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VNCI Policy Paper # 11

THE VIETNAM PROVINCIAL COMPETITIVENESS INDEX 2006

MEASURING ECONOMIC GOVERNANCE FOR PRIVATE SECTOR DEVELOPMENT

VCCI
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The Asia Foundation

November 2006

This publication was produced for review by the United States Agency for International Development (USAID). It was prepared by Dr. Edmund Malesky, with the assistance of a research team comprising staff and consultants of the USAID-funded Vietnam Competitiveness Intiative and the Vietnam Chamber of Commerce and Industry, as listed on the inside cover.

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The Vietnam Competitiveness Initiative (VNCI) is an economic growth project of the United States Agency for International Development (USAID) to improve the competitiveness of small and medium-sized enterprises (SMEs) in Vietnam. The project has three components: (1) Improving the regulatory climate for SMEs; (2) SME capacity building; and (3) SME access to finance. VNCI is managed by Development Alternatives, Inc. (DAI). The Asia Foundation is the principal subcontractor to DAI and is responsible for implementing component one of the project.

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ACKNOWLEDGEMENTS

The Vietnam Provincial Competitiveness Index (PCI) is a collaborative effort between the Vietnam Competitiveness Initiative (VNCI) and the Vietnam Chamber of Commerce and Industry (VCCI).

This report was prepared by Edmund Malesky, the lead researcher for the PCI, and VNCI Deputy Director, David Ray. Other PCI team members comprised Tran Huu Huynh, Director of the Legal Department at VCCI, Dau Anh Tuan and Le Thanh Ha, also of VCCI; Huynh Mai Huong, Le Thu Hien, ~~Lily Phan, Trinh Hong Hanh,~~ Do Le Thu Ngoc and Ton Nhat Quang of VNCI. The PCI 2006 also benefited from assistance and inputs provided by Dennis Dzvinakis and David Brunell of USAID, Robert Webster and Helle Weeke of VNCI, Kim Ninh of The Asia Foundation, Scott Robertson and Nick Freeman.

VNCI is an economic growth project funded by the United States Agency for International Development. VNCI is managed by Development Alternatives Inc (DAI). The Asia Foundation is the principal subcontractor to DAI, and is responsible for the research and policy component of VNCI, including the design and production of the PCI.

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ABBREVIATIONS

CIEM	Central Institute for Economic Management
DANIDA	Danish International Development Agency
DARD	Department of Agriculture and Rural Development
DOI	Department of Industry
DOLISA	Department of Labor, Invalids, and Social Assistance
DPI	Department of Planning and Investment
FDI	Foreign Direct Investment
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit GmbH
HCMC	Ho Chi Minh City
IZ	Industrial Zone
LURC	Land Use Rights Certificate
IFC-MPDF	International Finance Corp. - Mekong Private Sector Development Facility
MSE	Mean Squared Error
ODA	Overseas Development Assistance
OLS	Ordinary Least Squares
PCF	Principal Components Factors
PCI	Provincial Competitiveness Index
PCOM	People's Committee
PSD	Private sector development
SNV	Netherelands Development Organisation
SOE	State-Owned Enterprise
TAF	The Asia Foundation
VAT	Value-Added Tax
VCCI	Vietnam Chamber of Commerce and Industry
VNCI	Vietnam Competitiveness Initiative

Part I:

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The Vietnam Provincial Competitiveness Index (PCI) was developed by the Vietnam Chamber of Commerce and Industry (VCCI) and USAID-funded Vietnam Competitiveness Initiative (VNCI) in 2005, to assess and rank 42 provincial governments by their regulatory environments for private sector development, while controlling for differences in their initial endowments. The index attracted considerable attention from various stakeholders, including the business community, media, donor community, and the provinces themselves. Most impressive has been the positive actions undertaken by a number of provincial authorities to use the PCI to better identify and understand the problems confronting the private sector, and to improve their treatment of such businesses.

Following the success of the PCI in 2005 (PCI 2005), VCCI and VNCI repeated the index in 2006. Over 6,300 private sector firms participated in this most recent survey, allowing for much stronger and more reliable data analysis than the previous year, as well as the inclusion of all 64 provinces in Vietnam. This remarkable response - more than three times that of last year - underlines the role of the PCI as an important means for businesses to voice their concerns about the business environment in their locale. Particularly impressive was the strong response by businesses in many of the smaller and more remote provinces not included in last year's survey (particularly those in the Northern Uplands and Central Highlands).

Another important development in this year's PCI (PCI 2006) is the inclusion of two new sub-indices -- Legal Institutions and Labor Training. Two key areas where provincial authorities can take actions that affect the local business environment.

Despite using a larger sample set, a modified methodology, and some new sub-indices and indicators, the rankings in PCI 2006 show considerable consistency with PCI 2005, raising confidence in both the validity of the methodology and the robustness of the findings. Provinces that did well last year, tended also to do well this year. Strong performers include Binh Duong, Da Nang, Vinh Long, Vinh Phuc, and Dong Nai. However, the outstanding newcomer to the PCI is Lao Cai, which performed consistently well across all sub-indices.

Introduction

The PCI is an effort to explain why some parts of the country perform better than others in terms of private sector dynamism and growth. Using survey data from businesses that describe their perceptions of the local business environment, as well as credible and comparable data from official and other sources regarding local conditions, the PCI rates Vietnam's provinces on a 100-point scale.

In 2006, the PCI is composed of ten sub-indices that seek to capture key dimensions of the local business environment that can be directly influenced by the actions and attitudes of provincial officials. Those ten sub-indices comprise:

- Entry Costs (business establishment costs)
- Land Access and Security of Tenure
- Transparency and Access to Information
- Time Costs of Regulatory compliance / Inspections
- Informal Charges
- State-sector Bias (competition environment)
- Pro-activity of Provincial Leadership
- Private Sector Development Services
- Legal Institutions
- Labor Training

The PCI has a number of important design elements that make the results easily translated into governance reforms. First, by separating out the growth generated by initial conditions (i.e. the fundamental underlying factors that contribute to economic growth, but which are difficult or impossible to address in the short-term, such as location, infrastructure, GDP size and human resources), the research was able to determine that good economic governance practices are

possible at the provincial level. And further, that these practices explain why some provinces outperform others, and why some provinces have similar levels of economic performance despite having very different initial conditions. Actual improvements in these economic governance practices should lead to improvements in the economic performance of a province, even without significant changes in the physical and human infrastructure within that same province.

Secondly, by normalizing the scores around the best practices already found in Vietnam, the index helps provinces to improve their economic performance; not against some ideal – and possibly unattainable –standard of good economic governance, but rather against the best performance already practiced by their peers within Vietnam. While the performance scores range from 36.07to 77.61 any province could, in theory at least, attain a perfect score by adopting all existing best practices already found in Vietnam.

Thirdly, by comparing economic governance practices against actual economic performance, the PCI provides initial estimates of how important such practices are in attracting investment and generating growth. The research provides a compelling demonstration of the association between business-friendly governance practices, business responses and, importantly, welfare improvements. This last connection is critical, as it makes clear that business-friendly policies and practices benefit not just entrepreneurs, but also broader society that relies on private sector dynamism to provide the employment that then helps raise household living standards.

The Impact of the PCI

Provincial authorities were quick to respond to PCI 2005, embarking on a number of initiatives to improve their regulatory environments for private sector development. Soon after the release of PCI 2005 and its provincial rankings, various provincial authorities invited the PCI team to present a customized diagnostic analysis of their province's performance in the PCI. These diagnostic workshops, where the PCI team outlined key strengths and weaknesses of the province's PCI performance, and put forward broad recommendations for action and reform, were typically chaired by the People's Committee Chairman or Vice Chairman, and facilitated by the Department of Planning and Investment.

As of mid-2006, diagnostic workshops had been held in An Giang, Bac Ninh, Binh Dinh, Binh Thuan, Hai Duong, Nam Dinh, Quang Binh, Quang Nam, Tien Giang, Vinh Long and Vinh Phuc. (Some of these workshops were held in conjunction with GTZ and IFC-MPDF.) To strengthen and galvanize provincial responses to PCI 2005, two provinces – An Giang and Quang Nam -- invited the PCI team for a second, follow-on diagnostic workshop.

Important commitments and initiatives have resulted from these diagnostic workshops. These include: i) new measures to promote business participation and feedback in the policy and planning process; ii) greater efforts to streamline and rationalize business licensing and land access procedures; iii) improved mechanisms for the dissemination of investor-related information; iv) and better coordinated institutional responses to improve the treatment of private sector entrepreneurs and investors.

Much has been written in the media about the impressive response by Ha Tay provincial authorities to their lowly ranking in PCI 2005. A number of commitments were made by the Ha Tay administration to improve the provincial business environment (and therefore its PCI ranking). It is probably too early to judge whether these commitments have translated into specific improvements in the business environment in Ha Tay province. However, one commitment made in direct response to its PCI ranking was to hold a major investment promotion conference. This conference was held in December 2005, and over $800 million of investment was committed at this event[1].

The diagnostics are not the only noteworthy impact of the PCI. In many ways the PCI has become an integral part of the private sector policy and regulatory reform landscape in Vietnam, at both the national and provincial level. For example, the PCI was 'front and center' in the Prime Minister's address to the business community in January 2006. Also, particular mention was made of the PCI by provincial leaders, including Party Secretaries and People's Committee Chairmen and Vice-Chairmen, during various preparatory meetings and workshops for the Provincial Party Congresses.

1. See 'A more persuasive carrot' Vietnam Economic Times, February 2006.

The media continues to frequently refer to the PCI, particularly when reporting on business environment issues at the provincial level. As of mid-2006, the PCI team had found over 145 media articles on the PCI, including major reports and feature articles. In December 2005, national television news broadcaster VTV1 cited the PCI as one of the 'Top 10 Economic Events' of the year. The PCI has also been useful in donor circles, serving as a central part of donor efforts to promote private sector development at the provincial level. Donor agencies such as IFC-MPDF, DANIDA and GTZ have 'mainstreamed' the PCI into their provincial programs to assist with various benchmarking, problem identification and research, and monitoring and evaluation activities.

The PCI has quickly evolved from being an innovative, if somewhat controversial, research exercise, into an important tool to facilitate and drive economic governance reforms. With over 6,300 participating firms, the PCI represents the largest and most comprehensive survey of the private sector's perceptions of public sector performance. Moreover, the data collected for construction of the PCI can be put to other uses as well. Beyond analysis of provincial aggregates, a diverse range of business environment issues and their implications for policy can be studied using PCI data..

What's New with the PCI in 2006

Following the success of PCI 2005, a commitment was made by VCCI and VNCI, with USAID support, to repeat the PCI in 2006, albeit with a number of key modifications and improvements:

- **Larger Sample of Businesses Surveyed.** PCI 2005 was based upon 2,020 responses from a mail out survey to a stratified random sample comprising 15,400 active firms on the Tax Payer list, generating a response rate of around 13.1%. The PCI 2006 questionnaire was sent out to 31,186 firms -- double that of PCI 2005 -- and resulted in a tripling in the number of responses. 6,379 businesses participated in the PCI 2006 survey, generating a response rate of over 20%. The higher response was the result of more intensive sampling and surveying efforts, and a more enthusiastic response from businesses.
- **All 64 Provinces Included.** A larger data-set allows for greater flexibility and more robustness in the statistical analyses of provincial performance. More importantly, a larger data-set allowed for the inclusion of all 64 provinces, up from 42 provinces surveyed in 2005[2]. Most impressive this year has been the strong response from the smaller and more remote provinces not included in last year's PCI. No province had less than 35 survey responses, and all but two provinces had 50 or more responses. This allowed for a great deal of statistical confidence in the conclusions drawn from the data analysis.
- **New Sub-Indices Developed.** Two new sub-indices were included in PCI 2006, intended to capture additional aspects of provincial government efforts to enhance the business environment. They were:
    - Labor Skills Development – assessing efforts to help overcome skills shortages at the provincial level.
    - Legal Institutions – measuring the degree of confidence that businesses have in provincial legal institutions.
- **Modification of Existing Sub-Indices**. In addition to the development of new sub-indices, a number of the existing indices were strengthened. For example, the Entry Costs sub-index was augmented by other perceptions data, to describe the degree of difficulty of establishing a business, whilst some 'hard data' indicators were removed from this sub-index for methodological reasons. Also, the land sub-index was modified, so as to reflect two key dimensions of the land equation for firms: access to land, and the security of land tenure.
- **New Weights.** As was done in PCI 2005, sub-index weightings were calculated using multivariate analysis, so as to determine the relative impact of the ten sub-indices upon private sector investment, profitability and growth. In PCI 2006, the original scores were simplified into three basic classes of weights: 5%, 10% and 15%, which will also be applied to subsequent iterations of the PCI[3]. Simplifying the weights will allow for easier replication of the index in subsequent years.

2. Vietnam currently has 64 provinces. These 64 include a small number of municipalities – Ha Noi, Ho Chi Minh City, Da Nang, Can Tho and Haiphong – which have provincial status.

3. Note that the weights on the ten sub-indices sum to 100%.

The Ten Sub-Indices of Provincial Competitiveness

PCI 2006 assesses and ranks provincial governments by their treatment of, and attitude towards, private business. There are, of course, a range of other factors that can influence an entrepreneur's desire and commitment to invest or do business in a particular province, such as the size of the provincial economy, the quality of infrastructure, availability and caliber of human resources and simple location. However, these are all endowments that are, at least in the short-medium term, independent of the actions and attitudes of government officials in a particular province. In many cases, cross-provincial differences in endowments will endure long into the future. Ho Chi Minh City will always have a larger market than Ha Tinh, for example. Similarly, Binh Duong will always enjoy a better location than Ca Mau or Kon Tum. And Ha Tay will probably always have better infrastructure and more developed human resources than Ha Giang.

If a competitiveness index was composed of these kinds of initial endowments, the results would be much less interesting. The larger and more developed provinces -- such as Ho Chi Minh City, Ha Noi, Ba Ria – Vung Tau, Da Nang, Dong Nai and Hai Phong -- would perennially be rated the most competitive business environments, simply because of their initial endowments. More importantly, the analysis would ignore the efforts of a relatively less developed province that does not have the advantage of these endowments, but is nevertheless making serious efforts to improve its business environment.

To be able to compare provinces on an equal basis, the PCI focuses on the quality of economic governance for private sector development, whilst controlling for differences in these initial endowments. In line with this philosophy, the ten sub-indices of competitiveness were constructed to capture different elements of the business environment that can be directly influenced by provincial authorities in the short-to-medium term. These are described in greater detail in section two of this report, but can be summarized thus:

1. *Entry Costs:* A measure of the time it takes firms to register, acquire land, and receive all the necessary licenses to start business, the number of licenses required, and the perceived degree of difficulty to obtain all licenses and permits.

2. *Land Access and Security of Tenure:* A measure combining two dimensions of the land problems confronting entrepreneurs: how easy it is to access land; and the security of tenure once land is acquired. The first dimension comprises: whether firms possess their official land use rights certificate; whether they have enough land for their business expansion requirements; whether they are renting from SOEs; and an assessment of land conversion efforts. The second dimension includes perceptions of various tenure security risks (such as expropriation, unfair compensation values, or changes in the lease contract), as well as the duration of tenure.

3. *Transparency and Access to information:* A measure of whether firms have access to the proper planning and legal documents necessary to run their business, whether those documents are equitably available, whether new policies and laws are communicated to firms and predictably implemented, and the business utility of the provincial web page.

4. *Time Costs and Regulatory Compliance:* A measure of how much time firms expend on bureaucratic compliance, as well as how often and how long firms must shut their operations down for inspections by local regulatory agencies.

5. *Informal Charges:* A measure of how much firms pay in informal charges, how much of an obstacle those extra fees pose for their business operations, whether payment of those extra fees results in expected results or 'services', and whether provincial officials use compliance with local regulations to extract rents.

6. *SOE Bias (Competition Environment):* A measure of the competition regime confronting private business, focusing on the perceived bias of provincial governments toward state owned enterprises (SOEs) and equitized firms, notably in terms of incentives, policy, and access to capital.

7. *Pro-activity of Provincial Leadership:* A measure of the creativity and astuteness of provinces in implementing central policy, designing their own initiatives for private sector development, and working within (sometimes unclear) national regulatory

frameworks to assist and interpret in favor of local private firms.

8. *Private Sector Development Services:* A measure of provincial services for private sector trade promotion, provision of regulatory information to firms, business partner matchmaking, provision of industrial zones or industrial clusters, and technological services for firms.

9. *Labor Training*. A measure of the efforts by provincial authorities to promote vocational training and skills development for local industries, and to assist in the placement of local labor.

10. *Legal Institutions*. A measure of the confidence of the private sector in the provincial legal institutions, whether firms regard provincial legal institutions as an effective vehicle for dispute resolution, or as an avenue for lodging appeals against corrupt behavior by officials.

Constructing the PCI

Adopting a similar approach to PCI 2005, a three-step process was used to construct the PCI 2006 index. (Further details on the methodology can be found in section four of this report.)

Step 1: Data Collection

Two general types of data were used to construct the sub-indices. The first was company perceptions data, drawn from a mail-out survey to private firms. This perceptions, or 'soft', data was combined with objective, or 'hard', data gathered from statistical yearbooks, and interviews with third-parties, such as state owned banks or real estate firms, or collected from business associations.

