development of the legal system, but also included a range of indicators to measure firms' general satisfaction with any dispute resolution method, whether formal or informal. It may be better to consider the 2006 Dispute Resolution Sub-Index as baseline measure of developments that can be tracked in future PBES iterations as Cambodia moves forward with planned legal reforms.

Seven indicators assembled from questions scattered throughout the survey comprise the index. The first is:

- *The percentage of firms agreeing that the legal system would uphold their contract and property rights in business disputes.* This indicator is intended to measure divergences at the provincial level in firms' perceptions of the provincial court system.

Figure 15: Dispute Resolution Sub-Index



³⁷ World Bank, 2004b, p. 75.

Table 25: Indicators Comprising Dispute Resolution Sub-Index

Province	Legal system will uphold property rights (%)	Percentage of sales not paid within agreed-upon time (Median sales)	Percentage of sales never paid (Median sales)	Firms successful in recovering money owed to them (%)
Phnom Penh	24.45	0	4.5	60.72
Siem Reap	46.03	2.5	5	43.48
Kampot	33.34	10	3	61.54
Battambang	6.45	3.5	2	34.29
Kampong Cham	34.21	3	3	26.31
Kandal	46.15	10	2	48.14
Banteay Meanchey	47.37	5	2	40.74
Svay Rieng	57.5	10	3	56.52
Kampong Chhnang	22.5	2	5	45
Sihanoukville	28.94	7.5	10	57.14

Province	Firms satisfied with chosen method of dispute resolution (%)	Appeal unjust actions of local official (% seldom or never) ^ψ	Dispute change in rental contract (% seldom or never)	Sub-Index Score *
Phnom Penh	53.08	74.44	58.89	7.36
Siem Reap	50	63.08	56.92	7.11
Kampot	50	42.5	67.5	6.94
Battambang	53.34	60	50.77	6.62
Kampong Cham	34.29	40	62.5	6.11
Kandal	55.55	65	82.5	5.98
Banteay Meanchey	28.13	47.5	72.5	5.97
Svay Rieng	42.24	77.5	75	5.96
Kampong Chhnang	36.84	87.5	72.5	4.73
Sihanoukville	43.24	82.5	67.5	4.46

*The Dispute Resolution Sub-Index is the mean of all seven indicators after re-scaling to a 10-Point Scale.
^ψ The only 2 "Don't Know" responses were recoded to the neutral answer of Sometimes.

Four indicators measure the impact of all forms of dispute resolution. Unpaid sales are an indication that firms have limited opportunities to appeal the practices of delinquent and unscrupulous customers. As a result, two questions gauge the extent of the problem and a third assesses firms' success in recovering such payments. The last question measures firms' overall satisfaction with their chosen method of dispute resolution.

- *Percentage of firm sales that were not paid within the agreed-upon time.*
- *Percentage of firm sales that were never repaid.*
- *Percentage of firms able to recover money that was due to them.*
- *Percentage of firms satisfied with the method of dispute resolution that they had chosen.*

Finally, two indicators measure whether there are administrative mechanisms that allow firms to appeal the actions of local authorities and landlords concerning changes in rental contracts.

- *Percentage of firms that said the following statement was seldom or never possible: "If a government agency acts against the rules (due to overzealous inspectors, unofficial payments, etc.), I can usually go to another official or to his superior to have the issue corrected."*
- *Percentage of firms that answered seldom or never to the question, "Based on your observations of other cases in your province, do you believe there is a fair process for disputing changes in rent contracts?"*

Table 25 summarizes the scores on Dispute Resolution. Firms in Phnom Penh and Siem Reap are shown to be most satisfied with local dispute resolution procedures, while those in Sihanoukville are least satisfied.

2.11. Composition of the Final PBES Index

The Final PBES Index was created by adding together all of the Sub-Indices, as can be seen in Table 26 below.

Table 26: Final Provincial Business Environment Scorecard

Province	Entry Costs	Property Rights	Transparency	Participation	Time Costs of Regulatory Compliance	
Kampong Cham	8.95	8.62	7.29	7.48	8.18	
Svay Rieng	8.08	6.74	4.56	3.56	6.72	
Kampong Chhnang	7.20	8.52	4.32	3.28	8.10	
Kampot	5.49	6.31	3.68	4.24	5.86	
Kandal	7.49	8.04	5.08	2.08	7.57	
Battambang	6.50	8.23	6.16	4.12	1.67	
Banteay Meanchey	4.13	5.40	4.50	6.40	8.00	
Phnom Penh	4.33	6.65	5.13	2.95	7.02	
Siem Reap	3.40	5.73	4.16	7.46	6.10	
Sihanoukville	6.41	6.08	5.72	1.84	6.25	
Province	Informal Charges	Crime Prevention	Tax Administration and Burden	Proactivity of Provincial Authorities	Dispute Resolution	PBES
Kampong Cham	5.86	7.89	6.57	5.96	6.11	72.90
Svay Rieng	5.22	8.59	6.38	8.33	5.96	64.14
Kampong Chhnang	6.30	6.87	8.43	3.92	4.73	61.67
Kampot	5.66	7.64	7.77	7.58	6.94	61.18
Kandal	4.54	5.75	6.01	5.02	5.98	57.55
Battambang	7.30	6.29	4.34	5.23	6.62	56.46
Banteay Meanchey	5.23	6.62	5.71	4.39	5.97	56.35
Phnom Penh	4.58	2.70	3.88	4.77	7.36	49.36
Siem Reap	5.87	3.65	3.74	1.70	7.11	48.95
Sihanoukville	6.40	4.09	4.60	1.96	4.46	47.82

Although a weighting system based on each sub-index's probable contribution to firm expansion and job growth was considered, this idea was eventually dismissed because the small number of provinces in the sample limited the available degrees of freedom that would be used in such a test.

Preliminary analysis did indicate, however, that some sub-indices were more influential than others. Entry Costs, Property Rights, Transparency, Participation, Informal Charges, and Crime Prevention appear to play the largest role in improving firm level labor growth. Provincial officials are advised to concentrate first on policies that will improve these indicators before focusing on the others.