Sampling. Following the technique used for PCI 2005, a list from the Tax Authority of tax-paying private firms was used to generate the firm sample. The tax list is more reliable than business registration lists, which sometimes are not updated to exclude firms that have gone out of business, and often include firms that have not yet begun operations. As of November 2005, this list provided information on 151,140 active tax paying private sector firms. As it was not feasible to survey every firm on this list, a stratified sample of firms was generated that would be representative of the total population of firms. For this reason, this tax list of firms was then categorized into 24 stratifications, across 3 dimensions:

1. Ownership type: a) Joint Stock; b) Limited Liability and c) Private Business;

2. Sectors: a) Manufacturing; b) Natural Resource Exploitation; c) Trade/services; and d) Agriculture;

3. Age of firm: a) Established before 2000; b) Established in/after 2000.

A random stratified sample of 31,186 firms was then constructed. The total number of firms per province in this sample depended upon the total population of private firms in the province (larger provinces having larger samples), and the response rate from PCI 2005 (provinces with a low response rate in 2005 had larger samples in 2006). In provinces with less than 500 private firms on the tax list, the entire population of firms was sampled.

Mail-out of PCI Questionnaires. VCCI then sent out the questionnaire to the stratified sample of firms in the first week after the Tet (Lunar New Year) holiday. To ensure that only valid responses were processed, only completed questionnaires sent via post were accepted. This year, our target was to receive a minimum 50 responses per province (double that of last year). This was to better ensure the statistical validity of in-province samples. To encourage responses, firms returning a completed questionnaire were given the choice of one of eight VCCI books (e.g. on branding, business management, sales techniques, recent laws, etc.) and approximately 20 participating businesses were invited to attend the PCI 2006 release in Hanoi in June 2006.

Follow-up Phone Calls. To maximize the response rate, VCCI trained and employed 25 researchers to then call a selection of the sample firms, to confirm receipt of the questionnaire, and to encourage them to complete the questionnaire. This was done as a two stage process:

- Round 1. Random telephone calls were made to 30% of firms in each provincial sample.
- Round 2. Telephone calls were made to a second group of randomly selected firms in only those provinces with absolute response numbers below the target of 50.

Firms that had not received the questionnaire were sent a duplicate copy. Responding firms were sent an acknowledgement letter and, as noted above, a complementary book from VCCI.

Response Rate. By mid-April 2006, VCCI had received 6,379 responses, delivering a response rate of 20.5%[4]. Three times the volume of firm-level perceptions data, compared with 2005, allows for greater flexibility and robustness in the data analysis, and perhaps more importantly, the inclusion of all 64 provinces in PCI 2006. One of the striking features of this year's survey was the strong response by firms in the smaller and more remote provinces not included in PCI 2005. Of the top five responding provinces, three were not included in PCI 2005: Hoa Binh, Bac Giang and Yen Bai.

Step 2: Processing the Data to Construct the Sub-indices

As noted earlier, an important strength of the PCI is that it compares provincial economic governance against best practices already found in Vietnam, not against some idealized standard. For this reason each indicator was standardized to a ten-point scale[5], whereby the best and worst performing provinces were awarded the scores of 10 and 1 respectively, and the other 62 provinces distributed somewhere along the scale between these two scores.

Using the existing literature on the business environment as a guide, indicators were grouped into 10 sub-indices (including 8 sub-indices from PCI 2005). Considerable effort was made to ensure that these sub-indices corresponded with previous research on the obstacles to private sector entry and growth in Vietnam. Once the indicators were standardized, an average (either weighted or simple) of all indicators was taken to create the sub-index. Weighted averages were used to integrate 'hard data' into four of the sub-indices (consisting Land Access and Security of Tenure, SOE Bias, Labor Training, and Legal Institutions). Provincial performance across the ten sub-indices is summarized in the star charts in Figure 1.

Step 3: Construction of the Final PCI

A simple summation of these sub-indices yields the un-weighted index, with a maximum possibility of 100 points. While this is clearly the easiest and simplest method of calculating the final PCI, it would be less appropriate as a policy tool, as some sub-indices are more important than others in explaining private sector development. Hence it was important to re-weight the sub-indices, based on their actual contributions to private sector development. To do this, the research team used multivariate regression analysis to determine how each of the sub-indices impacted upon three key economic performance variables which researchers and practitioners in Vietnam deem to be the most important gauges of private sector development[6]:

- *The ratio of private enterprises (including Sole Proprietorships, Partnerships, Limited Liability Companies [LLCs] and Joint-Stock Companies) actively operating in the provinces, to the number of citizens in the province, in 2004.* The number of active enterprises allows for the identification of firms that completed registration procedures and have been successful enough to continue their business operations beyond the initial entry stage. The total number of active private firms (not including collectives) was then divided by thousands of provincial citizens, to account for

Table 1: Top Five Responding Provinces: Number of Questionnaires Sent and Received

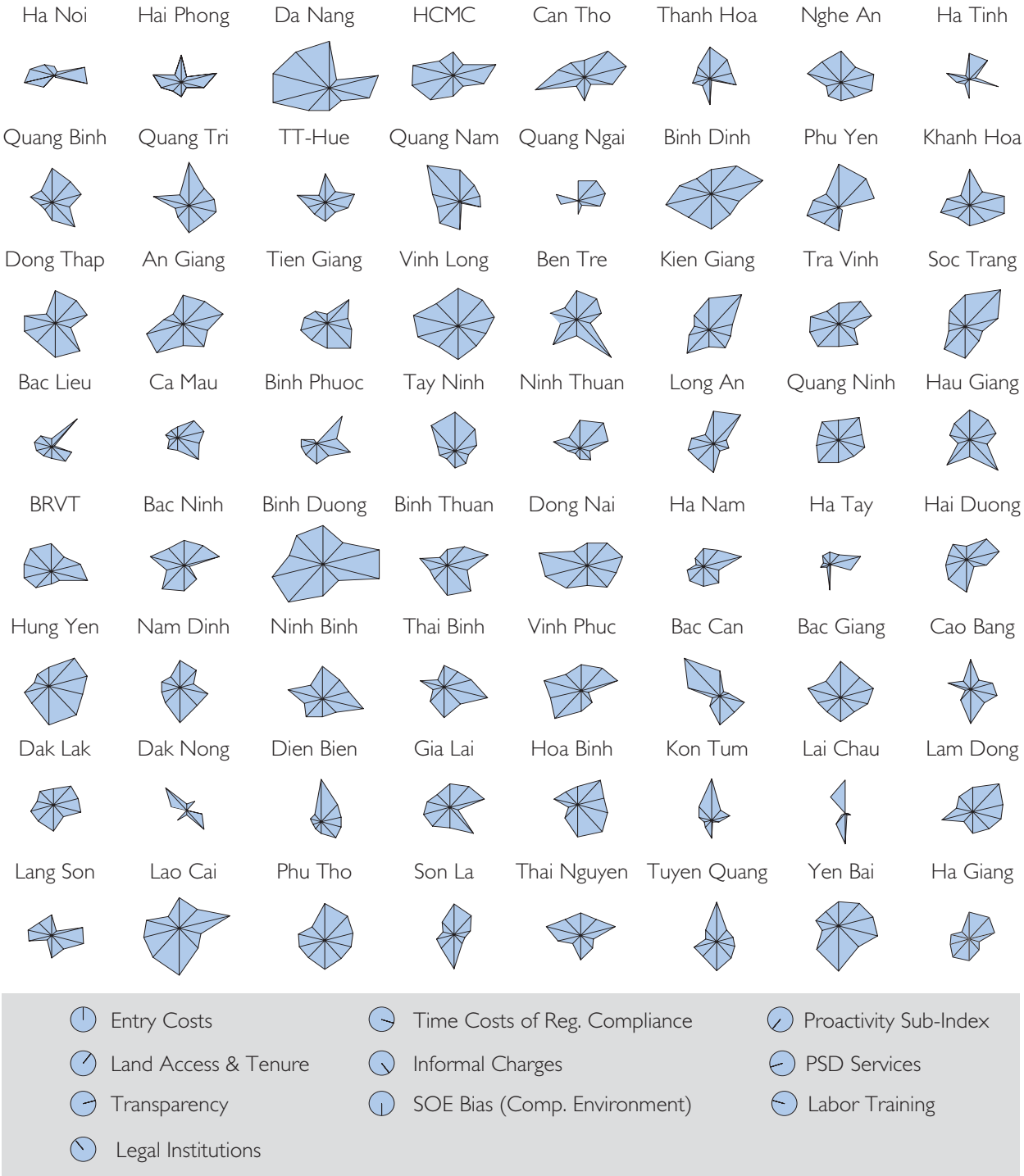
	Province	Total Sent	Total Received	Response Rate
1	Ho Chi Minh City	1,200	234	19.5%
2	Hoa Binh	465	156	33.5%
3	Bac Giang	500	138	27.6%
4	Yen Bai	319	138	43.3%
5	Thanh Hoa	500	135	27.0%

4. Various tests were performed to ensure that this sample is representative of the broader population of firms. In each of the stratifications, statistical analysis revealed low sampling errors, and high and significant correlations between the sample and population.

5. The following standardization formula was used if a high score on an indicator meant good governance: {9*((Provincial Score – Sample Minimum)/(Sample Maximum-Sample Minimum))+1}. If a high score on an indicator meant poor performance the above formula was subtracted from 11. 11-[9*((Provincial Score – Sample Minimum)/(Sample Maximum-Sample Minimum))+1].

6. All economic performance variables were calculated based on the General Statistical Office's 2000-2004 Enterprise Census.

Figure 1: Star Graph of Provincial Performance on Sub-Indices



the fact that larger population centers may simply have a larger absolute number of firms.

- Average private sector long-term investment per capita (2000-2004) was chosen to gauge the size of the risk entrepreneurs were willing to make. The assumption is that private entrepreneurs will be more willing to make sizable investments in more conducive regulatory environments, where they can more accurately assess the long-term potential risks and benefits to their enterprise. Investments should remain small in areas where firms face a high risk of expropriation or corruption, or where more subtle barriers are erected to prohibit their success.

- *Average profit per firm, in millions of VND (2000-2004)*, was selected as a measure of the success of individual firms in the post-Enterprise Law (2000) period. The profit of firms in a one-time period is a very good predictor of the potential for more investment in subsequent periods, as more firms enter the market. Competitive provinces are more likely to create an environment in which entrepreneurialism is encouraged and rewarded by business profits, rather than by public largesse.

In each case, the research team regressed the above economic performance variables on the ten sub-indices, controlling for the initial structural conditions of private sector development[7], specifically:

- the distance from markets, as measured by the distance in kilometers from the provincial capital to either Ha Noi or Ho Chi Minh City;
- the quality of human capital, as measured by the percentage of secondary school graduates in the population (in 2000), to account for the labor force that private firms can draw upon; and
- initial infrastructure endowment, measured by the number of telephones per capita in 1995.

7. Please see the Appendices for the precise regression results. This is the same methodology used by authors of the Growth Competitiveness Index. See McArthur, J.W. and Jeffrey Sachs. 2002. 'The Growth Competitiveness Index: Measuring Technological Advancement at the Stages of Development.' Global Competitiveness Report 2001-2002. New York: Oxford University Press for the World Economic Forum. Due to the high collinearity between sub-indices, researchers were actually unable to run each sub-index individually, instead relying on a procedure known as factor analysis with varimax rotation, to create three uncorrelated variables. The factor loadings of the variables were used to calculate the individual impact of the sub-indices which they comprised.

Table 2: Sub-Index Weights

	Average Weight	Rounded Weights	Weight Class
PSD services	17.21%	15%	High
Transparency	16.25%	15%	High
Labor training	15.35%	15%	High
Pro-activity	13.15%	15%	High
Time costs of regulatory compliance	11.92%	10%	Medium
Legal Institutions	7.62%	10%	Medium
SOE bias (competition environment)	5.98%	5%	Low
Informal charges	5.76%	5%	Low
Land access and security	3.57%	5%	Low
Entry Costs	3.18%	5%	Low
	100.0%	100.0%	

This was in order to determine their relative contributions (or 'weights') to the sub-indices.[8] These weights were then rounded to the nearest 5%, to deliver three basic classes of weights, as shown in Table 2 above.

These weights were then applied to the sub-indices, which were then aggregated into the final PCI.

8. In PCI 2005, the indicators of initial conditions were grouped together in baskets of variables using factor analysis. In PCI 2006, proxies were used, as they offer a more interpretable indicator of structural conditions. Telephone density and road quality in 1995 were highly correlated, so it made little sense to include them both in the same regression, as the project goal was not to isolate independent impacts of types of infrastructure, but simply initial conditions more generally. Also, early measures of initial conditions were chosen to avoid the analytical problem of endogeneity: the notion that provinces with high performing private sector may have more tax revenue to invest in infrastructure improvements. Distance and infrastructure were highly influential in explaining private sector performance, but initial human capital offered little explanatory value.

Analysis of PCI rankings

The final PCI 2006 scores and rankings are contained in Figure 2. As was done for PCI 2005, a 100 point scale was used. Again, Binh Duong is the highest ranked, with a score of 77.61, and Da Nang is the second highest ranked. Lai Chau has the lowest ranking, with 36.07. If we consider only those 42 provinces within the PCI 2005 sample, then Ha Tay is again the lowest ranked, with a score of 40.34.

Provinces should not be too pre-occupied with their individual rankings, as small changes in scores can potentially lead to significant changes in rankings. For example, an increased score as small as 0.5 can, in some cases, lead to a five-place jump in the rankings. Rather, provinces should focus on improving their absolute scores, in both the sub-indices and the overall PCI, which will of course push overall

scores toward the perfect 100. And this can be achieved by adopting best practices already found in other provinces of Vietnam.

Also, more important than the actual scores and rankings, are the six tiers of provinces, which can be clearly delineated by break points of at least three-quarters of a point or more in the data. These tiers are relatively robust to different weighting schemes, and arguably provide a more meaningful representation of a particular province's performance, as it is quite difficult to migrate from one category to the next due to these break points. Figure 3 maps out provincial performance according to these tiers, and these tiers are discussed in greater detail below.

This year, a new tier, termed the 'Excellent' group, has been developed, to capture the performance of two provinces, Binh Duong and Da Nang, which are head and shoulders above the rest. Both of these provinces performed well in almost all sub-indices, and had particularly high scores (above 8) in three or four of the sub-indices. Da Nang recorded quite a low score on the land sub-index, but this was more than compensated for by its strong performance in the other sub-indices.

The second tier ('High' performing group) consists of provinces that performed well on the four most important sub-indices: PSD services, Transparency, Labor Training and Pro-activity, and average on the other sub-indices. For example, Ho Chi Minh City scores poorly on the Land and Informal Charges sub-indices (and to a lesser extent, Entry Costs and SOE bias), but makes up for this by performing extremely well on the Legal Institutions, Labor Training, PSD Services and Transparency sub-indices. Lao Cai deserves particular note in this group, as it is a newcomer to the PCI. Apart from recording slightly below average scores on Land and Time Costs of Regulatory Compliance, this province otherwise scores consistently well on all other sub-indices, particularly on the SOE Bias and Transparency sub-indices.

The third tier ('Mid-High' performing group) consists of provinces that record mid-high scores across most of the sub-indices, such as Ba Ria – Vung Tau, Bac Giang, Quang Nam and Tra Vinh, or provinces that registered an uneven performance, with high scores counter-balanced by low scores. Falling into this latter category is Can Tho, which did well on Transparency and PSD Services, but poorly on Proactivity, Informal Charges and Entry Costs. Likewise, Phu Yen registers high scores in Entry Costs and Land, but does very poorly on Time Costs of Regulatory Compliance (lowest ranked) and Informal Charges.

The fourth tier ('Average' performing group) consists of provinces that record a mid-average performance across most sub-indices. As a group, these provinces performed quite well on Informal Charges, particularly Ben Tre and Hau Giang (respectively ranked 1 and 2 in this sub-index), as well as Gia Lai, Binh Thuan, Tien Giang and Hoa Binh, but registered well below average performances for Entry Costs and/or SOE Bias, most notably in Ha Noi, Hai Phong and Dak Lak.

The fifth tier ('Mid-Low' performing group) consists of provinces that, as a whole, under-performed across most sub-indices. Some provinces in this group did well on the Entry Costs (such as Tay Ninh and Tuyen Quang) and SOE Bias (Nam Dinh, Cao Bang and Son La). These are first-generation business reforms, meaning that provincial leaders have succeeded in promoting firm entry and market access. However, the data suggests that they have been less successful at second-generation business reforms, such as Transparency and Regulatory Compliance Costs, which enable successful firm growth after registration. And they did quite poorly on third-generation business reforms. That is, policy interventions which correct for market inefficiencies on behalf of the private sector as a whole, and institution building, such as the delivery of key services, labor training, and building confidence in legal institutions.

The sixth tier ('Low' performing group) comprises those provinces with firms that are generally unhappy about the business environment and their treatment by provincial officials. This sentiment results in low scores across most sub-indices, although some provinces, such as Dien Bien and Kon Tum, may have shown some advances in first-generation reforms (notably Entry Costs).