Table 27 shows the predicted impact of improvements (from the regressions in Appendix 3) on these variables

from a multivariate regression in which structural conditions were held constant. Stars indicate the confidence level at which the coefficient is statistically significant. Most interestingly, while controlling for other determinants, a one-point improvement for Informal Charges in the mean score would yield a potential 21% average annual increase in firm level labor growth. Also, the full Transparency Sub-Index is insignificant at the 10% level, which indicates that it is statistically distinguishable from 0 and that another random selection of firms may have even yielded a negative result. However, when we parse Transparency by its various dimensions, we find that Access to Documents is statistically significant. A one-point improvement on the Access to Documents dimension would yield a 9% increase in predicted firm level labor growth. The other Transparency dimensions are statistically insignificant.

Table 27: Predicted Impact of Sub-Indices on Labor Growth 2005-2006³⁸

Sub-Index	Impact of a 1 Point Increase in the Sub-Index on Labor Growth
Entry Costs	10.25%*
Property Rights	17.44%**
Transparency	10.94%
Dimension 1: Access to Regulatory Information	8.80%***
Participation	8.00%*
Informal Charges	20.90%**
Crime Prevention	12.70%**
*** p<0.01, ** p<0.05, * p<0.1	

³⁸ Appendix 3 shows the full regressions that generated these results.



Methodology

3. Methodology

The PBES research program was initiated in November 2005 by IFC-MPDF and The Asia Foundation (with support from AusAID). It involved four phases of research.

3.1. Phase 1: Census of Private Firms in 10 Provinces

Because equally reliable lists of private firms did not exist for all 10 of the economically most important provinces in Cambodia, it was necessary to undertake a census that recorded all readily identified firms. PBES researchers traveled to each of the ten provinces to conduct a complete accounting of business activity. All firms within the provincial capital and the three next most populous areas were covered. The team considered every business operation that was in a fixed location as an active enterprise. In total, 41,775 business operations were identified. 70% of the businesses were either in Phnom Penh or in the province of Kandal – a belt surrounding the capital. 57% of the businesses were new, having been established since 2000. And all were very small; only 2% had more than 10 employees.

The census also revealed other interesting findings. Two-thirds of the population is involved in small retail/food outlets, while the 11 % accounted for the next largest sector – repair and maintenance. Despite non-food manufacturing firms' importance in job creation (they account for 23.8% of the workforce), they represented only 4% of establishments covered by the census.

Women accounted for 55.3% of all private firm owners. This fits with the Cambodian tradition of women holding property titles, even if they do not necessarily control related transactions.³⁹ The lowest level of female ownership was found in the traditionally male sectors of maintenance (17%) and non-food manufacturing (21%). Women also accounted for 56% of the private sector labor force.

Firms tended to serve local markets. 95% of the firms operated primarily within their provincial borders and catered to consumers in their provinces. The one notable exception was in Siem Reap, where 29% of sales were to foreign tourists.

³⁹ *A Fair Share for Women*: UNIFEM, World Bank, ADB, UNDP and DFID/UK. 2004. *Cambodia Gender Assessment*. Phnom Penh: UNIFEM, WB, ADB, UNDP and DFID/UK.

⁴⁰ World Bank, 2004b.

3.2. Phase 2: Data Collection and Field Testing

After completing the census, the research team focused on two tasks. First, we collected the hard data used in the index and as controls for structural conditions from published sources and third parties. The most important data was derived from provincial budgets and from the Provincial Department of Commerce and Department of Industry, Mines and Energy. Some hard data, such as the availability of information, was constructed from the team's observations during direct visits to the province (See Section 2.3.4).

A 16-page survey was developed which covered 12 major topic areas and generated 391 variables. The survey built upon the World Bank's Mini-Investment Climate Analysis Survey Instrument, which was developed to allow for follow-up on the Bank's 2003 research.⁴⁰ The survey was designed in English, translated into Khmer, and the meaning of each question was double-checked by a fluent English speaker who had no involvement with the original survey design.

After the survey's initial design in May/June 2006, six PBES focus groups, each made up of eight people, were conducted to test survey questions and gather further information on aspects of provincial economic governance in the following different populations:

- One-person female-owned businesses in Phnom Penh
- One-person male-owned businesses in Kampong Cham
- Multi-person female-owned businesses in Siem Reap
- Multi-person female-owned businesses in Kampot
- Multi-person male-owned businesses in Battambang
- Multi-person male-owned businesses in Sihanoukville

The average size of the multi-person businesses was 6.3 employees and the average age of the owner about 34 years.

Once the focus groups were completed, the team revisited the survey, dropping or revising many questions to account for the new information acquired in the focus groups. These additions were then circularly translated (as described above) before being added to the research tool.

3.3. Phase 3: Survey

3.3.1. Sampling

A stratified random sample of firms was drawn directly from the populations found in the census. Only firms with at least one employee besides the owner were considered eligible for selection. Strata were defined based on the number of employees in the business and the sector in which they operated. Sampling was based on the proportions in provincial populations. An example of the stratification strategy for Phnom Penh is shown in Table 28 below. The minimum provincial sample size was 40 firms, but more were sampled in Siem Reap (65), Battambang (65), and Phnom Penh (90), because of their relatively larger populations.

3.3.2. Face-to-Face Interviews

Face-to-face interviews were conducted in each province because as an approach they were considered less likely to incur intervention by

government officials. Twenty-five respondents did claim to have been contacted about the survey by a third party, but they were spread somewhat equally throughout the 10 provinces. Indochina Research Limited (IRL) conducted a six-day interview training for 25 college-educated enumerators. Their expertly trained staff also provided logistics, management, and quality control for the finished product.

The overall response rate to both screening calls and interview contacts was 45%. This number includes firms that were not available, refused to participate, or canceled after arranging an appointment. While this figure is relatively low for face-to-face interviews by international standards, it is respectable within the Cambodian context for three reasons. To begin with, this was the first time that a survey of such a sensitive nature had been performed in many parts of the country. Second, firms may not have been accustomed to such an endeavor and may not have had faith in the confidentiality of their responses. Finally, the small scale of most operations meant that if an owner was not available when interviewers were in his/her province, there was little chance that anyone else at the firm would have been able to answer knowledgeably. Whenever it was impossible to interview a firm they had originally selected, the interviewers chose a new firm off a replacement list whose members had been randomly selected.