Sharp-eyed readers may notice a slight change in the PCI 2006 rankings shown in Figure 2, above, compared to the summary report released in June 2006. As the PCI research team finalized this full report, a relatively minor adjustment

Figure 2: PCI 2006 Rankings

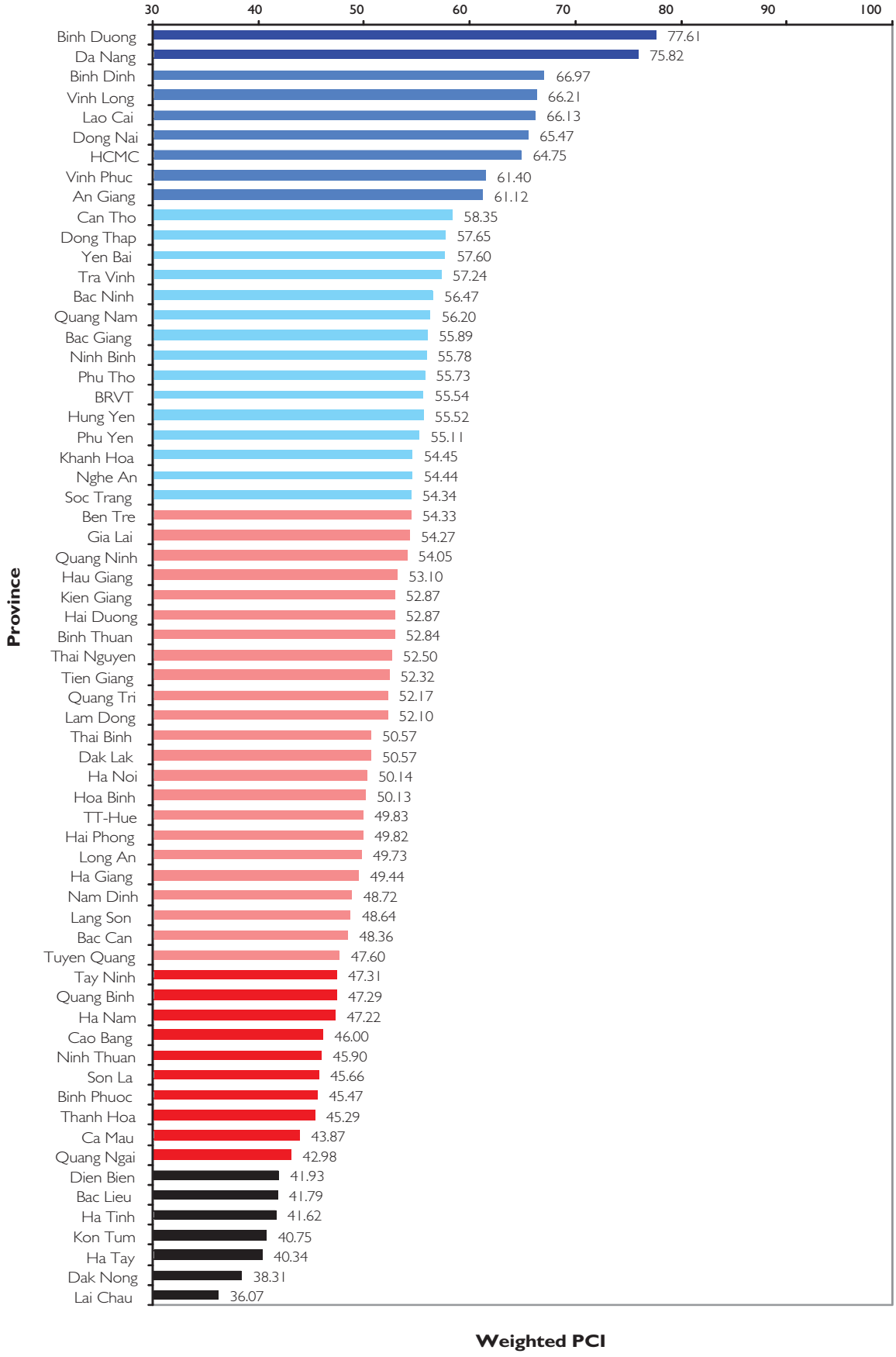
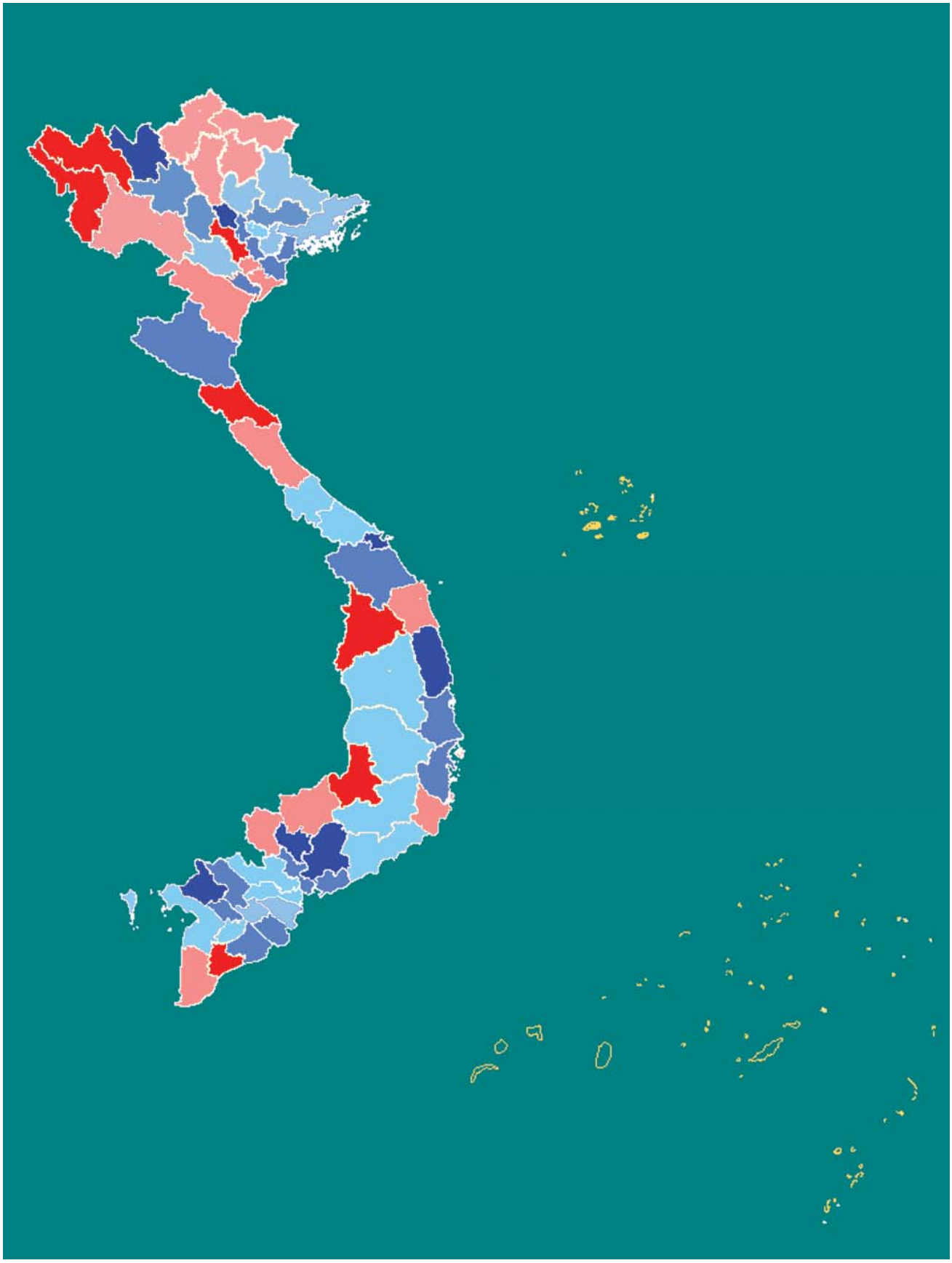


Figure 3: PCI 2006 Map of Vietnam



was made to the compilation of one of the ten sub-indices that make up the overall index -- the Pro-activity sub-index. Consequently, some minor revisions in the specific PCI 2006 rankings are apparent.

What precisely has changed? The fifth Pro-activity indicator entails responses to the question: "When a new law, rule, regulation or decree is being discussed that could have a substantial impact on your business, does the provincial government solicit advice from firms like yours regarding the content or implementation of the legal document?" After the June 2006 release of the PCI 2006 rankings, there was significant discussion between provinces and researchers about the meaning of this indicator. Comments became clear that only large, powerful firms answered this question affirmatively, indicating that influence may have instead been interpreted as capture of the provincial leadership or undue influence through close relationships with provincial leaders. Concerns were raised as to whether the question could distinguish between benign collaboration with private interests versus undue influence by 'connected' enterprises. Moreover, further studying the indicator discovered a flaw in how this indicator had earlier been calculated. The research team thus decided to drop the fifth indicator.

And as a consequence, the Pro-activity sub-index was re-calculated, based on the four remaining indicators[9]. By removing this fifth indicator within the Pro-activity sub-index, which was only added in the PCI 2006, we have reverted to the same four indicators used for the same sub-index in PCI 2005 which facilitates a comparison of the sub-index over time.

This revision had either a minor or no impact at all on 94% of the provincial scores, and absolutely no impact on the other sub-index weightings. Just 65% of provinces moved by a mere one position, or did not move at all. However, four provinces were impacted by the revision in the calculation for the Pro-activity sub-index. Bac Ninh, Kien Giang and Phu Tho gain higher rankings as a result of this revision. That said, none of these provinces graduate to a higher tier of good economic governance as a result of the change. Conversely, Soc Trang province declines in the rankings once the revision was made, causing the province to fall from the 'Mid-High' to the 'Average' tier of good economic governance. Soc Trang and Lang Son are the only provinces to see a change in their tier positions as a result of this change in how the Pro-activity sub-index is compiled (note that Lang Son's ranking before the correction was already at the bottom of the average performing group).

Conclusion

Using the PCI as a guide, provincial leaders can identify their province's relative strengths and weakness more clearly. Major gains in private sector performance and economic development can certainly be gained by initiatives to improve scores on the weakest sub-indices[10]. Reforms that improve the supply of skilled labor, improve key services, increase transparency, and allow provincial leadership the flexibility to respond to investor needs will be especially beneficial, in our view.

As has been seen over the past year, the PCI is a valuable policy tool to undertake diagnostic activities on the economic governance of particular provinces. Provinces can begin by looking across the sub-indices to identify their lowest scores, especially if those were in higher-weighted categories. Next, they can look at the precise indicators that comprise these sub-indices, to find the most pressing weakness within each sub-index. Finally, the province can work to design initiatives that seek to address these weaknesses. This is already happening to some extent, but considerably more can and should be done.

One important exercise that lower ranked provinces should consider is to learn from their higher ranked neighbors, who due to their geographical proximity face similar economic constraints. If, for example, Lai Chau adopted the transparency practices of its neighbor Lao Cai, this would elevate it from the very bottom ranking and into the 'Mid-Low' performing group. Using regression

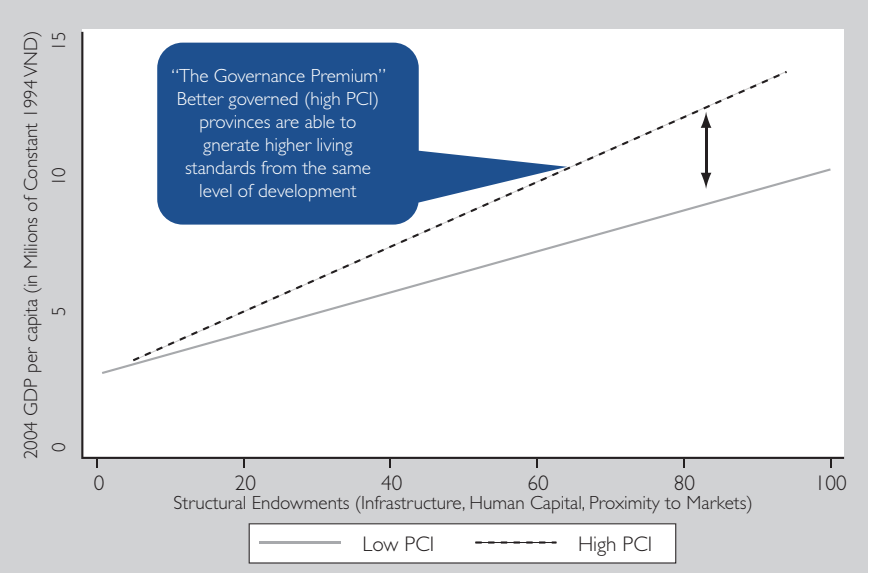
9. See Section 2.7 for more details on the four indicators of this sub-index, comprising: i) the province is good at working within central laws; ii) the province is creative and clever in solving problems confronting business community; iii) good initiatives at provincial level but the center frustrates; and iv) no initiatives at provincial level, all initiatives come from the central government.

10. Indeed, using regression analysis to forecast outcomes controlling for structural endowments, a one point improvement on the un-weighted PCI would generate a predicted increase of one firm for every 100,000 citizens, a 2.5% increase in annual investment per firm, and a VND 3.5 million (in 1994 VND) rise in annual profits per enterprise.

analysis as a predictive tool, we can surmise that the same 5.34 improvement in the un-weighted PCI score would yield an additional six enterprises for every 100,000 citizens in Lai Chau. Similarly, if Ha Tay provided labor training services to a similar standard as its neighbor Vinh Phuc, it would increase its PCI score by roughly 5 points (4 points on the un-weighted PCI), which would then elevate the province to the 'Average' performing group, thereby generating a predicted increase in annual investment per private enterprise of 10.6%. Likewise, if Kon Tum adopted similar PSD service delivery standards to that of neighboring Gia Lai, its PCI score would increase by 4 points (un-weighted 2.4), elevating the province to the 'Mid-Low' group, and generating a predicted increase in profits of VND 8.4 million per enterprise. (See the Appendices for the actual regression results used in this analysis.)

Attention to economic governance is not just a simple accounting exercise, controlling for initial endowments, as scores on the un-weighted PCI appear to have an important impact on overall provincial welfare, as measured by per capita GDP. This can be best seen in Figure 4, which maps out the

Figure 4: PCI Performance and Economic Welfare



relationship between a composite measure of development (referred to as structural conditions[11]) and living standards (GDP per capita) for both high- and low-performing PCI provinces[12].

Provinces with high scores on the PCI have a higher standard of living at every level of structural endowments. Put simply, better governed (i.e. higher PCI scoring) provinces are able to generate higher living standards from the same level of development. The gap between the two lines can be thought of as a 'governance premium' – the improvements in living standards through better economic governance, given the same endowments. Perhaps more importantly, Figure 4 shows that the slope of the high-PCI line is higher than the slope of the low-PCI line, indicating that this 'governance premium' actually increases as the province develops[13]. This analysis makes it clear that provincial authorities have an important responsibility to adopt the best possible economic governance practices, in order that the local population can draw the greatest benefit from economic growth and development.

11. Structural conditions is a composite measure of Infrastructure (telephones per capita in 1995), Human Capital (% secondary school graduates in 2000), and Proximity to Markets (distance in kilometers from Ho Chi Minh City and Ha Noi). These variables were combined together on to a common scale using factor analysis and standardized to a 100 point scale.
12. This figure is generated from a regression of GDP per capita (measured in millions of constant 1994 VND) on structural conditions, a dichotomous (dummy) variable for a high PCI (province above the median unweighted PCI of 55.12) and low PCI (below 55.12), and their interaction. An additional dummy variable for the province of Ba Ria-Vung Tau is used to control for the high GDP per capita in that province resulting from oil revenues. The results show that the interaction is significant at the .05 level.
13. The area between the two lines can also be thought of as the net economic gain of good governance.

Table 3: Detailed Description of Sub-Indices and Component Indicators

1. Entry Costs

- % of firms waiting over 01 month to start a business
- % of firms waiting over 03 months to start a business
- Effective land wait days (determined by government efforts, not supply/demand conditions)†
- Length of business registration in days
- Length of business re-registration in days
- Number of licenses and permits required to operate
- % of firms having difficulty to obtain all licenses/ permits to start a business

2. Land Access and Security of Tenure

- Land Access
  - % of firms with LURCs or in the process of receiving them
  - If land is easier to obtain, business would expand
  - % of firms without LURCs that rent land from the state sector
  - Firm rating of provincial land conversion policies
  - % of total land with LURCs*
- Security of land tenure
  - Risk of expropriation
  - Perception of fair compensation values
  - Risk of change in lease contract
  - Perception of fair process for disputing changes in lease contracts
  - Duration of tenure

3. Transparency

- Transparency #
  - Transparency of planning documents
  - Transparency of decisions and decrees
- Equity and consistency of application
  - Importance of "relationship" to get access to these provincial documents
  - Importance of family and friends when dealing with government officials
  - Negotiations with tax officials are an essential part of doing business
- Predictability and consistency
  - Predictability of local implementation of laws
  - Provinces discuss regulatory changes with firms
  - Quality of services provided by provincial public agencies on business consulting on regulatory information
- Openness: Assessment of provincial webpage. Note that this is worth 40% of the sub-index.

4. Time Costs of Regulatory Compliance

- Days reduced dealing with bureaucracy since the Enterprise Law
- % of firms spending over 10% of time dealing with bureaucracy
- Median number of inspections and median tax hours
- Decrease in inspections since the Enterprise Law

5. Informal Charges

- Informal charges are a major obstacle to doing business
- Firms in the same line of business make extra payments
- % of firms paying over 10% of revenue in informal charges
- Officials use compliance with local regulations to extract rents
- Informal charges delivered expected results

6. SOE Bias (Competition Environment)

- Perception of bias toward SOEs
  - Provincial government is biased toward SOEs
  - Provincial government is biased toward equitized companies
  - Provincial attitude toward the private sector
  - Attitude to the private sector is improving
  - Monetary contributions influence attitude toward the private sector
  - Firm rating of provincial equitization effort
- Hard indicators of bias toward SOEs
  - The ratio of local SOE share of liabilities to their share of revenue*
  - % change in number of SOEs (2000-2004)*
  - Average proportion of bank loans to state sector*

7. Pro-activity

- Province is good at working within central laws
- Province is creative and clever in solving problems confronting business community
- Good initiatives at provincial level but center frustrates
- No initiatives at provincial level

8. Private Sector Development (PSD) Services

- Perception of quality of services provided by provincial public agencies
  - Market information and trade promotion
  - Technology and technology-related services
  - Match-making for business partners
  - Export promotion and trade fairs
  - Industrial zones
- Hard indicators of PSD activities
  - Trade fairs held by province (2004-2005)*

9. Labor Training and Development

- Education services provided by provincial public agencies
- Labor vocational training services provided by provincial public agencies
- Labor exchange services provided by provincial public agencies
- Number of vocational schools adjusted for provincial differences in population*

10. Legal Institutions

- Legal system provided mechanism for firms to appeal officials' corrupt behavior
- Firm confidence in legal institution
- Use of legal institutions as primary mode of dispute resolution
- Number of cases (where claimant was not an SOE or an FIE) per 100 active firms*

  Note: The first three soft indicators worth 60% of the sub-index and the last one hard indicator worth 40%.

Notes: * denotes component uses only hard data

derived from factor analysis

† indicator modified in 2006

In all sub-indices, each primary component is given equal weight unless otherwise noted. New indicators in PCI 2006 are highlighted in green.

Part II:

THE TEN SUB-INDICES OF PCI 2006 IN DETAIL

All of the indicators used to generate the PCI were categorized into ten sub-indices for use in the final index. As discussed above, two different types of data were employed in each sub-index, wherever possible -- perceptions (or 'soft') data and objective (or 'hard') data.

Entry Costs

The intellectual origin for this section of the report arose from the World Bank's surveys of start-up costs for entrepreneurs in developing[14] and transition[15] countries. The goal of this sub-index is to assess the differences in Entry Costs for new firms across provinces. According to the 2000 Enterprise Law and its implementing documents, these procedures should have become uniform across all provinces, but researchers at CIEM and GTZ argue that this is not the case[16]. The PCI sought to measure the extent of the variance by measuring seven key variables, which were used to create the sub-index shown in Figure 6, after normalizing the responses to a ten-point scale.

14. See Doing Business in 2004: Understanding Regulation, at http//rru.worldbank.org/Doing Business/, for more information on the survey and data set.
15. See The Business Environment and Enterprise Performance Survey (BEEPs) at http//info.worlldbank.org/governance/beeps/.
16. Le Dang Doanh, 'Tinh Hinh Thuc Hien Luat Doanh Nghiep (Implementation Situation of the Enterprise Law), paper presented at the Vietnam Consultative Group- Private Sector Forum, Hanoi, 2000. CIEM, 'One Year Enforcement of the Enterprise Law: Results and Remaining Problems', unpublished mimeo, 2001; Central Institute for Economic Management (CIEM), Task Force for Enterprise Law Endorsement, 2003, 'Assessment Report on Three Years of the Implementation of the Law on Enterprises', Vietnam Business Forum Mid-Year Consultative Group Meeting, Hanoi: World Bank, IFC, and Ministry of Planning and Investment, June.

One major change from the PCI 2005's Entry Costs sub-index is that all seven indicators are drawn from the company survey data. We removed the hard data capturing the number of firms registered per capita, and the registered investment as a percentage of GDP, for two reasons. First, there was some concern that this hard data unfairly and misleadingly rewarded provinces with high percentages of 'ghost firms', or that were slow in removing closed establishments from their registration lists. Secondly, these indicators may have reflected outcome variables, rather than government processes. This second problem, known as endogeneity, where the causal variables are too closely correlated with the dependent variables in a regression, may have led to inflation of the weight of the Entry Cost Sub-Index[17]. In their place, we used data from the company survey to capture perceived difficulties specific to the business registration and licensing procedures. To limit anchoring problems, we used direct counts of days and licenses wherever possible.

New Firm Perception Indicators

Length of business registration in days: According to the Enterprise Law, Provincial Departments of Planning and Investment are required to complete the business registration procedures in 15 days or less. However, only 12 provinces managed to meet this number, on average, and a couple of provinces actually exceeded the target by almost a full month. The PCI questionnaire reads:

How long did it take you to register your business at the Department of Planning and Investment (if after the Enterprise Law) or the Provincial People's Committee (if before the Enterprise Law) ? ..... Days

Only firms which registered after the 2000 Enterprise Law were included in the final score, out of fairness to provinces which had a significant number of active firms prior to the streamlined procedures of the Enterprise Law.

This score has been somewhat controversial. Most provinces keep detailed records of the registration procedures from start to finish, and several have let the research team know that their own data does not concord with the scores attributed to them by the firms in the PCI company survey. The discrepancy appears to lie in the different way that businesses and provincial officials calculate the length of time required to register a business, and these differences in opinion are enlightening.

Note that the survey question only asks for an assessment of the total amount of time it takes respondents to register their business; it does not ask firms to calculate from the time their registration form was filled out correctly and accepted by the registrar – the official start date for provincial record keeping. Provincial officials concede they often reject applications because forms have not been filled out correctly, or relevant information has been omitted from the application. So, while officials do not record the

17. Joint Donor Report to the Vietnam Consultative Group Meeting, 2005. Vietnam Development Report 2006: Business. World Bank: Hanoi, Vietnam, p. 140.

time spent correcting applications and returning to the DPI as days required for entry procedures, firms do. This difference also accounts for the disconnect between what provincial officials tend to say at the PCI diagnostic workshops, with regard to registration waiting periods, and business responses to the PCI questionnaire on this same issue. This was an important problem revealed in an earlier study conducted by VNCI in 2005, exploring the one-stop business registration systems in two provinces -- Hanoi and Vinh Phuc[18].

Entrepreneurs complain that provincial officials are sometimes over-zealous in their search for application errors, occasionally rejecting applications due to spelling errors and typos. Nevertheless, it is also important to acknowledge that the majority of provincial officials take their job seriously and hold themselves to the highest standards of professionalism. The root problem may simply be that accurate and detailed information about registration procedures is not made readily available to firms. The reception areas of many DPI buildings are often cluttered with disorganized postings of yellowing and dog-eared documents. Relevant information about registration can often be hard to locate, and harder still to read, once firms have managed to find it. Many provinces have also not fully exploited the utility of a provincial web page in posting relevant business registration procedures and applications. Some provinces have not put any registration information on their websites at all; others post only summary information and no application forms; and still others post all necessary information, but either do not maintain the links to this information, or post it in far from obvious locations.

- *Length of business re-registration in days.* For a variety of reasons, registered business may need to re-register their operations. Prompts for this may include changing the legal form of the company, increasing the registered capital amount, or changing the product lines in which a firm operates. According to the 2000 Enterprise Law, such a re-registration process should take a maximum of seven days. While many provinces appeared to be in compliance with central legislation, others were not. In fact, one province actually averaged 34.9 days for business re-registration, according to our company survey results. As with simple registration, provinces typically attribute the lengthy periods incurred to errors in the application forms.

- Article 6 of the 2000 Enterprise Law provided the legal foundation for removing hundreds of gratuitous business licensing requirements. This was followed by a series of Prime Ministerial Decisions and Decrees that removed these licenses by name, beginning with the eighty-four licenses articulated in the well-known Decision No. 19/2000/Qd-TTg[19]. Unfortunately, many line ministries and Provincial People's Committees have found loop-holes, in the form of new licenses created after the 2000 Enterprise Law, which has now reached about 298 documents and hidden licenses, in the form of written "approvals", contributing to lengthier and more expensive Entry Costs faced by private firms.[20] The PCI attempts captures the variance in these licenses across the country by asking:

How many registrations, licenses (environmental, labor, natural resource exploitation, etc.), and permits does your firm presently need to operate *(Please count all the licenses, permits, stamps, etc. issued by different agencies, even if they deal with the same type of activity)?* .....

This figure offers a consistent measure of the entry procedures which burden firms, above and beyond their initial registration. Provincial averages ranged from 2.31 to 7.47 additional documents.

- Percentage of firms having difficulty obtaining all the necessary documentation to start a business. Simply asking about the number of required documents is limiting, as it does not adequately capture the fact that only one extra license can be a significant burden if it takes an inordinately long time to obtain, or requires several additional unexpected return visits. This indicator provided some of the most interesting variance in the data. For example, firms in Hau Giang did not experience any difficulties at all, and in eighteen provinces less than 10% of firms

18. VNCI Policy Paper #6 'One-Stop Business Licensing in Vietnam. A Tale of Two Provinces: Hanoi and Vinh Phuc, prepared by Nguyen Anh Tuan, Trinh Hoang Lien and Nguyen Nhu Hai of BIZCONSULT, with substantial technical and editorial input from Fabian Uzaraga of VNCI.

19. CIEM and GTZ, 2006. "6 Years of Implementing the Enterprise Law: Issues and Lessons Learnt," Business Issues 05, Hanoi

20. Ibid, p. 27; PMRC-GTZ-ADB, 2006. "Business Licensing: Current Status and the Ways Forwards." Business Issues 04, Hanoi.

cited difficulties. Conversely, 25% or more of the firms in Hai Duong, Ha Noi, and Binh Phuoc cited difficulties in obtaining all relevant documents.

Existing Perceptions Indicators

The new indicators described above were added to existing indicators successfully used in PCI 2005, comprising:

- *Percentage of firms waiting over a month to complete all steps necessary to start their business:* CIEM has reported that, even after the introduction of the Enterprise Law, firms must engage in three steps: business registration, having a chop carved for their official business seal, and tax registration combined with the purchases of VAT invoices. They estimate that such procedures may take as long as 45 days before firms can really begin business operations after registering[21]. In addition, one must add the time necessary for the additional business licenses discussed above. An attempt was made to gauge these bureaucratic entry barriers by including an indicator of the percentage of firms in each province waiting over a month to receive all the remaining licenses, and complete all the steps necessary to begin business activities, since the promulgation of the Enterprise Law.

- *Percentage of firms waiting over three months to complete all steps necessary to start their business:* This indicator sought to capture provinces with particularly slow entry environments, where firms' start-up plans were held up for an entire fiscal quarter.

- *Effective wait for land to begin business activities:* Obtaining land for business start-up has been identified by a number of research projects as one of the most critical obstacles faced by firms throughout Vietnam, even under the new Land Law of 2003.[22] GTZ and CIEM, for instance, calculated that accessing land requires at least seven different administrative procedures, and can take approximately 230 days, while involving a variety of local government agencies[23].

Unfortunately, calculating the total amount of time from communicating with local authorities to actually accessing the land would lead to unfair comparisons across provinces. Some provinces take a longer time to introduce land to firms because there is simply too little available land to go around for the firms who need it. As a result, our indicator simply focuses on the sum of two baskets of bureaucratic procedures that are unrelated to land constraints[24].

1. From the start of negotiations with the original owners until completion, how long did it take the business to complete the purchase (in days)?

This measure gauges the arbitration efforts provided by the province to ease land negotiation and compensation, which can often lead to protracted problems for firms. We include this measure because the 2003 Land Law specifically states that enterprises must cooperate with Provincial People's Committees in negotiating compensation with local residents. In fact, the involvement of the People's Committee can often complicate the negotiations, when they allow any provincial socio-economic goals, like labor generation, to impact on the discussions.

2. From the day the business submitted its application, how long did it take to receive the LURC (in days)?

This is a simple measure of the ability of the provincial apparatus to formalize the land use rights of a firm, after the land has already been obtained. Often this involves coordination between multiple agencies at both the district and province level, including the People's Committee, the Land Authority, and the Department of Construction, to formally approve the procedure, thereby adding to the time frame. Both types of land waiting periods are shown below in Figure 5. The lowest waits are experienced by firms in the Southwest corner, while firms in the Northeast quadrant of the graph experience the highest waits on both dimensions.

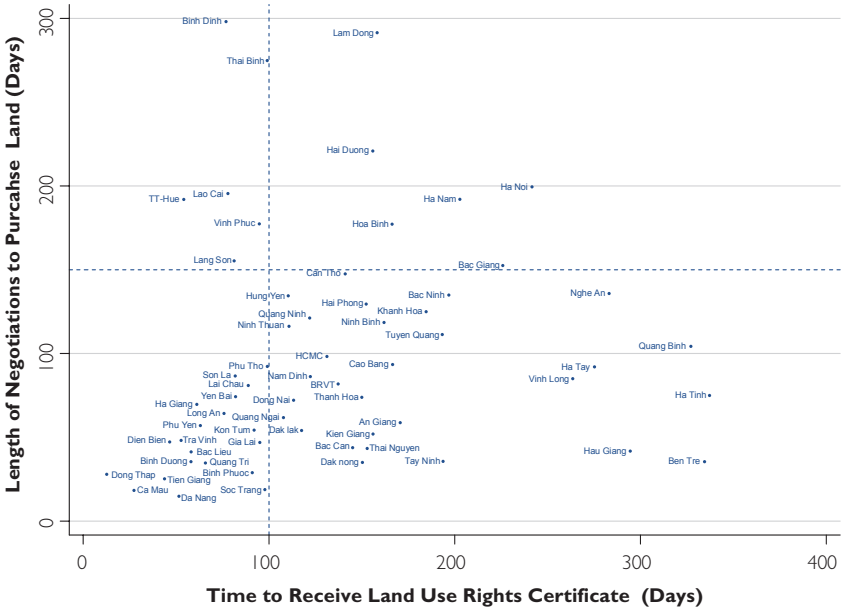
21. CIEM, 2003. They also estimate that completing all three steps will cost about VND 1.5 million, even before the expense of announcing the registration in three continuous newspapers at VND 750,000, and a license tax of VND 3 million. Also see CIEM and GTZ, 2005, "From Business Idea to Reality: Still a Long and Costly Journey."

22. CIEM and GTZ, 2005. "From Business Idea to Reality: Still a Long and Costly Journey." *Business Issues 04*, Hanoi, p.15. Carlier, Amanda and Son Thanh Tran, 2004. "Firm Dynamism: Beyond Registration: How are Vietnam's new domestic firms faring?," *Vietnam Private Sector Development Policy Note*, Hanoi: World Bank.

23. CIEM and GTZ, 2005, p.21

24. In PCI 2005, the available land constraint issue was resolved by dividing the land use wait by the number of private firms per 1,000. This quantity was then multiplied by the ratio of land in the province presently zoned for business purposes. In essence, effective land use wait = (Land Wait/Enterprises per 1000)*(Percentage of Business Land/100). For PCI 2006, the survey was re-designed to capture the different time costs available, so such a formula was unnecessary.

Figure 5: Bureaucratic Land Waiting Periods for Firm Entry



Land Access and Security of Tenure

Another issue often cited by analysts of Vietnam, and private firms themselves, is the wide variance in land policies across the provinces. Essentially, land issues can be divided into two dimensions. First, the PCI considers Access to Land, as the inability to locate and obtain productive land not only reduces opportunities for investment in a new business, but also limits access to capital, as firms cannot use land use rights as collateral for bank loans[25]. Moreover, many firms unable to obtain their own land must rent from SOEs or the provincial agencies, limiting their opportunities for expansion and often exposing themselves to new sets of transactions costs[26]. A second dimension of land policy, however, is the Security of Tenure -- do firms feel that their land rights are certain over the long term? The more secure the tenure, the more firms will be emboldened to invest in the long term productivity of their land allocation[27]. But if expropriation or fundamental changes in lease contracts are a possibility, firms will take a more short-term outlook with their investment and business decisions. Employing such a short-term or 'footloose' approach tends to undermine overall provincial welfare, notably in terms of income and employment creation[28].

Land Access

- *The percentage of firms with LURCs or in the process of receiving them:* While technically all Vietnamese land belongs to the state, the rights to its use have been assigned to individuals and firms through LURCs since 1993. These certificates legalize their owners' rights to the long-term use of the allocated land (for as little as 20 years, but up to 70 years) and to transfer, exchange, lease, inherit and mortgage the land use right. Particularly important is the ability to use formal LURCs as collateral in accessing bank loans. One problem, which varies considerably across provinces, is the percentage of private firms that possess secure land use rights. Many provinces have myriad firms with informal land rights inherited from previous generations or purchased through informal exchange.

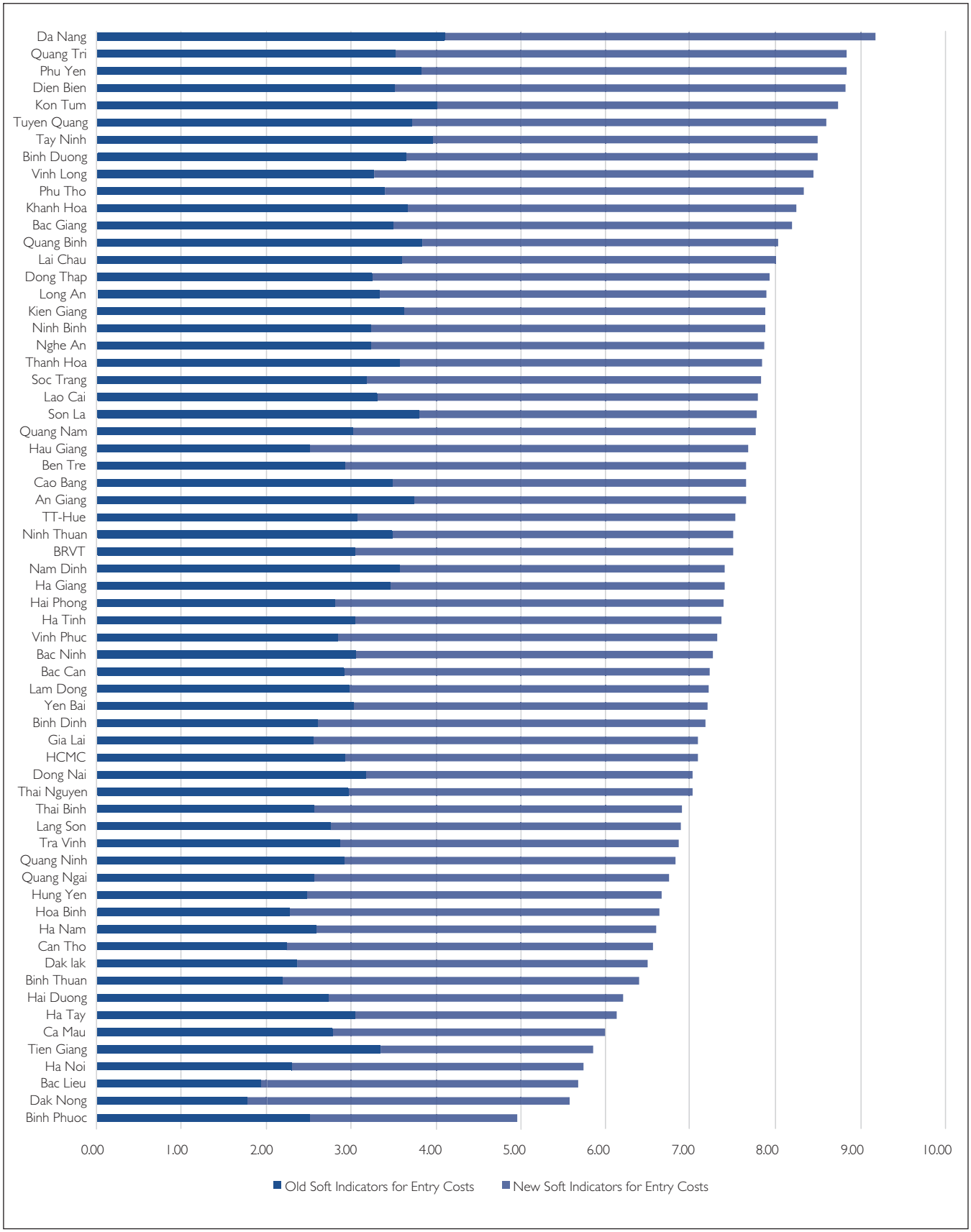
25. De Soto, Hernando. 2000. The Mystery of Capital. New York: Basic Books

26. Nguyen Dinh Cung, Pham Anh Tuan, Bui Van, and David Dapice, 2004. Why Don't Northern Provinces Grow Faster? Ha Noi, Vietnam: Central Institute for Economic Management and United Nations Development Program; Do Quy Toan and Lakshmi Iyer, 2003, 'Land Rights and Economic Development: Evidence from Vietnam'. World Bank Working Paper, July.