Table 28: Population and Sample Distribution of Firms of Phnom Penh

Population Distribution of Phnom Penh											
# of Employees/ Establishment Type	Total	%	1 to 5	%	6 to 10	%	11 to 20	%	21 to 30	%	31 +
Services+Others	3,151	53%	2135	48%	600	61%	274	74%	77	74%	65
Manufacturing, Construction, & Natural Resources	875	15%	677	15%	133	13%	33	9%	9	9%	23
Commerce	1,973	33%	1610	36%	257	26%	61	17%	18	17%	27
Sample Distribution of Phnom Penh											
# of Employees/ Establishment Type	Total	%	1 to 5	%	6 to 10	%	11 to 20	%	21 to 30	%	31 +
Services+Others	45	53%	31	48%	8	61%	4	74%	1	74%	1
Manufacturing, Construction, & Natural Resources	13	15%	10	15%	2	13%	1	9%	0	9%	0
Commerce	32	33%	25	36%	5	26%	1	17%	0	17%	1

Table 29: Correlation of Scores with Response Rate	
Index	Bivariate Correlation with Response Rate
1. Entry Costs	0.4838
2. Property Rights	0.1364
3. Transparency	-0.0285
4. Time Costs of Regulatory Compliance	0.5559
5. Informal Charges	0.09
6. Crime Prevention	0.3236
7. Proactivity of Provincial Authorities	-0.0391
8. Tax Administration and Burden	0.6433*
9. Dispute Resolution	-0.7590*
10. Participation	-0.1760
Total PBES	0.3402
* Significant at .05	

A far more serious concern is that response rates varied greatly across provinces, ranging from a low of 26% in Banteay Meanchey to a high of 71% in Sihanoukville. It is possible that response rates may have been associated with governance in the province. For instance, response rates may have been low because firms in poorly governed provinces were afraid to respond. As a result, provinces with low response rates would end up having better scores than what an objective observer would attribute to them. Alternatively, response rates may have been low because firms were generally satisfied with their situation and did not want to rock the boat. If this were the case, only extremely dissatisfied firms would respond, and provinces with low response rates would have worse scores.

Table 29 checks the bivariate correlation between provincial response rates and scores on the sub-indices and overall PBES. Fortunately, response rates are not associated with higher or lower scores on the final PBES. However, two sub-indices do seem to be affected: Tax Administration and Burden is significantly and positively related to response rate and Dispute Resolution is negatively associated with responses. The two relationships actually cancel each other out. Thus, we can feel fairly confident that differential response rates had little impact on the final ranking.

Quality control involved checks for out-of-range data. Internal logic checks were used to check for the consistency of responses. For example, firms that used facilitators should not have answered questions about how long it took to receive individual documents. Similarly, the total of inspections from individual agencies had to be less than or equal to the number of

total inspections, as firms were allowed to count agencies not included in the survey.

3.4. Phase 4: Index Creation

Interviews were completed on August 17, 2006, and data was subsequently processed to create the indices.

3.4.1. Reliability of Firms' Perceptions

Before construction of the scorecard, the researchers ran two tests to check the external and internal reliability of firms' perceptions and rule out potential bias. External validity was tested by measuring the rank ordering of road coverage (roads per square kilometers) against firms' assessments of road quality in their provinces. The result of this test is shown in Figure 16, where there is a 0.5 bivariate correlation between the two measures. Nevertheless, it is clear that firms in Kampong Cham and Kampong Chhnang tended to overestimate road quality, while Kampot and Banteay Meanchey tended to underestimate it. These differences were likely caused by the fact that road coverage is not perfectly synonymous with road quality. Of all the provinces, Kampong Cham actually has the largest amount of roads (137 km) covered by asphalt or concrete. Both Banteay Meanchey and Kampot lack such high-quality roads.

A second test measured the internal validity of the survey by comparing firms' evaluations of the quality of electricity provisions with the number of outages they experienced in the most recent year. These two measures correlated at -0.52, indicating that firms were consistent in their evaluations throughout the interview process. Results of this test are shown in Figure 17.

Figure 16: External Validity – Firms Evaluations of Road Quality vs. Actual Coverage