27. De Soto, op. cit

28. Knack, Stephen and Phillip Keefer, 1995. "Institutions and Economic Performance: Cross-Country Testing Using Alternative Institutional Measures," Economics and Politics 7(3), 207-228.

Figure 6: Entry Costs Sub-Index



- *The percentage of firms without LURCs that rent land from SOEs*: Firms that do not have their own LURCs must either rent land from family, friends, or – in strikingly high numbers – rent land from state owned enterprises or local agencies[29]. While a legal arrangement, renting land from SOEs is a short-term lease with monthly or yearly payments, rather than the quasi-property right offered by the LURC. In such an arrangement, firms suffer from an additional set of costs over time, both in terms of regular rent and in opportunities foregone due to an inability to access bank capital. A second is that the fortunes of a private firm renting land from an SOE are tied to the fortunes of that SOE. If the SOE is liquidated or is equitized, the private investor will have difficulty recovering compensation for their investment. Finally, as Carlier and Tran point out, there is no legal provision for SOEs to sub-let land, leaving their tenants unable to deduct business expenses related to the premises from their tax liability – a competitive disadvantage vis-à-vis firms with LURCs[30].

- *Percentage of firms that feel land availability constrains their business expansion:* The third indicator is a direct question about whether investment has been sacrificed due to the lack of available land, by asking firms whether they have limited their expansion plans due to problems with land access.

29. Malesky, Edmund, 2004, 'Entrepreneurs on the Periphery: A Study of Private Sector Development in Beyond the High Performing Cities and Provinces of Vietnam'. Mekong Private Sector Development Facility Private Sector Discussion Series, Number 18, November; Vietnam
30. Carlier and Tran, op. cit., p. 15.

- *Provincial land conversion policies:* Provincial land conversion policies must be thought of in two time periods. The first is provincial zoning policies before a firm takes possession of the plot. A number of provinces have worked hard to convert agricultural land to manufacturing usage in order to increase the supply of land, thereby lowering waiting periods and prices[31]. The second type of land conversion policy takes place after a firm has assumed possession of agricultural land, and would then like to use the land for commercial purposes. In these cases, provinces are obligated by law to respond to a firm's petition for land conversion within 20 days. If approved and the firm pays all the appropriate fees, the Provincial People's Committee must issue an amended LURC within five days. The PCI uses the percentage of firms in each province who rated land conversion policies as good or very good.

- *Percentage of Total Land in Province with a Land Use Right Certificate.* This data from the Central Land Authority is used as hard data to anchor firm perceptions of Land Access. The fact that it covers all land is very helpful, as 56% of firms in this survey use at least part of their household LURC for their business. Just under 40% of all firms exclusively use household land, and have not applied for a separate CLUR for their company.

Security of Land Tenure

- *Risk of Expropriation:* As noted above, once an investor has land, a fundamental determinant of the effort and expense they put into developing their investment is directly related to their fears that this land on which their firm sits could be pulled out from underneath them. Indeed, just over half of all LURC holders in the entire sample of firms believe that the risk of expropriation is high or very high. For this indicator, we take the mean score on a five-point scale, where five represents a very low risk of expropriation. There was considerable inter-provincial variance in this regard. Scores ranged from 1.95 in Ca Mau, where 72.1 cited expropriation risk as high or very high, to 3.05 in Hung Yen, where only 27.3% of firms believed there was a high or very high possibility of expropriation.

- *Fair Compensation for Expropriated Land:* Fear of expropriation must be tempered by the fact that some declarations of eminent domain by local government authorities may be unavoidable. After all, firms themselves often call for better infrastructure, which generally entails wider roads and highways; land clearance and conversion for development, which often involves the repossession of large swaths of land for industrial zones; and better public services, which also may entail government usage of land. (Even in the U.S., the Supreme Court has recently ruled in the hotly debated 2003 Kelo versus New London case that land repossession of private houses and businesses could proceed to promote economic development.) In these special cases, the relevant question is whether the individual or firm, who is forced to

31. Cung et al., op. cit.

surrender property, receives fair compensation for the value of that land. This is no easy task. While the Land Law attempts to bring state compensation prices into closer accordance with market prices, there is inevitably a delay between the bureaucratic process of revaluing land and more rapid changes in the market value for land. In addition, there is always some concern among entrepreneurs about the future value of the land, as opposed to the present market value. New infrastructure and re-zoning often enhances the value of the land in future years, but the present market rate assumes land values based on the its present status.

To capture whether firms felt that compensation in their province was fair and just, we posed the following question, "Based on your observations of other cases in your province, do you believe firms/individuals receive fair compensation for expropriated land?" We used the percentage of firms who ticked 'usually' or 'always' as an indicator in the Security of Tenure dimension of the Land Sub-Index.

- *Risk of Change in Lease Contract:* For firms that lease property, as opposed to purchasing it, the analogous risk to expropriation is an adverse change in the lease contract, which does material harm to the business. Such changes are common occurrences in Vietnam, where tenants often find after a few months of productive activity that their space has been promised to another investor who offered a higher rent, well before the lease maturity date is up. Obviously, this can harm an investor who has put sufficient effort into developing the property. To maintain equivalency with the expropriation measure, we used a five point scale, which ranged from 2.55 in Kon Tum to 4.00 in Soc Trang.

- *Perception of Fair Process of Disputing Changes in Lease Contracts:* Just as some eminent domain is unavoidable, disputes between landlords and tenants are also bound to arise. In these cases, the important issue is whether or not firms feel there is a fair system for disputing these changes. There was significant variance in answers, ranging from 0% of tenants in the two new provinces of Dak Nong and Hau Giang, to over 60% in five other provinces.

- Duration of Tenure: Among the most interesting questions yet to be answered in Vietnam's policy debates is how quickly and effectively provincial governments are able to renew LURCs which have run their course. Because LURCs are effectively long-term leases of state property, it is not clear that the quasi-property right they offer will persist once the term-limit has been reached. The uncertainty posed by the pending constraint will have much the same impact on firm investment as expropriation, with the severity of the impact increasing the closer the LURC comes to expiration. The ambiguity of land tenure will also impact the mortgage value of land, as a rapidly approaching tenure data will impact the ability of the firm to use land as collateral. To measure this component of land tenure security, we asked firms to simply record how much time was left on their LURCs. Firms operating on household property have unlimited tenure, according to Article 66 of the current Land Law. For calculation purposes, we estimated their tenure to be 150 years. To be sure, this indicator favors less developed provinces for two reasons. First, firms in less developed provinces will have only recently received their LURCs, and thus have more time remaining. Secondly, firms in less developed provinces are more likely to operate on household land. Indeed, among the 10 provinces with the lowest average tenure are Dong Nai (52.03 years), Binh Duong (58.03), Hai Phong (60.67), Ba Ria-Vung Tau (60.84), Da Nang (61.25), and HCMC (62.41). Highest tenure durations were recorded in the relatively under-developed provinces of Quang Binh (108.3) and Thai Nguyen (100.9).

Including this measure is appropriate, as while the Land Law apparently provides for easy renewal, few firms have taken advantage of the opportunity, and few provinces appear to have the institutional framework to facilitate LURC renewals.

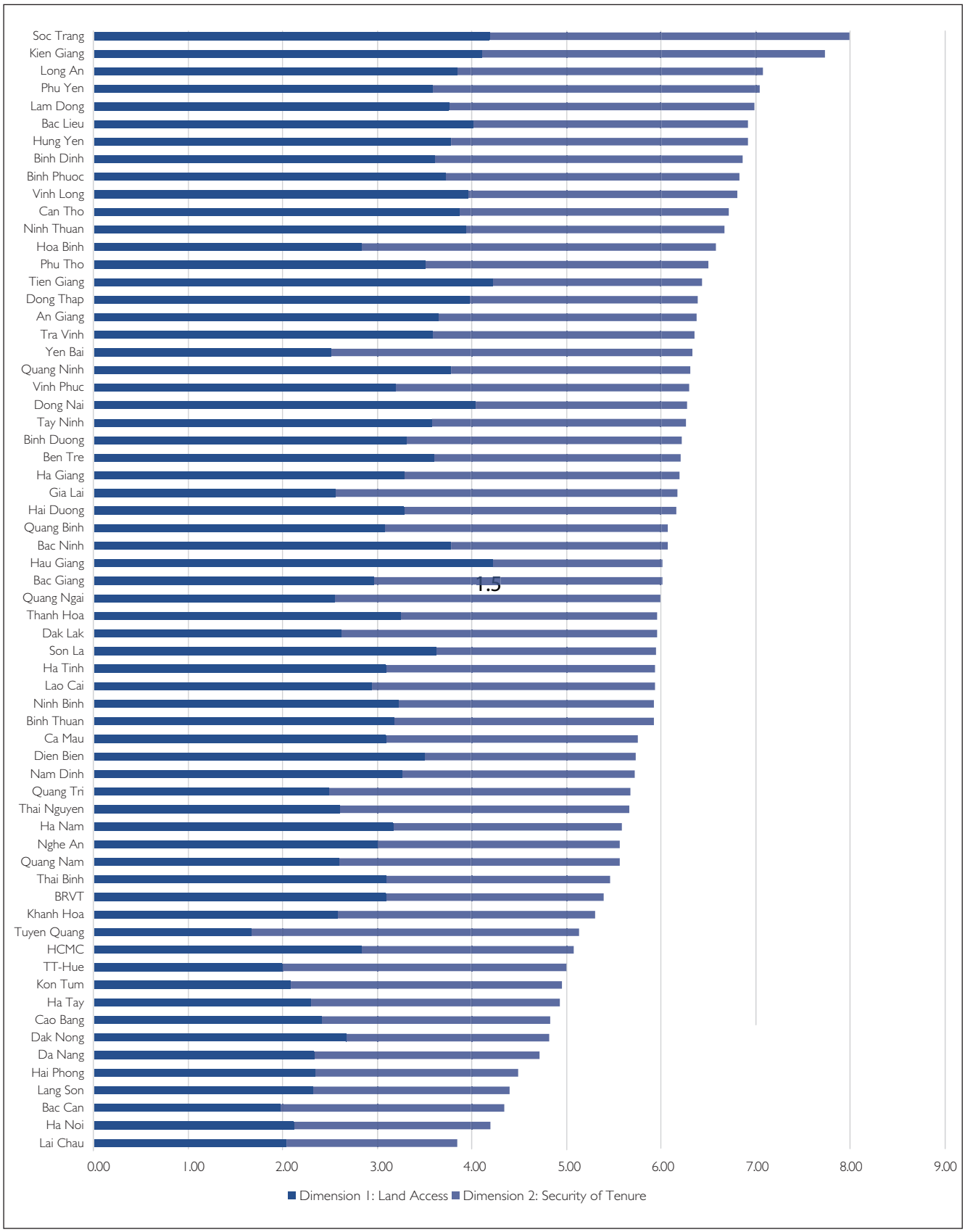
Transparency

Transparency is one of the most crucial factors highlighted by academics and development practitioners in distinguishing between environments that are conducive, or not conducive, to private sector business[32]. Tara Vishwanath and Daniel Kaufman define transparency as:

> the increased flow of timely

32. See 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.

Figure 7: Land Access and Security of Tenure



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[33].

A working measure of transparency should therefore encompass five dimensions: access, equity of information, predictability and openness. The research team attempted to measure transparency according to these attributes by using the nine different indicators, discussed below[34].

Access

The first attribute of transparency is access, defined as the timely dissemination of information. While legally, information on land and provincial planning may be available to all, accessing that information can often be problematic in practice. In the Vietnamese context, this can have a detrimental effect on the growth of the private sector, because firms are not positioned to take advantage of expensive 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 operate successfully for several years, only to find itself on the wrong side of the law, simply out of ignorance. In most cases, such ignorance will cost the firm little, but there is always the potential for an unscrupulous official to exploit asymmetric information about the legal code to his/her advantage. Conversely, a firm may be eligible for savings, investment opportunities or tax refunds, but never takes advantage of these because it is unaware of these benefits.

In 2006, the research team followed the approach adopted in PCI 2005 to measure access to information. A list of the 13 provincial documents regarded as most vital to business operations was given to each firm. They were then asked to rate their access to these documents, on a scale ranging from 'very easy' to 'impossible'. A factor analysis procedure led to the same two general baskets of business documents that were discovered in PCI 2005 (the factor loadings are shown in Table 4).

- Access to Provincial Planning Documents (Factor 1) comprised a firm's evaluation of its access to the Provincial Budget, 10 and 5 Year Master Plans, Annual Socio-Economic Plans and Infrastructure Development

Table 4: Factor Analysis of Planning and Legal Documents

	Planning	Legal
10 and 5 Year Master Plans	0.84	0.20
Yearly Planning Documents	0.83	0.25
Provincial Budget	0.76	0.18
Private Sector Action Plans	0.68	0.36
Plans for Infrastructure	0.67	0.43
Central Investment Plans	0.66	0.39
Provincial Investment Incentive Policies	0.53	0.50
Land Use Allocation Maps	0.52	0.45
PCOM Decisions and Circulars	0.43	0.72
Central Decisions and Decrees	0.38	0.71
Implementing Documents	0.33	0.79
Applications for Registration and Land Use	0.25	0.64
Information on Changes in Tax Laws	0.09	0.77
Eigen Value	4.38	3.70
Cumulative Variance Explained	33.73	62.18

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

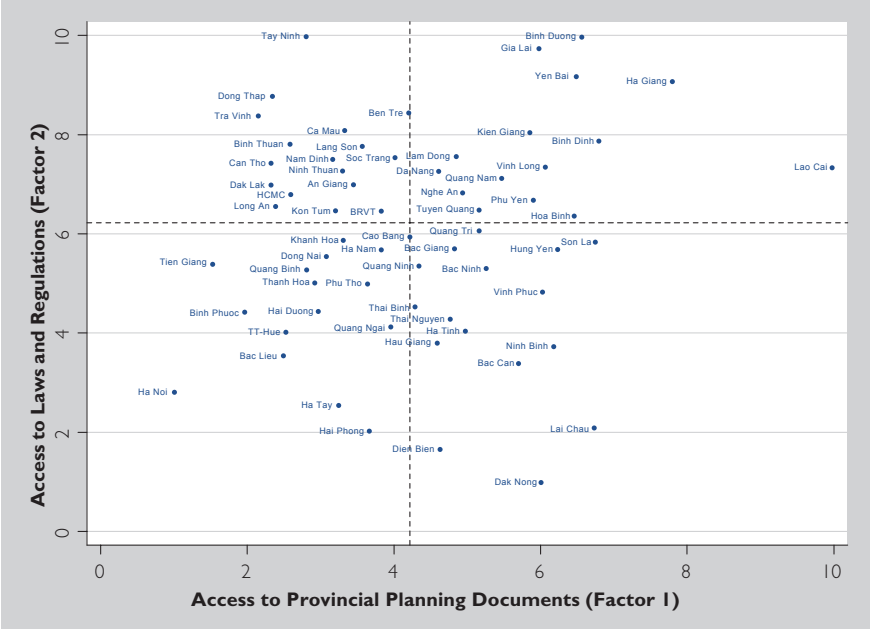
33. See Vishwanath, Tara and Daniel Kaufmann, 1999, 'Towards Transparency and Finance and Governance', World Bank Mimeo found at www.worldbank.org/wbi/governance/pdf/tarawish.pdf.
34. Vishwanath and Kaufman concede, however, that transparency is notoriously difficult to measure, because it deals with agents who are actively trying to hide information. Measuring transparency in Vietnam can be additionally challenging, because the term (minh bach) is not obvious to many respondents. It can take on different meanings across geographical boundaries and across firms with different relations to the provincial government.

Plans, Private Sector Action Plans, Central Investment Plans, and Land Use Allocation Maps.

- Access to Laws and Regulations (Factor 2) comprised a firm's evaluation of its access to central decisions and resolutions, decisions of the Provincial People's Committee applications for registration and land use, and changes in tax information.

Figure 8 graphically illustrates the two factors. Eight provinces are very transparent in both dimensions. These can be seen in the top right hand corner of Figure 8. Provinces with the worst access to legal documents are shown in the bottom left hand corner.

Figure 8: Ease of Access to Planning and Legal Documents
(Lines denote median scores)



Equity and Consistency of Application

While the above two dimensions capture access to official documents, they do not necessarily capture equitable access, which can lead to severe inefficiencies in the use of provincial resources – inefficiencies that represent more than a simple transfer of resources from one party to another. Take, for instance, the issue of provincial planning. The impact of infrastructure and land conversion plans is limited if the details are available to only a select few insiders[35]. One of the reasons this impact may be limited, besides profitable land speculation that has occurred in numerous provinces, is because of the limited transparency of the real estate market. Only a few knowledgeable insiders know the location of future infrastructure projects and industrial zones. These insiders can then profit by buying up the land ahead of time. Other investors in real estate must make large conjectures based on small bits of information, contributing to the blossoming of a land bubble. Firms might only be able to access provincial documents because they are able to exploit connections to provincial government officials. A follow-up question therefore sought to measure different aspects of equitable access in the transparency sub-index. Three variables were used to capture this equity of access:

- *Access dependent on relationship (quan hệ) with provincial government* is an indicator measuring the percentage of firms who felt that having a relationship with someone in the provincial government was 'important' or 'very important' for facilitating access to the above documents.
- *Friends/family important for negotiations with provincial officials:* Many firms rely on an extended network of relations to receive positive judgments from provincial officials, which may not be possible for less connected firms. Researchers measured this question by including an indicator for the percentage of firms who 'agreed' or 'strongly agreed' with the sentence: "friends and family are important for negotiations with provincial officials".
- *The percentage of firms who agreed or strongly agreed that negotiations on tax payments with the tax authority was an essential part of doing business was* used to capture how consistently tax rules were applied across firms in the province. While negotiations are a normal part of tax collection with household businesses, private firms should have a tax code and regularly

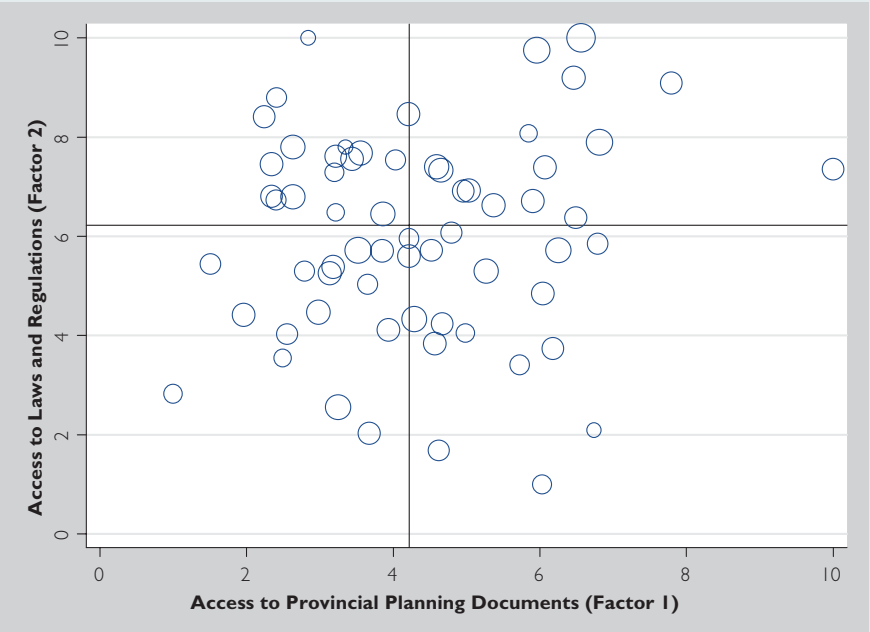
35. The arrests in Phu Quoc island of senior officials in the District People's Committee and People's Council are illustrative of this point. According to Thanh Nien, these officials were arrested for taking bribes to hand over land documents that should have been available legally (Thanh Nien, 8 September, 2004).

submit payments based on value added tax receipts. Nevertheless, a markedly high 77% of firms in the entire sample still feel obligated to negotiate with local tax authorities.

Figure 9 demonstrates the complicated interaction between access to documents and the equity of that access, by weighting the scatter plot above in Figure 9 by the scores of the equity dimension, which has been standardized to a 10 point scale. Binh Duong and Binh Dinh are remarkable for not only demonstrating very high access to both types of documents, but also extremely high equity. On the other hand, provinces like Tay Ninh and Lai Chau have high access to single types of documents, but very low equity, meaning only favored firms are able to receive them. Ha Tay and Hai Phong stand out as provinces with high equity, but universally poor access to all documents. In essence, there is very little discrimination in terms of access to documents – all firms lack the requisite information to run their business. The worst case scenarios are found in Bac Lieu and Hanoi, in the Southwest quadrant, where both equity and access are limited.

Figure 9: Equity of Access to Planning and Legal Documents

(Lines denote median scores; Bubble Size= Score on Equity Dimension of Transparency Index)



Predictability

The third attribute of transparency is predictability, or the notion that provincial laws and regulations are implemented in a manner which would allow firms to forecast, and build new developments into their business plans. Three indicators were used to capture the extent of predictability of implementation. In this context, it was important to capture information as to whether firms understand how provincial decisions are made and how they will be implemented, so that they can correctly understand the direction of long-term strategies and increase their ability to make informed investment decisions. Predictability was assessed based on the percentage of firms answering 'always' or 'usually' to the following two questions:

- How predictable is the implementation of central rules, laws and regulations which materially affect your business at the provincial level?
- How often do provincial leaders discuss changes in laws with your firm?

In PCI 2006, a new indicator was added to the predictability dimension of transparency in order to capture the fact that several provinces have made significant efforts to better provide information on regulatory changes to firms. Examples include Binh Duong's provision to all firms of a compact disc that contains copies of all relevant national legal documents and provincial implementing documents from the previous year.

Vinh Phuc's solution is less high-tech, but of a similar spirit. Firms in this province are provided with a binder containing paper copies of all relevant regulatory documents[36]. To capture innovative efforts at the provincial level, firms were asked to rank, on a six-point scale, measuring consultation on regulatory information. Da Nang and Binh Dinh ranked at the top of this indicator, with about 60% of firms ranking such services as 'high' or 'very high'. Not surprisingly,

36. Malesky, Edmund and Dau Anh Tuan, 2005. Provincial Economic Governance in Vietnam: Best Practices. Hanoi: The Asia Foundation & Vietnam Chamber of Commerce and Industry.

Binh Duong and Vinh Phuc were among the top ranked provinces as well, with about 53 % firms positive about consultations on regulatory information. At the other end of the spectrum were Ca Mau and Dak Nong, where only about a quarter of firms were satisfied with consultations on regulatory information.

Openness

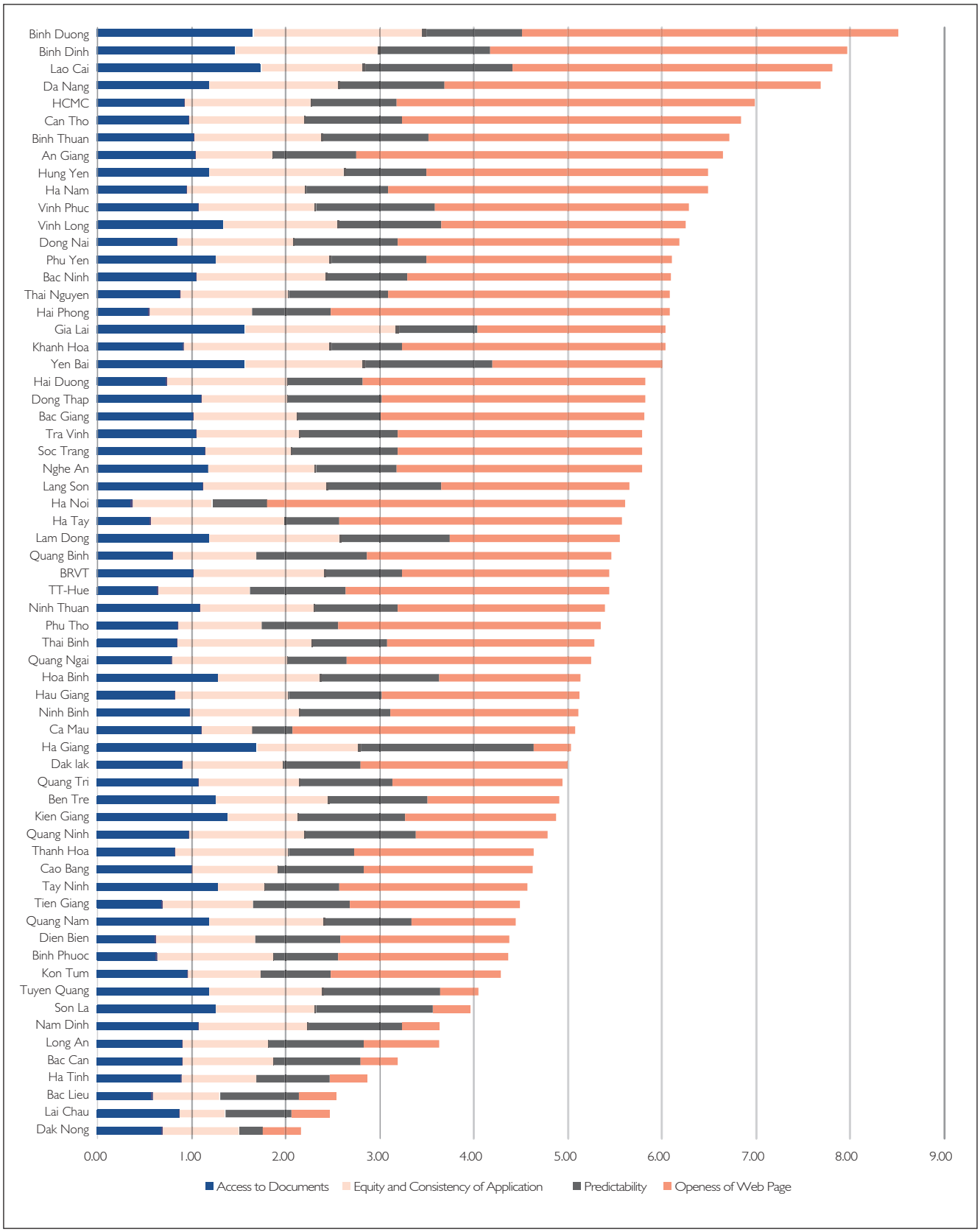
A measure of openness was created by assessing the provincial web-pages of every province, to assess the business information available to firms. The PCI 2006 ranking was revised to afford a better assessment on the actual openness of information in the province. A province simply received one point for all of the different types of information listed in table 5 beside. Together, these elements total 15. Because self-reported hits on a website is prone to error, we use the Google "Alexa" ranking of the most clicked-on and linked-to websites, as our measure of how important the website is in the provincial business environment[37]. The final index is worth 20 points. Six provinces (Binh Duong, Da Nang, An Giang, Binh Dinh, HCMC, and Hanoi) received scores of 17 or better. Nine provinces received zero scores because their websites did not exist or were inaccessible.

Table 5: PCI 2006 Scoring System for Provincial Websites

Criteria	Points
Province has website?	1
Website includes map of province	1
Information on actual infrastructure/project planning	1
Statistics on province's size/weather/human resources	1
Incentive Policy to attract Investment (domestic)	1
Incentive Policy to attract Investment (foreign)	1
Information on Industrial Zones/Industrial Concentration	1
Statistics on existing Investors	1
Business/Economic information districts within provinces	1
Information on specialized provinces endowments/capacity	1
Reports on Provincial economic achievements	1
Application for Registration/ Incentive, land use	1
Contact Info for relevant authorities	1
Information on obtaining VAT receipts	1
Other (Something special that firms may need for business)	1
Sub-Total	15
Google Alexa Ranking	0-200,000 = 5 200,001-400,000= 4 400,000-600,000 =3 600,000-800,000= 2 800,000+ = 1
Possible Points	**20**

37. http://developers.evrsoft.com/find-traffic-rank.shtml. Our thanks to An Giang's People's Committee for suggesting this procedure.

Figure 10: Transparency Sub-Index Score



Time Costs and Regulatory Compliance

The study of transaction costs in time has been an important element of the economic transition literature[38]. The old maxim that 'time is money' is particularly relevant in Vietnam's provinces. Firm managers are often distracted away from their business operations in order to attend to mundane bureaucratic problems – time that could be more productively spent managing the operations of the company. The survey considered two dimensions of time costs, which are weighted equally: Bureaucratic Procedures and Time Lost to Inspections.

Bureaucratic Procedures:

Two indicators were selected:

- What percentage of management's time is spent dealing with bureaucratic procedures and paperwork? This question was given to firms in the form of a five-point Likert scale. The indicator is taken from the number of firms who answered three or above, essentially capturing the percentage of firms who spend over 10% of their time dealing with government-required paperwork.
- Have the above 'time taxes' been reduced since the Enterprise Law? This indicator measures the progress provinces have made since the law was introduced in 2000.

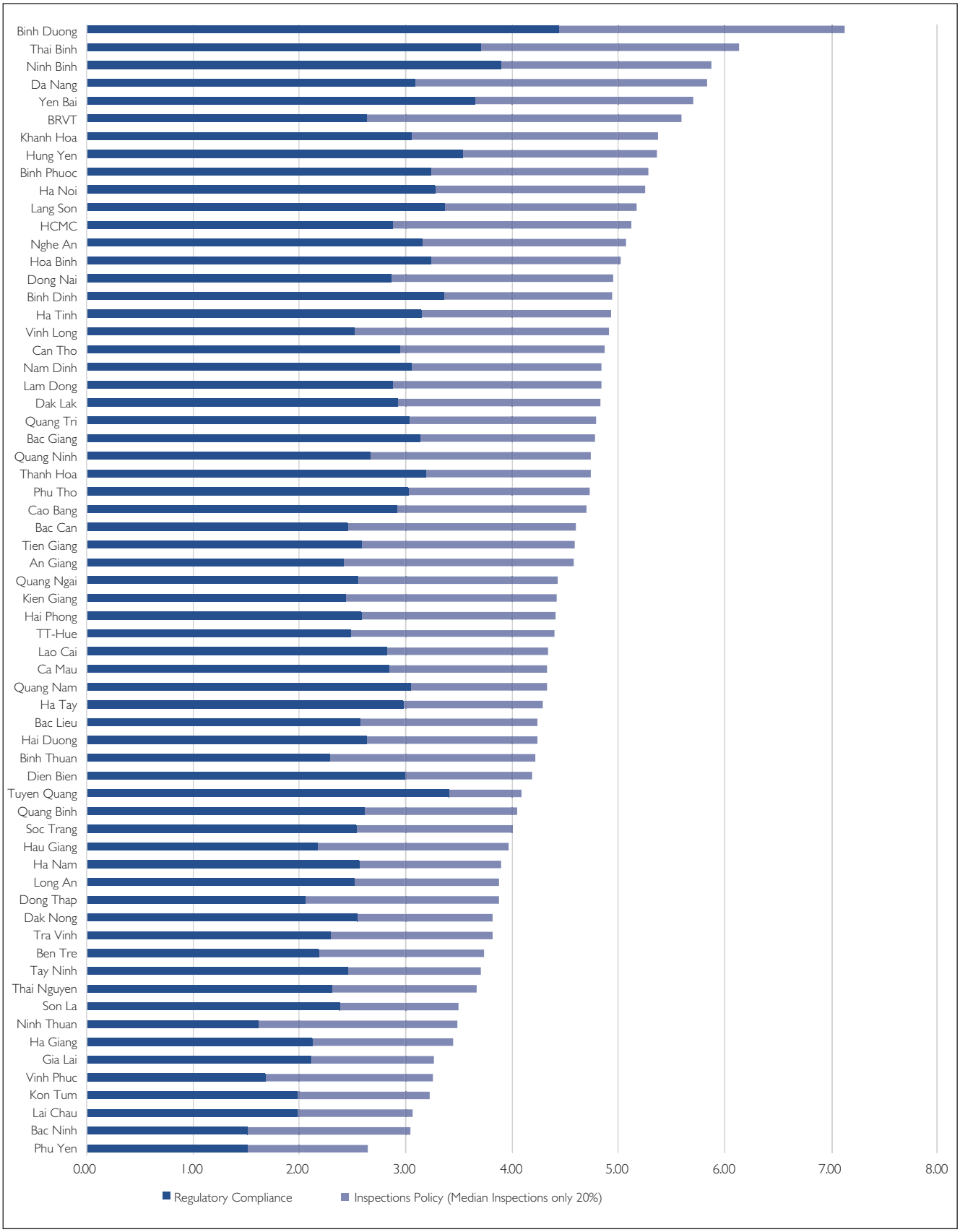
Inspections Policy

A common complaint from private firms in the post-Enterprise Law environment is that inspections policy remains a burden. Local agencies are said to inspect too often, and their inspections last too long[39]. To some extent, inspections policy is a necessary evil, especially as Vietnam moves to a fully regulatory system[40]. As more and more environmental, health and safety licenses are removed at the onset of business activities, the responsibility shifts to regulatory agencies to ensure that these standards are continually met by private firms. Nevertheless, the challenge is to manage these regulatory responsibilities without expensive and costly intervention.