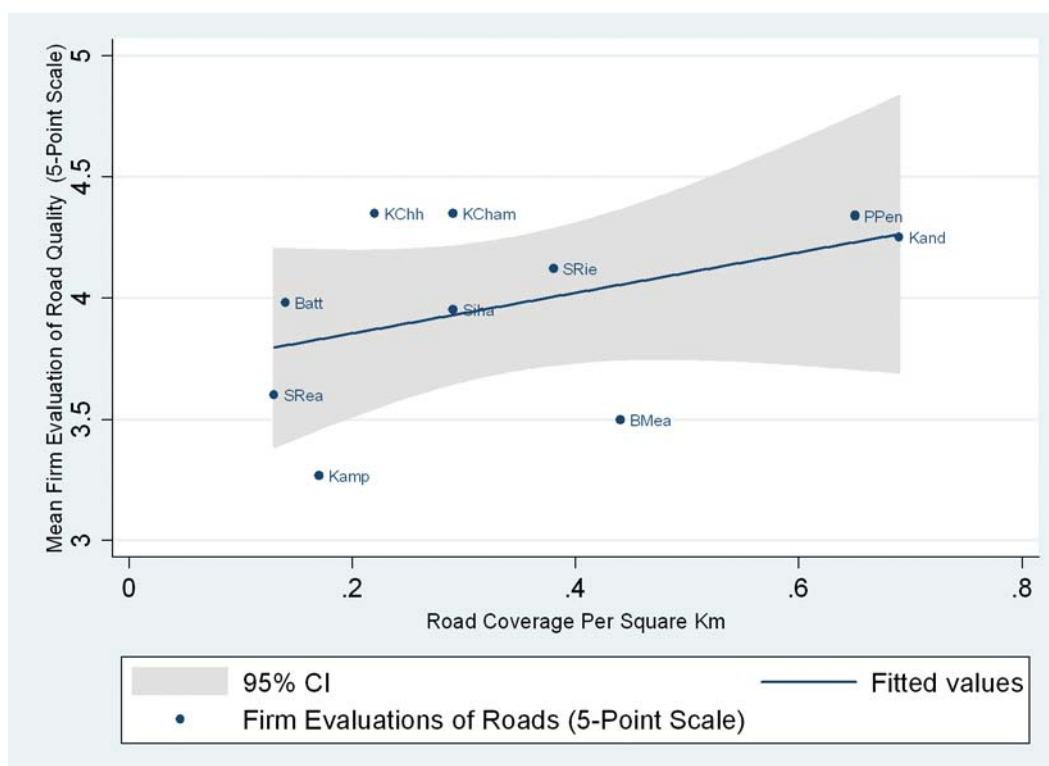
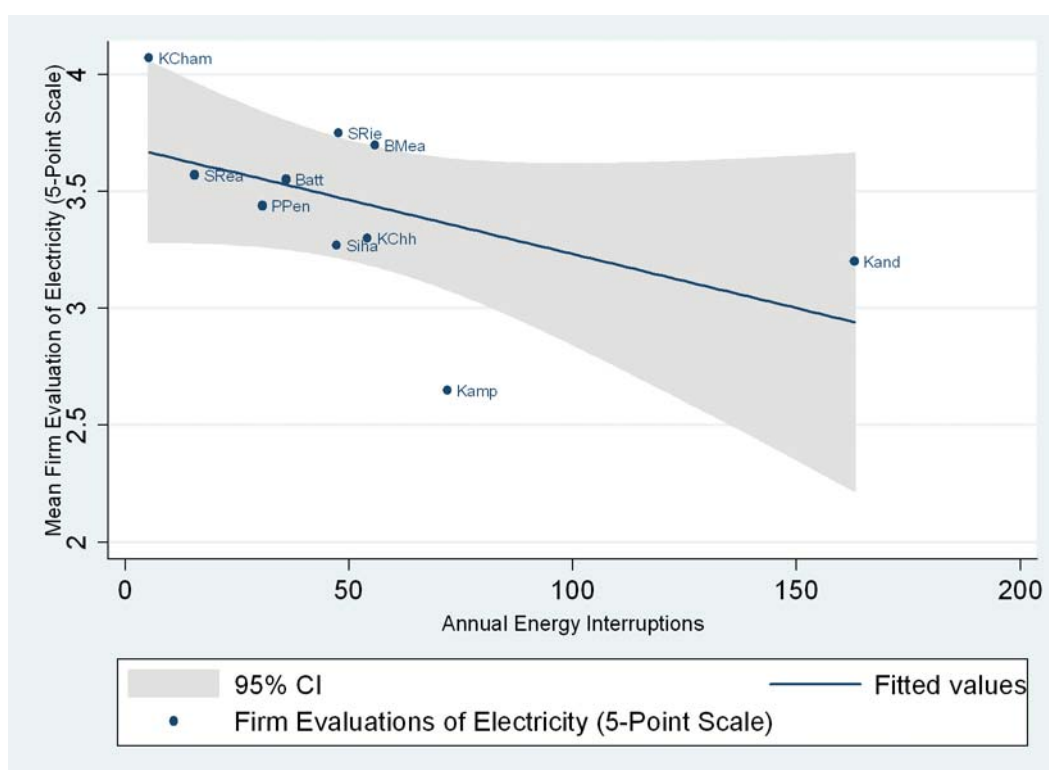


Figure 17: Internal Validity – Firms Evaluations of Electricity vs. Number of Outages Experienced



3.4.2. Verification of Indicators

Before indicators could be used in the creation of the index, they had to pass three tests.

- Scaled data had to pass a Chi Square test indicating there were statistically significant differences across provinces as to the percentage of firms that checked particular values on Likert scales. For instance, is the 40% of firms that answered strongly agree or agree in Kampong Cham statistically distinct from the 35% in Battambang? Testing statistical significance incorporates the number of respondents along with the variance within provinces.
- Confidence intervals around mean scores had to demonstrate limited overlap, so that the team could determine that another random sample would not yield a different ordering. Figure 18 gives an example of this exercise with respect to the mean waiting period for Patent Tax registration. There was some overlap, but for the most part, intervals around sample means were

tight. We are fairly certain that the rank ordering would be maintained with another random sample. The major exception is Battambang province, which had extremely large confidence intervals due to a wide variation in provincial scores. With another sample, Battambang's score could potentially be the highest or lowest score in the sample. In cases like this, it was necessary to take median scores to avoid distortions caused by outliers.

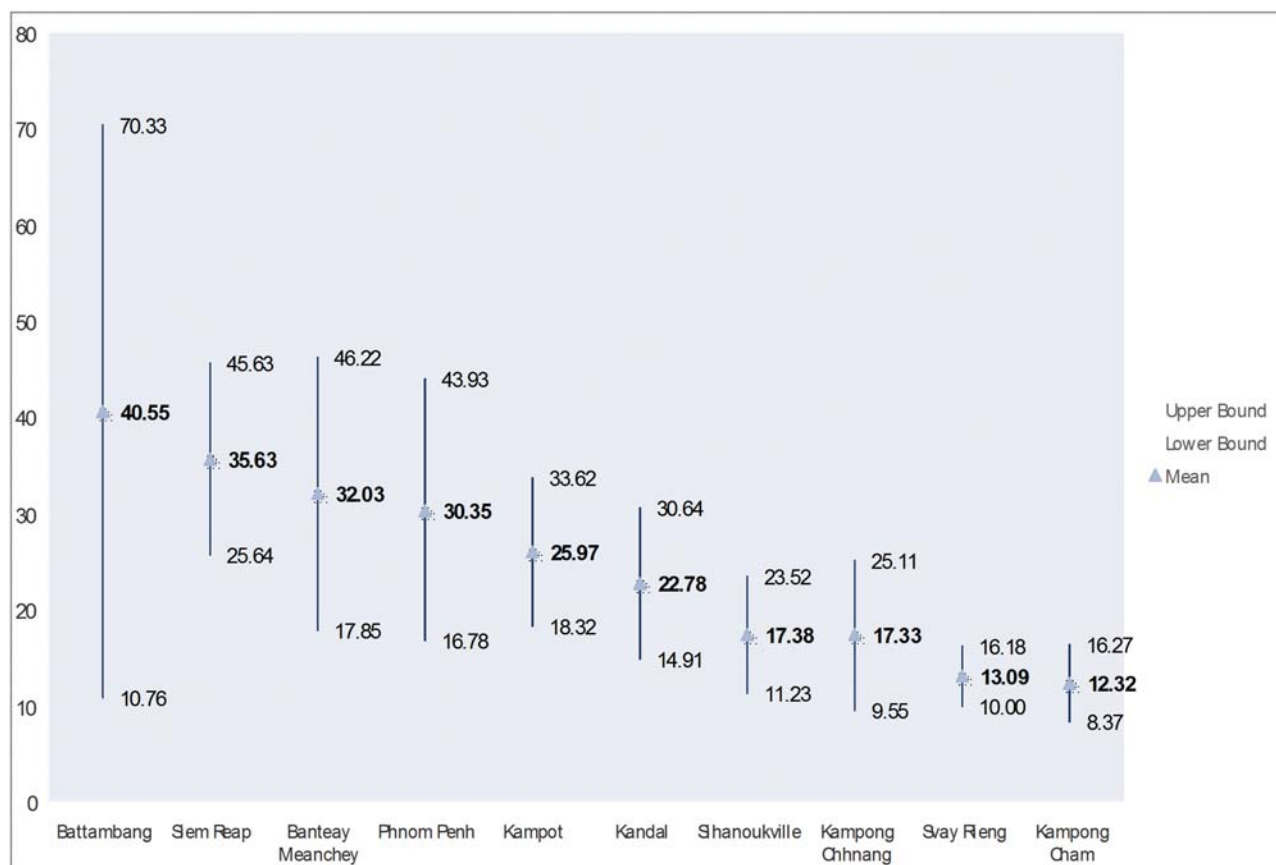
- Differences in responses among provinces could not be caused by variation in the type, legal status, or size of firms concentrated in particular provinces. Section 2.1.1 on the percentage of fully formal firms describes a test of this analysis.