- *How many inspections a year must firms endure?* According to present Vietnamese law, no firm may receive more than two visits from any agency per year. In fact, the median number of inspections does not exceed two for any province, and the vast majority of provinces average only one inspection. Because of this very positive finding, median inspections was reduced to only a 20% weight of the final inspections dimension.
- *Firms believing inspection policy has improved since the passage of the Enterprise Law:* The second indicator for inspection captures the percentage of firms who felt inspection policy had improved since the passage of the Enterprise Law. While new implementing documents potentially lowered the number of inspections, new burdens placed on regulatory agencies create additional incentives to increase inspections.
- *Median length of tax inspections:* Some provinces have begun to make up for the lower absolute number of inspections by increasing their duration. Therefore, the third indicator records the total number of hours it took to complete tax inspections. Indeed, twelve provinces had median tax inspections lasting over 16 hours, and Kon Tum suffered median tax inspections of 40 hours. Firms universally considered tax inspections to be the most burdensome, with many firms only filling out answers related to tax inspections. Tax inspections were the shortest in Tra Vinh province, lasting only one hour. There is some confusion about the role of the tax authority, as in some provinces tax authority officers are sent to small businesses to take a cursory look at their books and offer assistance with new tax policies. These visits are not technically 'inspections', but firms often had trouble distinguishing them from true inspections. The survey instrument was very careful to distinguish between these voluntary visits and formal inspections.

38. 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.
39. Central Institute for Economic Management, 2003, 'The Enterprise Law's Enforcement: Achievements, Challenges, and Solutions', unpublished mimeo to inform government policy.
40. Though Vietnamese authorities often distinguish between kiem tra (short-term control visits) and thanh tra (when local authorities are called in due to suspected problems), in practice there is simply too much overlap to separate them. This survey considers them together.

Figure 11: Time Costs of Regulatory Compliance and Inspection Sub-Index



Informal Charges

This section analyses the amount that firms pay in fees, fines and extraordinary payments, as a normal part of doing business. This group of five indicators measures the extent of the problem by gauging the frequency, type and amount of extra-payments:

- *The percentage of firms who believe that extra payments are an obstacle* is used as a simple measure of the scope of extra payments in the sample.
- *The percentage of firms who felt that enterprises in their line of business were 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 behavior with bribes – thereby increasing the response rate substantially. Almost two-thirds (62%) of firms in the entire sample believed such payments were normal. Such payments were most common in Ha Tay (85% of firms) and least common in Hau Giang and Ben Tre (54%).
- *The percentage of firms paying over 10% of their revenue in extra payments* is used to measure the scale of extra payments. To make sure this result was not an artifact of some of the 936 firms (14.8% of the sample) who did not answer the question, two diagnostic checks were performed. First, a test was undertaken to ensure that the percentage of non-responses in each province was unrelated to firm scores (percentage missing correlates with the amount paid at -0.1, which is not significantly different from 0). Secondly, missing data was imputed using a program known as NORM[41]. This procedure imputes an expected score for a firm, given its answers to all other questions, including descriptive characteristics, as well as other measures of governance. The imputation procedure raised average scores for all provinces by about 2%, but no provinces were affected dramatically by the operations. As a result, the researchers felt comfortable using the non-imputed data in the analysis.

New Indicators used in PCI 2006:

- *Officials use compliance with local regulations to extract rents*: The percentage of firms agreeing with this statement was used as a new indicator of corruption, because of the added nuance it provided on the business environment. Bribery is of course an issue, but when new barriers to business are erected to generate rents for corrupt officials, the effects can be pernicious. A third (33.5%) of firms in the entire sample agreed or strongly agreed with the statement. However, the degree of provincial variance was quite stark: 77% of firms in Hanoi agreed with the statement, as opposed to only 23% in neighboring Hung Yen.
- *Informal charges delivered expected results*: Field testing of the survey revealed that some firms believed informal charges were beneficial, if they: expedited bureaucratic procedures, were predictable, and delivered the expected results. In fact, it is possible that firms voluntarily supplement provincial fees. Such behavior is premised on the notion that firms get what they pay for. As a result, we asked firms if their informal payments provided the expected results, in terms of expedited services. Thirty-eight percent of firms in the entire sample agreed with the statement. Ben Tre, which has the lowest levels of firms paying informal charges, also had the highest score on this indicator, with 66% of firms agreeing that their payments delivered the expected results. We can conclude therefore that such fees are highly effective because of their rarity – a potentially dangerous situation that Ben Tre would be wise to address. By sharp contrast, only 21% of firms in Phu Yen received the expected results after supplementing their expenses with informal charges; indicating the inefficiency of such payments in that province.

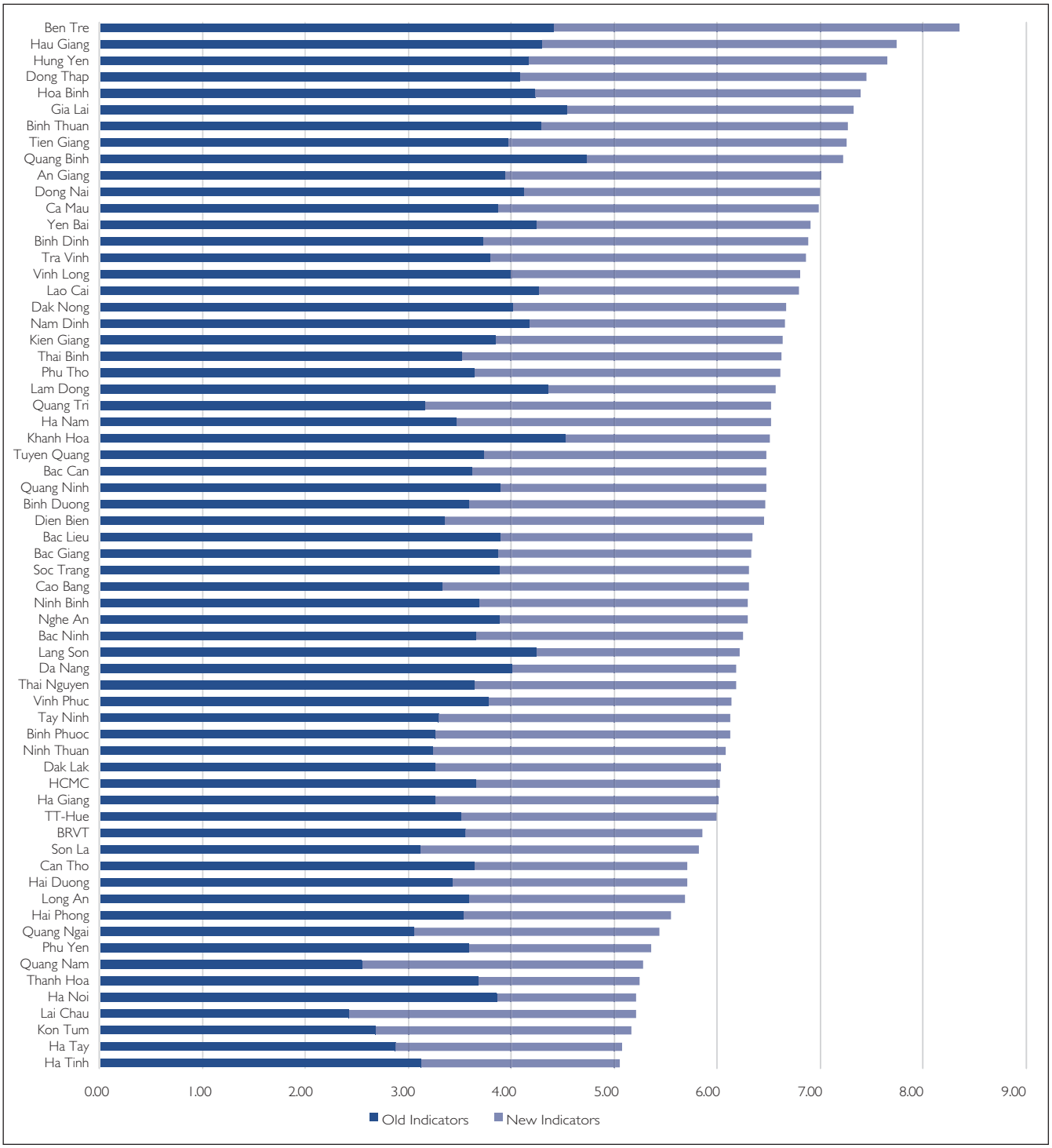
Dropped Indicators:

Two indicators used in PCI 2005 were dropped for PCI 2006, in order to offer the fairest possible sub-index to all provinces.

- *Macro-corruption: Are commissions paid to provincial officials as a normal activity in bidding for government contracts*? This indicator was too heavily correlated with the size and sector of businesses clustered in provinces and not with provincial governance. Smaller firms and service-sector oriented companies were unlikely to agree to this question. The major source of

41. Schafer, J.L. 1997. Analysis of Incomplete Multivariate Data. London: Chapman & Hall. A free version of this software can be obtained at http://www.stat.psu.edu/~jls/misoftwa.html

Figure 12: Informal Charges Sub-Index



commissions on bidding was among construction firms.

- *Extra fees to tax inspectors as a percentage of annual revenue*. This question was dropped, due to concerns about the validity of the data. Results of this question should have been correlated strongly with other measures of informal charges, particularly the percentage of revenue paid in informal charges. When this quality test failed, the indicator was abandoned.

State Owned Enterprises Bias and Competition Environment

State Sector favoritism is a measure of the bias of provincial governments toward SOEs, notably in terms of incentives, policy and access to capital. In essence, do private firms feel that they face a fair and balanced environment, or must they overcome a bias toward the state in the form of special advantages or soft budget constraints? State sector bias does not necessarily include direct competition in the same product or service; it may also include assistance in competition for skilled labor, land or credit. Some provinces have stated explicitly that their primary goal is to promote large state-owned champions as the primary engine of growth[42]. Others may not have such an explicit bias, but instead have an institutional incentive to promote SOEs, because of the high employment or revenue they generate for the province. Indeed, a recent VNCI study by Nguyen Van Thang, using PCI 2005 data, concluded that, "the density of SOEs (in a province) has a negative impact on the private sector's access to key resources (land and bank loans) and markets, and a negative influence on the private sector's growth, in terms of the number of firms and employment" (see the box below)[43].

SOE bias indicators were divided into six indicators from firm's perceptions, and three 'hard' data indicators.

Perceptions Indicators

All of these perception indicators are based on 5-point scales, asking how strongly firms agree or disagree with a statement. The percentage of firms answering 'agree' or 'strongly agree' were used for each indicator

- *Favoritism toward SOEs* seeks to measure the percentage of firms who agree that there is a bias in decision-making on the part of provincial officials.
- *Attitude toward private sector* captures the percentage of firms who agree that the attitude of the provincial government toward the private sector is positive.
- *Attitude has improved since Enterprise Law* is a more dynamic question, measuring whether firms agree that attitudes have improved since 2000.
- *Attitude depends on contribution* probes whether firms agree that biases in provincial policies were determined, not by ownership, but instead by results from a bias toward a specific set of revenue or labor-producing firms, regardless of their ownership. This variable is intended to capture whether administrations are biasing the playing field in favor of provincial champions and raising entry barriers to possible competitors.
- *Equitization policy*: Firms were asked to rank their perception of provincial equitization (the Vietnamese variant of privatization) of locally managed SOEs, on a five-point scale. The mean score was taken as the indicator. This measure demonstrates whether the leadership has made a concerted effort to reduce the number of local SOEs, thereby promoting private sector competition.
- *Bias toward equitized firms* takes the previous equitization question one step further by asking whether, despite wide-ranging equitization, state favoritism persists, allowing special privileges to continue for equitized firms. (Recent anecdotal evidence has suggested that connections between former general managers of local SOEs and provincial leaders led to equitized companies being favored in public procurement contracts.)

Hard Indicators

- *Average proportion of bank loans to the SOE sector*: One of the largest constraints on private business performance in the provinces has been the individual subsidies given to the state-owned sector through the banking system. A provincial bias in favor of the state sector not only limits private capital access, but also leads to crowding-out of private firms in areas where they must compete directly against the state sector. Originally, one of the key sources of state sector bias was a collateral requirement on loans to the private sector, whereas no collateral was required to loan to the state sector. Decree 73 changed this requirement in 1999 by allowing banks to lend to the private sector without collateral. In addition, Decree 178 removed the rule that private clients could only borrow up to a ceiling of 70% of their collateral. Nevertheless, there continues to be somewhat of an institutional bias to grant loans to the state

42. Malesky, Edmund, 2004, 'Entrepreneurs on the Periphery: A Study of Private Sector Development in Beyond the High Performing Cities and Provinces of Vietnam'. MPDF Private Sector Discussion Series, Number 18, Vietnam.
43. Nguyen Van Thang, 'Is The Development of State-Owned Enterprises (SOEs) Crowding Out The Private Sector? Evidence from the PCI Survey,' (Hanoi: Vietnam Competitiveness Initiative, August 2005).

Box 1. Do SOEs Crowd out Private Sector Development at the Provincial Level?

Using PCI 2005 data, VNCI researcher Nguyen Van Thang sought to determine whether the presence of state-owned enterprises (SOEs) is serving to constrain – or 'crowd out' – the development of private sector firms in Vietnam, and if so, what is the relative extent and economic impact of this crowding out phenomenon in each province.

Four specific questions were posed by this study. The first was: how does the density of SOEs in a province influence the local government's attitude towards them and the private sector? As one might expect, the results suggest that the greater the density of SOEs presence in a province, the more they enjoy favoritism, and the less positive is the local government's attitude towards private companies.

The second question posed was: how does the density of SOEs in a province affect the private sector's access to: i) key resources (such as finance and land); and ii) customers. The results suggest that the greater the density of SOEs in a province, the lower is the proportion of bank loans that go to private companies. Also, the greater the density of SOEs in a province, the longer it takes for private firms to get land use right certificates (LURs). And the greater the density of SOEs in a province is, the more dependent private companies are on state enterprises as customers.

The third question posed was: how does the density and growth rate of SOEs affect private sector development? In terms of SOE density, the higher the density, the greater the growth rate in the number of private firms, which may be attributed in large part to the on-going equitization process. But there is a negative correlation between: i) SOE growth, and ii) private sector growth; with the latter being lower if the former is higher.

The final question was: how does the density and growth rate of SOEs impact on a province's economic performance, and how does private sector growth impact on a province's performance? The study found that the greater the density of SOEs, the lower the GDP (and GDP per capita) growth in a province. SOE sector growth had relatively little impact on provinces' economic performance, but private sector growth had a marked and positive impact on provincial GDP growth.

From these results it was concluded that private sector development tends to have a more positive contribution to a province's overall economic performance than the SOE sector. After taking some initial conditions (such as a province's level of development, its degree of urbanization, geographic location, etc.) into consideration, those provinces hosting a higher density of SOEs tend to have a lower GDP growth rate.

Further, the evidence suggests that the presence of SOEs does 'crowd out' private companies, with the latter finding it more difficult to access key inputs (such as finance and land) and customers in provinces where the presence of SOEs is more pronounced. Indeed, the study suggests that private sector growth is negatively correlated to SOE sector growth. Or put another way, provinces cannot promote growth in both the state and private sector simultaneously.

sector. Bankers in state-owned commercial banks tend to believe that lending to the state sector is a safer bet. A default from a private sector client can cost a state banker his career (or even criminal prosecution), while a state sector default can be excused as a service to the country or province. Over time, the banking environment has improved for private sector clients in many provinces. But in others there continues to be a significant disparity.

To measure whether both central and local SOEs were privileged with soft budget constraints at the provincial level, the research team collected 2,000 lending data from all four state-owned commercial banks in 2005. As Standard and Poor's pointed out in a recent study of Vietnam's banking sector, such lending is risky and ineffective, as SOEs are provided with soft loans without any guarantee. As result, these loans can be considered an implicit subsidy to SOEs in the province[44]. Loans to firms in IZs within the province were considered along with loans to firms outside the zones. The average percentage across all banks over the time period considered was taken as the indicator. State sector lending was determined to be the lowest in Bac Lieu, Tra Vinh, Tay Ninh, and Hung Yen (all under 2%) and highest in Quang Ninh (71%) and Ha Noi (54.3%).

- *Change in the number of local SOEs:* The Statistical Handbook of the General Statistical Office (GSO) reveals that the equitization process did not begin in earnest in all provinces until 1997. To maintain a consistent source, the research team calculated the decline in locally-managed SOEs between 2000 and 2004, using GSO census data. The year 2000, rather than 1997, was used because this was the first year of the GSO census. A decision to use this number, rather than the simple number of equitizations, was chosen because the decline also captured the number of firms that were liquidated, closed due to poor performance, or were merged with other enterprises. Hai Duong, Lai Chau, Nam Dinh, and Ha Nam all recorded a 60% or larger reduction in the number of locally-managed SOEs.

- *The ratio of local SOE share of outstanding liabilities to their share of the provincial economy.* This final SOE indicator is designed to capture disproportionate lending to the state sector (i.e. to identify those provinces lending large amounts of funding to inefficient and unproductive SOEs). The formula cited below will deliver a score greater than one if the state-sector's share of outstanding liabilities exceeds the state-sector's share of the local economy, and less than one in the opposite case.

$$\text{Ratio} = \frac{\dfrac{\text{Loans}_{LSOE}}{\text{Loans}_{Prov}}}{\dfrac{\text{PGDP}_{LSOE}}{\text{PGDP}_{Prov}}}$$

Loans is outstanding liabilities, as measured by the most recent GSO Enterprise Census. PGDP is the provincial GDP, as proxied by total enterprise revenue in the same census. In each case the subscripts LSOE and Prov represent data for Local State-Owned Enterprises (LSOEs) and the total province (Prov) respectively. Given the higher productivity of investment in the private sector (as measured by returns on investment, employment creation, etc.) it would be a desirable situation to see more provinces with ratio scores less than one. Unfortunately, only 10 of the 64 provinces surveyed had a ratio of less than one. The highest ratios were in Vinh Phuc (4.13), BR-VT (3.25), Dak Nong (2.68) and Ninh Binh (2.33).