3.4.3. Re-scaling of answers

All indicators were re-scaled to a 10-point scale using the formula

$$9 * \left[\frac{\text{Province}_i - \text{Minimum}}{\text{Maximum} - \text{Minimum}} \right] + 1$$

Figure 18: Confidence Intervals around the Mean Waiting Period for Patent Tax Registration



where $Province_i$ is the individual provincial value, minimum is the smallest provincial value, and maximum is the largest provincial value in the sample. An example of such an indicator would be the percentage of firms that agreed that the province had a positive attitude toward private business.

For some items, a large number had a negative interpretation. In these cases, we reversed the index by subtracting the entire quantity from 11. An example of such a negative indicator would be the number of total inspections experienced by each firm.

$$11 - \left[9 * \left[\frac{Province_i - Minimum}{Maximum - Minimum} \right] + 1 \right]$$

3.4.4. Hard Data in Sub-Indices

When hard data was used in a Sub-Index, our rule was that the indicator must account for 40% of the total index. If hard data was used in a Sub-Index that had multiple dimensions, however, the rule was adapted so that the hard indicators accounted for only 40% of the particular dimension. This way the overall meaning of the index was not distorted. Readers should check the table of individual sub-indices for specific coding rules.



Next Steps

4. Next Steps

The rigor and care involved in the design of this index should ensure confidence that the rankings are generally correct. As a result, the PBES should prove a useful tool for provincial officials who wish to improve their policies. For any specific aspect of economic governance and regulation, it serves as a resource of helpful best practices. Firms wishing to expand or relocate their business to new areas would also be well served by the rankings. Finally, donors looking to evaluate the impact of their technical assistance projects can use this year's PBES and future iterations as benchmarks.

Government officials, private entrepreneurs, researchers, and members of the donor community, however, would be best served by thinking of the PBES as an initial attempt to rank provinces on economic governance. Despite its usefulness, the PBES actually raises more questions than its answers. For instance, we do not know why firms in Kampong Cham, Svay Rieng, and Kampong Chhnang are more satisfied with local governance than their peers. We know very little about the actual policies in these provinces and have even less information about from where officials in the high-performing provinces are drawing their policy initiatives. Cultural, historical, political, and even geographical factors may be at work. More research is certainly needed to answer these underlying questions. Ultimately, future studies should endeavor to identify successful economic governance initiatives that can be easily communicated and disseminated to leaders in poorer performing provinces. Of course, in such cases, it will be important to ascertain that policy innovations are appropriate to the specific provincial context(s). Further research should initially focus on those policy areas that have the largest impact on firm growth, such as lowering entry costs, improving

property rights, increasing access to regulatory information, reducing informal charges and crime, and enhancing firms' participation in local decision making processes.

Towards this end, The Asia Foundation has initiated programs that aim to create a better enabling environment for private sector development at the provincial level. The Foundation's economic reform program in Cambodia focuses on the process of policymaking and reform, the empowerment of the private sector, particularly provincial micro, small and medium enterprises (MSMEs), and the development of a more business-friendly environment. The Foundation will use the PBES results to design activities that foster regulatory reforms by enhancing the local entrepreneurs' advocacy potential and increasing interaction between business owners and government officials through public-private dialogues. By designing programs that are based on the demand and perspectives of local entrepreneurs (drawn from their answers in PBES Focus Groups and to the survey), the Foundation expects to provide the business community with greater access to provincial decision making and to contribute to greater economic growth throughout Cambodia.

The International Finance Corporation's Mekong Private Sector Development Facility (IFC-MPDF) focuses its technical assistance on simplifying administrative procedures for businesses. Using the PBES as the basis for discussions, IFC-MPDF will work with provincial authorities and the private sector to identify how to reduce specific time costs and excess bureaucratic requirements, especially in areas related to business registration, permits, and inspections. The Facility will also bring good practices from the provinces to the attention of national authorities to help improve central level regulations.



Appendices

Appendix 1: Detailed Descriptions of Sub-Indices and Components Indicators

<p>1 Entry Costs</p> <ul style="list-style-type: none"> % of firms registered with the Ministry of Commerce or Municipal Department of Commerce Total number of registrations, licenses and permits firms need to operate Official fee for One-Year Operating License (median \$) Waiting period for Registration Certificate from Municipal Department of Commerce (median days) Official fee for Registration Certificate from Provincial/Municipal Department of Commerce (median \$) Waiting period for One-Year Operating License (median days) Official fee for One-Year Operating License (median \$) Waiting period for Patent Tax registration from Local Tax Authority (median days)** Official Patent Tax Fee from Local Tax Authority (median \$)** 	<p>when doing business with government</p> <ul style="list-style-type: none"> % of firms that believe government agencies assess additional fees based on what their counterparts are able to acquire Firms usually know how much additional payment is required in their industry (% agree) Regularity that services are delivered as expected when a firm pays the required additional payment (% regularly or always)
<p>2 Property Rights</p> <ul style="list-style-type: none"> % of firms with land documentation % of firms with Solid Title to land % of firms that feel expropriation is a risk % of firms renting land from government % of firms that deem changes in rental contracts a risk Effective land prices (adjusted for differences in supply and demand) (mean \$)** Rental revenue per firm (mean \$)* 	<p>6 Participation</p> <ul style="list-style-type: none"> % of firms agreeing provincial government solicits advice from affected firms on new laws, rules, regulations or decrees There are business associations or clubs in the province (% Yes) % of firms in sample that are members of associations or clubs in the province Number of business associations per 10,000 firms in province**
<p>3 Transparency</p> <ul style="list-style-type: none"> Transparency of - and access to - local planning and decrees/decisions (10 documents/5-point scale) Firm's knowledge of provincial budget (% not familiar) % of times that a relationship with a provincial official is necessary to obtain access to land or property documents % of firms agreeing favoritism towards firms with political connections is an obstacle to business Regularity that representatives from the provincial governor's office meet with firms to discuss changes in laws or policies (% regularly or always) Firms are informed about new economic and finance regulations that affect their business (% not or poorly informed) Regularity that a firm receives advance notice about new or changing central government laws (% regularly or always) Request to Provincial/Municipal Department of Commerce** (4-point scale) Request to Departments of Industry Mine, and Energy** (4-point scale) 	<p>7 Crime Prevention</p> <ul style="list-style-type: none"> % of firms that experienced losses due to theft, robbery, vandalism, or arson in last year Monetary value of firm's losses caused by crime (median \$) % of firms that believe firms in their sector make protection payments to the police % of firms that know firms that have made protection payments in the past
<p>4 Time Costs of Regulatory Compliance</p> <ul style="list-style-type: none"> % of management time spent dealing with requirements imposed by government regulations Total number of inspections per year (median) Time it took a firm to receive its land title (median days) 	<p>8 Tax Administration and Burden</p> <ul style="list-style-type: none"> % of firms that believe bribes to public officials to avoid taxes and regulations are a significant business obstacle % of firms that pay taxes Regularity of extra payments to expedite tax process (% regularly or always) % of firms that believe negotiating with tax authority is part of business Tax rates as obstacle (5-point scale)
<p>5 Informal Charges</p> <ul style="list-style-type: none"> Giving gifts to public officials is sometimes required to pass customs, obtain licenses, receive public services, or meet tax requirements (% agree) % of firms that paid informal charges in application for Patent Tax Firm's assessment of corruption in province (5-point scale) Information regarding available public procurement contracts is transparent (% agree) Importance of government connections for winning public procurement contracts (% important) % of firms that believe firms in their industry often pay commissions 	<p>9 Proactivity of Provincial Authorities</p> <ul style="list-style-type: none"> Provincial government officials' attitude toward private business (% positive) Attitude of the provincial government toward private business is improving (% agree) Provincial government interprets law in favor of local firm if certain government regulations are unclear (% agree) Provincial departments of line ministries tend to interpret in firms' favor when central regulation lacks clarity (% agree) Provincial government is good at working within central laws to create a profitable business environment (% agree) Provincial government is creative and clever about solving new business problems (% agree) Provincial government willingly risks punishment from the central government to pass decisions to aid local businesses (% agree) There are no initiatives at the provincial level (% disagree) <p>10 Dispute Resolution</p> <ul style="list-style-type: none"> % of firms that are confident that the legal system will uphold contracts and property rights in disputes Possibility of going to another official to dispute unjust (% seldom or never) % of monthly total sales in 2005 for which firm did not receive payment in the agreed time % of monthly sales for which firm never paid by customers in 2005 Satisfaction with government dispute resolution (% satisfied) Success at recovering money owed to it (% successful) % of firms in province that believe there is a fair process to dispute changes in rent contracts

Notes: *Denotes component uses both hard and soft data; **Denotes component uses only hard data; all other indicators are derived from perceptions data; † Derived from factor analysis; in all sub-indices each primary component is given equal weight (i.e., Entry Costs has four primary components, each worth 25%)

Appendix 2A: Determinants of Expansion
(Ordinal Probit Progression)

Dependent Variable: Firm Expansion Plans (5 Point Scale)				
COEFFICIENT	(Baseline Firm Level)	(Provincial Controls)	(With PBES)	(Interaction-Dichotomous DV)
Age of Firm (Years)	-0.0113 (0.014)	-0.00996 (0.014)	-0.00995 (0.014)	-0.00743 (0.013)
Hotel Dummy	0.333 (0.25)	0.362 (0.22)	0.314 (0.24)	
Manufacturing Dummy	-0.000646 (0.0017)	-0.000792 (0.0017)	-0.000787 (0.0017)	-0.142 (0.12)
Natural Log of Total Costs	0.0479 (0.037)	0.0593 (0.040)	0.0521 (0.039)	0.0408 (0.048)
Natural Log of Total Assets	0.0334 (0.023)	0.0176 (0.026)	0.0655* (0.033)	0.0852* (0.046)
Number of Tourist Officials		0.00239 (0.0027)	0.00980*** (0.0020)	0.005*** (0.022)
Road Coverage/Square KM		-0.204 (0.59)	0.538*** (0.18)	-0.227 (0.49)
Natural Log of Provincial Population		0.230 (0.16)	-0.0151 (0.083)	.2988
PBES			0.0476*** (0.0081)	(0.096)
High PBES Dummy				0.229* (0.12)
Manufacturing				0.325* (0.301)
Constant	1.272** (0.58)	4.358* (2.25)	4.881** (2.38)	-5.067*** (1.53)
Pseudo R-Squared	0.0068	0.013	0.031	.034
Observations	397	397	397	397
Robust standard errors (clustered at provincial level) in parentheses.				
*** p<0.01, ** p<0.05, * p<0.1				

This regression shows four ordinal probit models: a baseline model on only firm characteristics; a second model adding initial structural conditions; a third model adding the total PBES; and the final interaction that was described in the introductory section of the report. Because this is a probabilistic model, coefficients cannot be interpreted directly off the table and marginal effects must be calculated. Column three is the most important column to look at, as it demonstrates that four factors have significant impacts on

firm expansion: the original size of the firm; the importance of tourism in the economy; the quality of infrastructure (as measured by road coverage); and the PBES score. The large size of the tourism and road coefficients indicates that structural conditions continue to play a determinant role in firms' willingness to expand. Nevertheless, given these dominant initial conditions, the PBES score proves to be highly significant and exerts a strong independent impact on firms' expansion plans.

Appendix 2B: Determinants of Labor Growth 2005-2006
(Ordinary Least Squares)

	Dependent Variable: Average Labor Growth 2005-2006		
COEFFICIENT	(Baseline Firm Level)	(Provincial Controls)	(With PBES)
Permanent Employees in 2005	20.48 (22.1)	19.30 (21.7)	19.98 (21.5)
Age of Firm (Years)	-0.422 (1.39)	-0.234 (1.43)	-0.208 (1.48)
Hotel Dummy	251.7 (141)	251.1 (141)	251.6 (141)
Manufacturing Dummy	-0.329 (0.22)	-0.367 (0.23)	-0.341 (0.22)
Total Labor Costs	0.00649*** (0.00059)	0.00639*** (0.00062)	0.00641*** (0.00061)
Natural Log of Total Assets	-13.59** (5.24)	-15.44** (4.86)	-13.01** (4.97)
No. of Vocational Schools		6.586* (3.13)	9.812*** (2.66)
Provincial Literacy Rates		0.149 (0.43)	0.359 (0.30)
PBES			2.390** (0.95)
Constant	120.7 (89.1)	125.1 (95.3)	-51.65 (122)
Observations	397	397	397
R-squared	0.32	0.32	0.33
Robust standard errors (clustered at provincial level) in parentheses.			
*** p<0.01, ** p<0.05, * p<0.1			

This regression shows three models: a baseline model on only firm characteristics; a second model adding initial conditions; and a third model adding the total PBES. Because this regression uses ordinary least squares (OLS) rather than probit, coefficients can be read right off the table. Once again, column three is the most important column, demonstrating that four factors have significant impacts on firm expansion: the cost of labor in the province; the size of a firm's capital stock; the number of vocational schools; and the PBES score. A \$100 increase in the cost of labor is associated with a 6.4% *increase* in labor employed.

This counter-intuitive result seems to indicate that firms are more interested in employing higher-cost skilled labor. A 1% increase in the capital assets of the firm leads to a 13% decrease in labor growth, which confirms that capital intensive operations are less likely to expand labor. Each vocational school in the province adds about 9.4% increase in labor growth, which once again demonstrates the important demand for skilled labor. Finally, given the other control variables, a one-point improvement in the PBES score would yield a 2.5% increase in labor growth.

Appendix 3: Determinants of Labor Growth 2005-2006
(Ordinary Least Squares)

COEFFICIENT/MODEL	Dependent Variable: Firm Expansion Plans (5 Point Scale)										
	1	2	3	4	5	6	7	8	9	10	11
Permanent Employees in 2005	20.94 (21.5)	21.96 (21.2)	20.22 (21.3)	23.28 (20.6)	19.32 (21.4)	19.50 (21.7)	19.34 (21.7)	18.91 (21.6)	21.30 (21.2)	22.96 (21.0)	21.64 (20.9)
Age of Firm (Years)	-0.360 (1.45)	-0.456 (1.45)	-0.191 (1.46)	-0.292 (1.46)	-0.0376 (1.49)	-0.249 (1.44)	-0.244 (1.44)	-0.245 (1.43)	-0.257 (1.47)	-0.399 (1.40)	-0.360 (1.40)
Hotel Dummy	250.8 (141)	251.8 (141)	253.7 (142)	256.5 (141)	252.4 (141)	249.8 (142)	249.6 (142)	255.1 (142)	249.7 (141)	250.5 (141)	256.0 (141)
Manufacturing Dummy	-0.350 (0.23)	-0.350 (0.23)	-0.341 (0.23)	-0.292 (0.23)	-0.333 (0.23)	-0.368 (0.23)	-0.370 (0.23)	-0.359 (0.23)	-0.332 (0.22)	-0.333 (0.23)	-0.344 (0.24)
Total Labor Costs	0.00641*** (0.00061)	0.00640*** (0.00061)	0.00639*** (0.00061)	0.00638*** (0.00060)	0.00640*** (0.00061)	0.00640*** (0.00061)	0.00640*** (0.00061)	0.00639*** (0.00062)	0.00643*** (0.00061)	0.00641*** (0.00060)	0.00638*** (0.00061)
Natural Log of Total Assets	-14.05** (4.79)	-14.51** (4.60)	-15.52** (5.26)	-15.88** (5.30)	-13.96** (5.37)	-15.19*** (4.64)	-14.77** (4.98)	-15.34** (4.99)	-12.24** (5.09)	-14.51** (4.66)	-16.71*** (4.78)
No. of Vocational Schools	11.50*** (3.49)	9.953*** (3.02)	8.162** (2.83)	8.330*** (2.42)	1.485 (4.20)	6.996 (3.91)	7.414 (4.26)	10.22** (3.20)	11.56*** (1.69)	5.021 (3.24)	6.098* (3.06)
Provincial Literacy Rates	0.453 (0.37)	-0.116 (0.34)	0.0157 (0.45)	0.113 (0.26)	0.0824 (0.38)	0.179 (0.38)	0.194 (0.37)	0.369 (0.48)	0.769** (0.32)	-0.0324 (0.30)	0.0786 (0.39)
Entry Costs	10.25* (5.07)										
Property Rights		17.44* (9.30)									
Transparency			10.94 (9.39)								
Transparency -- Access to Documents				8.842*** (1.76)							
Participation					7.992* (3.60)						
Dispute Resolution						-2.712 (11.5)					
Tax Administration							2.672 (6.99)				
Proactivity								5.733 (5.39)			
Crime Prevention									12.70** (4.11)		
Informal Charges										20.92** (8.12)	
Time Costs											-7.223* (3.64)
Constant	24.65 (108)	5.430 (111)	75.93 (109)	82.92 (92.5)	82.53 (97.0)	137.2 (119)	100.5 (113)	80.15 (114)	-26.93 (113)	4.174 (105)	184.3* (89.8)
Observations	397	397	397	397	397	397	397	397	397	397	397
R-squared	0.33	0.33	0.33	0.33	0.33	0.32	0.32	0.33	0.33	0.33	0.33
Robust standard errors (clustered at provincial level) in parentheses.											
*** p< 0.01, ** p<0.05, * p<0.1											

Appendix 3 extends the analysis of Appendix 2B by replacing the total PBES score with each individual indicator but not altering the control variables. Eight of the sub-indices are significantly different from 0. Their marginal impacts are explored in more detail in Table 25 above. It is important to note that Transparency is not wholly significant. Only the

Access to Documents dimension has an independent impact on firm labor growth. Interestingly, Time Costs of Regulatory Compliance actually has a significant and negative impact on firms' labor expansion. Future research should investigate the reason for this unexpected relationship.

Appendix 4: Calculation of Structural Conditions (Infrastructure, Human Capital, Proximity to Markets, Tourism)					
Province	Road Quality †	Road Coverage/KM ²	Price of Energy: Riels/KWH	Avg. Electricity Interruptions/Year	Avg. Water Interruption/Year
Banteay Meanchey	1232.7	0.44	3300.0	55.82	14.56
Battambang	1284.4	0.14	1107.0	35.93	3.95
Kampong Cham	2556.3	0.29	1873.3	5.36	3.77
Kampong Chhnang	630.7	0.22	1312.0	54.2	6.7
Kampot	1182.9	0.17	3094.5	72.03	35.21
Kandal	1351	0.69	1598.5	162.93	3.83
Phnom Penh	245.1	0.65	823.5	30.65	6.98
Siem Reap	1686	0.13	2040.0	15.53	3.15
Sihanoukville	367.3	0.29	1673.3	47.33	12.89
Svay Rieng	900.3	0.38	2000.0	47.65	5.45
Province	Literacy Rate	Secondary School Graduates	Teachers/10000 Citizens		
Banteay Meanchey	62	40	3		
Battambang	78	19	3.87		
Kampong Cham	77	19	4.03		
Kampong Chhnang	88	28	4.37		
Kampot	60	74	5.23		
Kandal	49	18	4.72		
Phnom Penh	88.8	41	6.57		
Siem Reap	59	17	3.86		
Sihanoukville	58	60	4.02		
Svay Rieng	21	25	4.99		
Province	Distance from Phnom Penh (KM)	Distance from Port (KM)	% Population Urban		
Banteay Meanchey	359	589	17.11		
Battambang	291	521	17.65		
Kampong Cham	124	354	2.82		
Kampong Chhnang	91	321	9.98		
Kampot	143	93	6.27		
Kandal	11	241	5.42		
Phnom Penh	0	230	57.03		
Siem Reap	314	544	17.17		
Sihanoukville	230	0	100.00		
Svay Rieng	122	352	27.09		
Importance of Tourism to Economy ‡					
Province	Economy ‡				
Banteay Meanchey	12				
Battambang	15				
Kampong Cham	24				
Kampong Chhnang	18				
Kampot	14				
Kandal	28				
Phnom Penh	21				
Siem Reap	92				
Sihanoukville	31				
Svay Rieng	18				
Province	Infrastructure Score	Human Capital Score	Proximity to Markets	Tourism Potential	Total Structural Conditions ?
Banteay Meanchey	5.15	4.02	1.44	1.00	29.04
Battambang	6.64	4.36	2.37	1.34	36.77
Kampong Cham	7.92	4.45	4.16	2.35	47.19
Kampong Chhnang	5.88	5.69	4.83	1.68	45.18
Kampot	3.05	7.60	5.44	1.23	43.27
Kandal	6.66	3.74	5.76	2.80	47.39
Phnom Penh	7.57	8.26	7.50	2.01	63.36
Siem Reap	6.52	3.40	2.05	10.00	54.94
Sihanoukville	5.37	5.76	8.08	3.14	55.85
Svay Rieng	6.25	3.09	4.94	1.68	39.88

† Road Quality = 4*(% Asphalt Roads)+3*(%Partial Asphalt)+2*(%Laterite)+1*(%Earth)

‡ Employees in Provincial Department of Tourism

? Sum of Structural Conditions Re-Scaled to 100 Points

IFC-MPDF is a multi-donor funded initiative set up by the International Finance Corporation in 1997 in Cambodia, Vietnam and Lao PDR to reduce poverty through sustainable private sector development. The Facility works through six interrelated programs that seek to improve the business environment, develop the financial sector, improve managerial capacity, and increase sustainable business practices in three sectors that are central to economic growth and poverty reduction – tourism, agribusiness, and garments. IFC-MPDF's donors are the Asian Development Bank, Australia, Canada, Finland, IFC, Ireland, Japan, New Zealand, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom.



The Asia Foundation

The Asia Foundation (www.asiafoundation.org) is a non-profit, non-governmental organization committed to the development of a peaceful, prosperous, just, and open Asia-Pacific region. The Foundation supports programs in Asia that help improve governance, law, and civil society; women's empowerment; economic reform and development; and international relations. Drawing on more than 50 years of experience in Asia, the Foundation collaborates with private and public partners to support leadership and institutional development, exchanges, and policy research.

With a network of 17 offices throughout Asia, an office in Washington, D.C., and its headquarters in San Francisco, the Foundation addresses these issues on both a country and regional level. In 2006, the Foundation provided more than \$53 million in program support and distributed 920,000 books and educational materials valued at \$30 million throughout Asia.



Australian Government AusAID

AusAID is the Australian Government agency responsible for managing Australia's overseas aid program. The objective of the aid program is to assist developing countries to reduce poverty and achieve sustainable development in line with Australia's national interest.

AusAID provides advice and support to the Minister and Parliamentary Secretary on development policy, and plans and coordinates poverty reduction activities in partnership with developing countries.

AusAID's head office is in Canberra. AusAID also has representatives in 25 Australian diplomatic missions overseas.