Pro-activity of Provincial Leadership

Regulatory ambiguity is a standard challenge of doing business in Vietnam, and is often the result of unclear wording in legal documents, long delays in implementing officials documents of various kinds, contradictions between implementing documents (circulars, directives, official letters and People's Committee decisions), and even between central laws themselves. Indeed, for some industry segments that are new to Vietnam, there is a lack of any clear legal regime. In this context, when business projects are delayed because of legal ambiguity, the choices of the provincial government can make a large difference in the success of the business venture. Provincial officials may cost businesses considerable time and money by forcing them to wait until the ambiguity is cleared up, by subsequently implementing documents, or by appealling to central authorities for a ruling. A few provinces may even use these uncertainties as an entry barrier to

44. Mai Anh. 2005. 'Vietnam's Banking Sector Remains Weak on a Global Scale: Standard and Poor'. Vietnam Business Forum. June 21.

Figure 13: SOEs Bias and Competition Environment Sub-Index

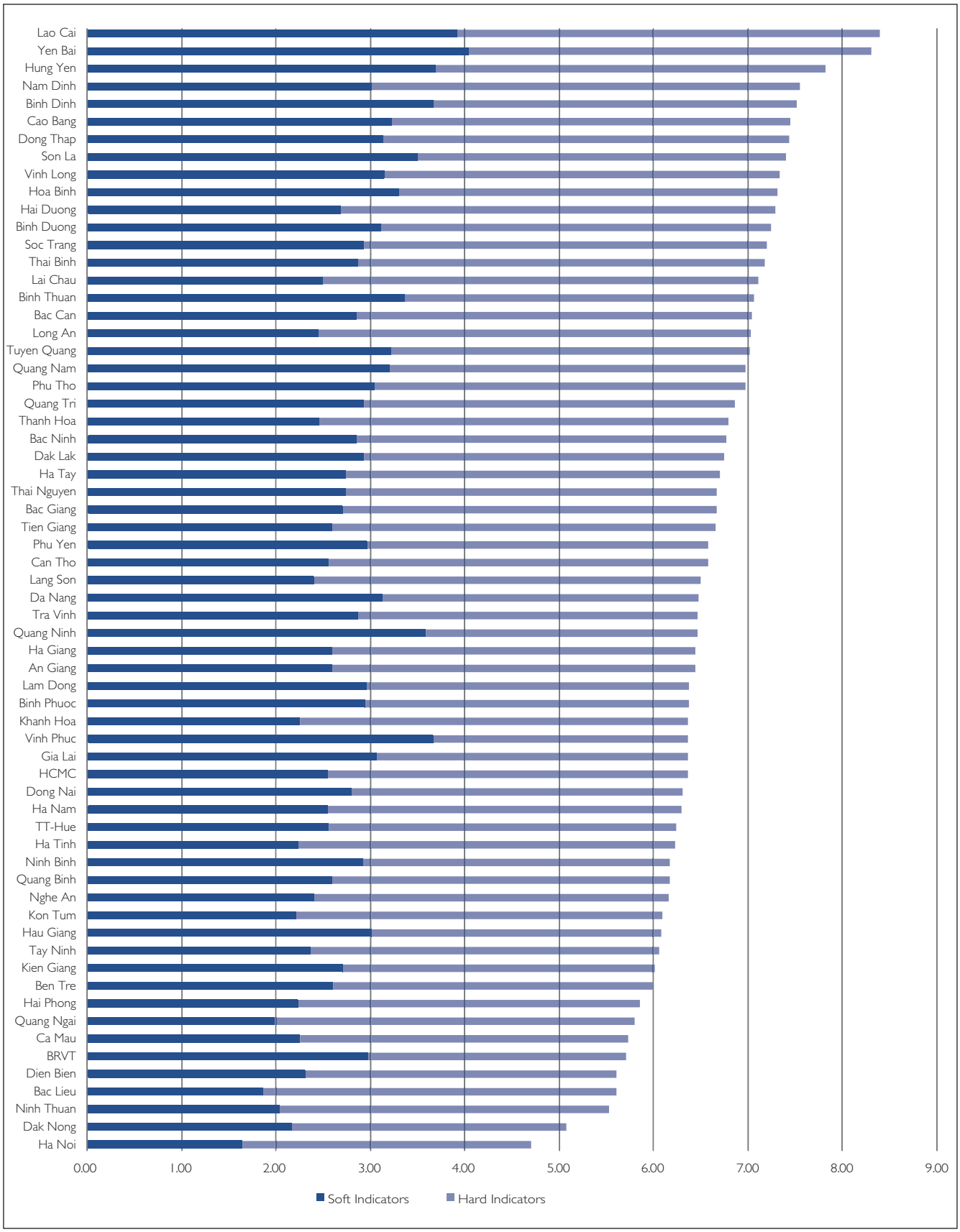
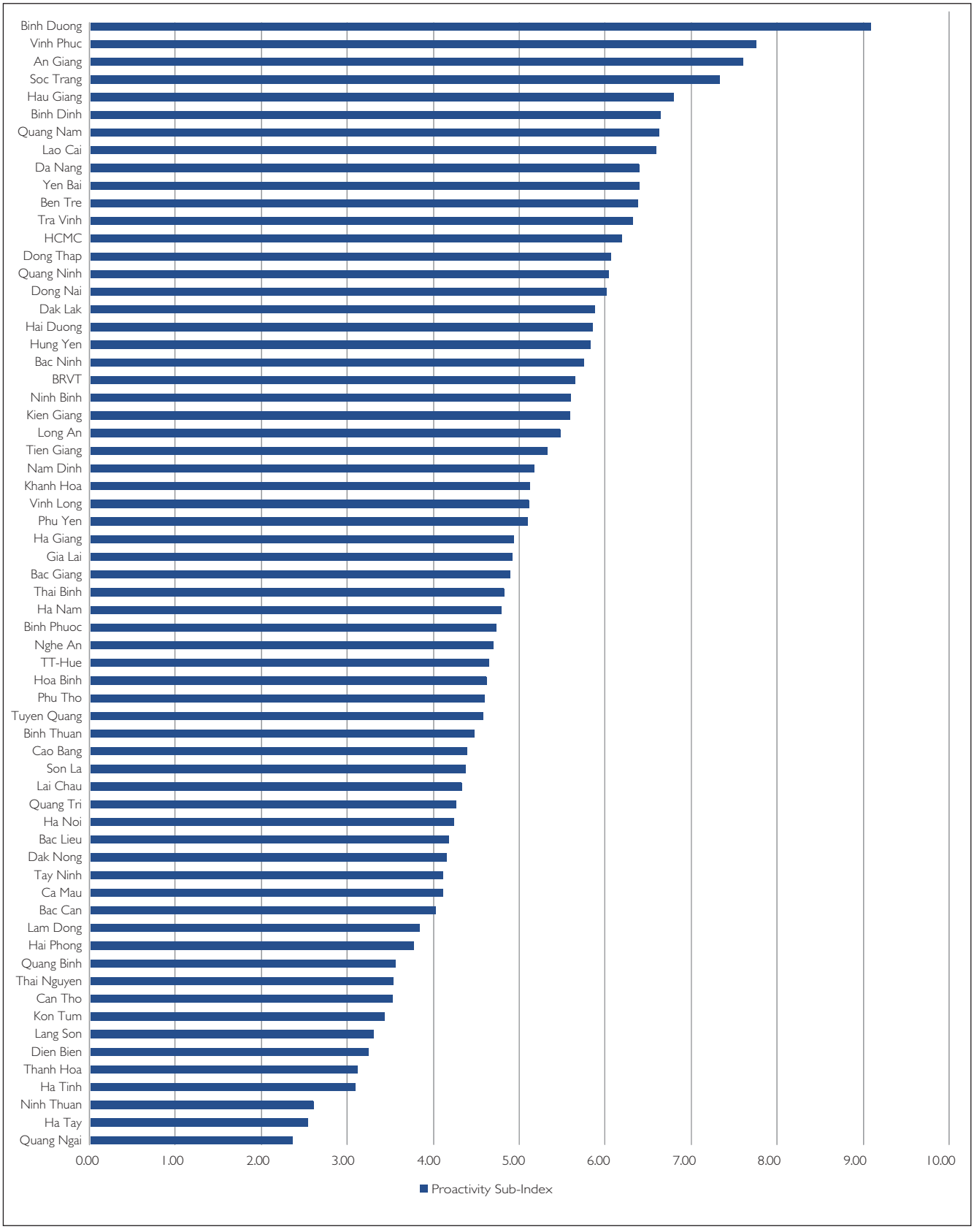


Figure 14: Proactivity Sub-Index



firms that might offer competition to their local champions. In these cases, provinces that are creative and flexible about working within the confines of central law can be of major assistance to private sector firms. Similarly, provinces that have a knack for crafting proactive provincial initiatives to solve the problems of private firms can have a positive impact on private sector development.

Four indicators determined the extent of provincial dynamism, by recording the percentage of firms who agree or strongly agree with the following statements:

- *Provincial officials are knowledgeable enough about present national law to find opportunities within the existing law to solve firm problems.* This indicator captures how well the provincial leadership operates within the existing legal framework. Binh Duong, Hau Giang, Lao Cai, Vinh Phuc Ben Tre, and An Giang provinces all had 90% of their firms agree with this statement. Quang Ngai and Ha Tay, at 52%, and Ha Noi at 57% were the lowest performing provinces in this regard.
- *Provincial officials are creative and clever about working within national law to solve the problems of private sector firms*. This measure records whether the provincial leadership is capable of seeking opportunities or loopholes in the present central law, which may aid firm performance. Binh Duong, Vinh Phuc and Hau Giang had over 83% of firms agree, whereas Kon Tum, Thanh Hoa, and Quang Ngai all had less 43% or less.
- *All good initiatives come from the provincial government, but the center frustrates them.* This indicator seeks to gauge the relationship between provincial and central authorities, and specifically whether the province is more proactive about assisting the private sector than central officials. Binh Duong (62%) and HCMC (57%) ranked at the top, with Quang Nam, Quang Binh, Thai Nguyen, Tuyen Quang (all below 17%) at the rear.
- *There are no good initiatives at the provincial level; all important policy comes from the central government.* The final indicator simply records the percentage of firms who believe that their provincial leadership has nothing to do with new initiatives which aid the private sector, as all important policies are the result of central policy.

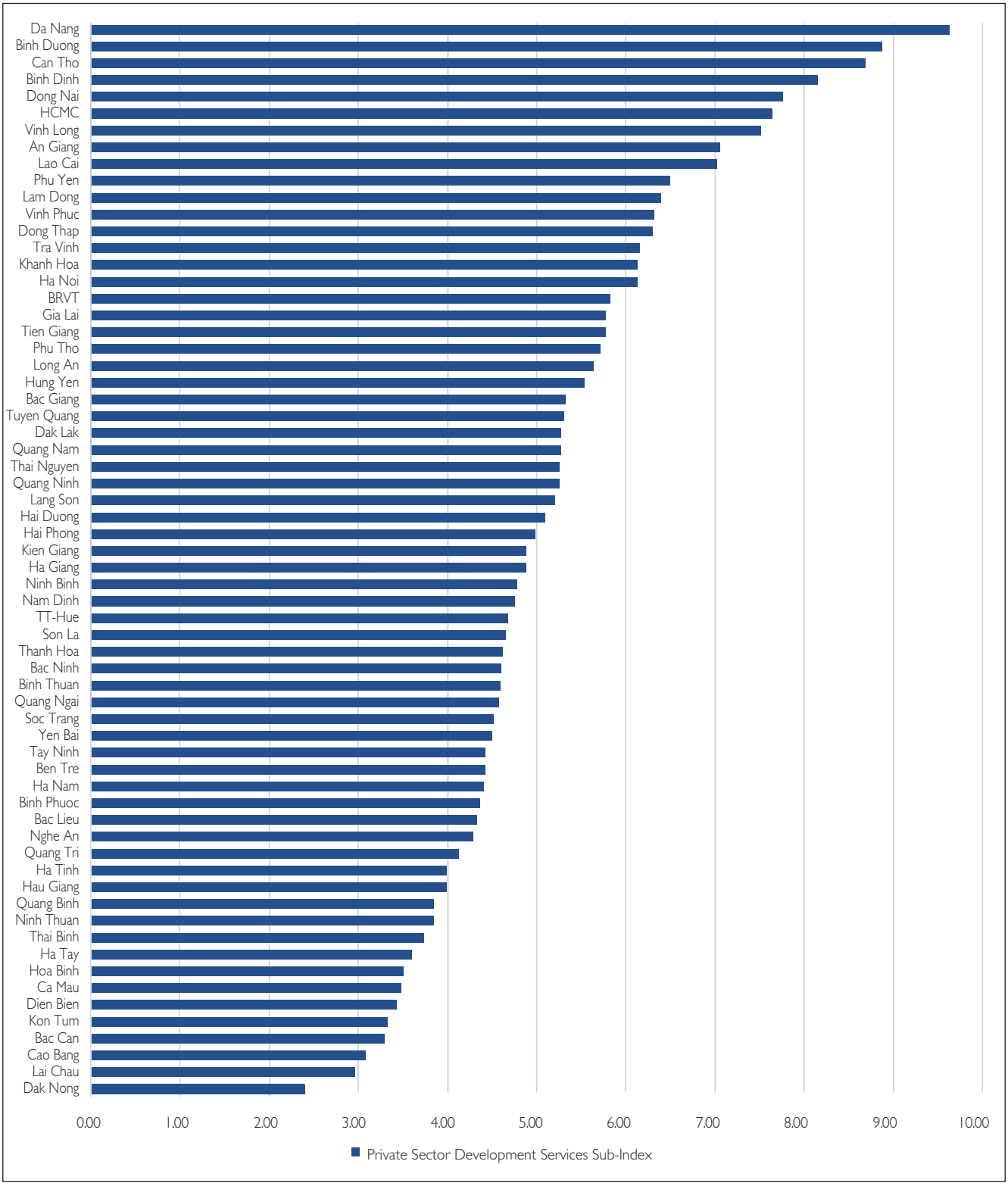
Private Sector Development Services

The eighth sub-index goes one step further than the Proactivity Sub-Index, by seeking to gauge the extent to which specific provincial initiatives promote private sector development. In a range of surveys of the private sector in Vietnam, firms have listed among their chief obstacles: difficulties in obtaining information on overseas and domestic markets, difficulties in understanding new changes in regulatory information, and problems finding enough skilled employees to conduct their operations. This sub-index is comprised of four questions which attempt to measure how well provincial officials are doing in resolving these problems on behalf of firms. Firms were asked to rank their respective province on a five-point scale, measuring how effective they thought their provinces' policies were in the following four areas:

- *Provision of Market Information* through the publication of local pamphlets listing major domestic and overseas buyers for key provincial products.
- *Number of Trade Fairs held by the province* was a 'hard data' indicator, to account for potential perception biases held by firms. Ten provinces held more than four fairs in the last year, topped by Binh Duong and Can Tho with six, and Binh Dinh and Da Nang with five a piece.
- *Matchmaking for business partners* through such activities as the introduction of international exporters to local firms, the identification of suppliers for intermediate goods, and business services for firms unable to locate business partners on their own initiative.
- B*usiness Information* on changes in regulations. High scoring provinces offer assistance to firms drowning in documentation from changes in the legal framework. Some provinces such as Binh Duong offer a CD with all new tax regulations; others such as Binh Dinh offer assistance in the form of consultants from the provincial People's Committee or tax authority, to work directly with firms on-site on compliance with new laws; still others – such as Da Nang – offer workshops on new laws, involving large numbers of firms.

Two new indicators were added to the sub-index this year, as a result

Figure 15: Private Sector Development Services Sub-Index



of discussions with firms about omissions in the PCI 2005.

- *Industrial Zones*: How do firms feel about their provinces' attempts to assist their development by developing industrial zones and smaller industrial concentration, thereby allowing forms to access business premises and improved infrastructure?
- *Technology and Technology Related Services:* This includes informing firms about the efficiency improvements of new technologies in their business areas, as well as basic computer training, which help them access on-line services provided by the province.

One indicator used in this sub-index for PCI 2005 -- Labor Training -- has been built into a Sub-Index of its own (see below). Overall, the highest scoring provinces were the southern provinces of Da Nang, Binh Duong, Can Tho, Binh and Dong Nai. Interestingly, the four lowest provinces were in the rural Northern Uplands and Central Highlands (Cao Bang, Bac Can, Kon Tum, and Dien Bien), which may point to institutional capacity as an issue when seeking to provide such PSD services.

Labor Training Sub-Index

It is commonly stressed that a major challenge confronting Vietnam is to create sufficient jobs for the 1.4 million new job-seekers entering the labor force each and every year[45]. Yet at the same time, one of the most consistent complaints of firms over the past few years has been the low capacity of the workforce and their inability to find and recruit skilled and semi-skilled workers[46]. This dilemma is telling. Vietnam is primarily relying on its private sector to absorb new labor entrants, but the private sector is not willing to simply employ warm bodies; they want employees with the skill to add value to their businesses. As a result, provincial efforts to improve the skills sets of their local labor force are a critical determinant of a successful business environment. Neoclassical economists might argue that firms should invest in their own labor training, and many have. The problem is that once workers are trained, they are often enticed away by other companies, who pay higher wages instead of bearing the 'upfront investment' of training. As a result, there is a collective action problem that can be solved by provinces offering general labor training.

PCI 2005 used a question on labor training in the Private Sector Development Sub-Index. This year, however, we felt that labor training warranted its own separate index. We therefore added two additional questions on labor training, and also included a hard measure of vocational schools and training centers, thus:.

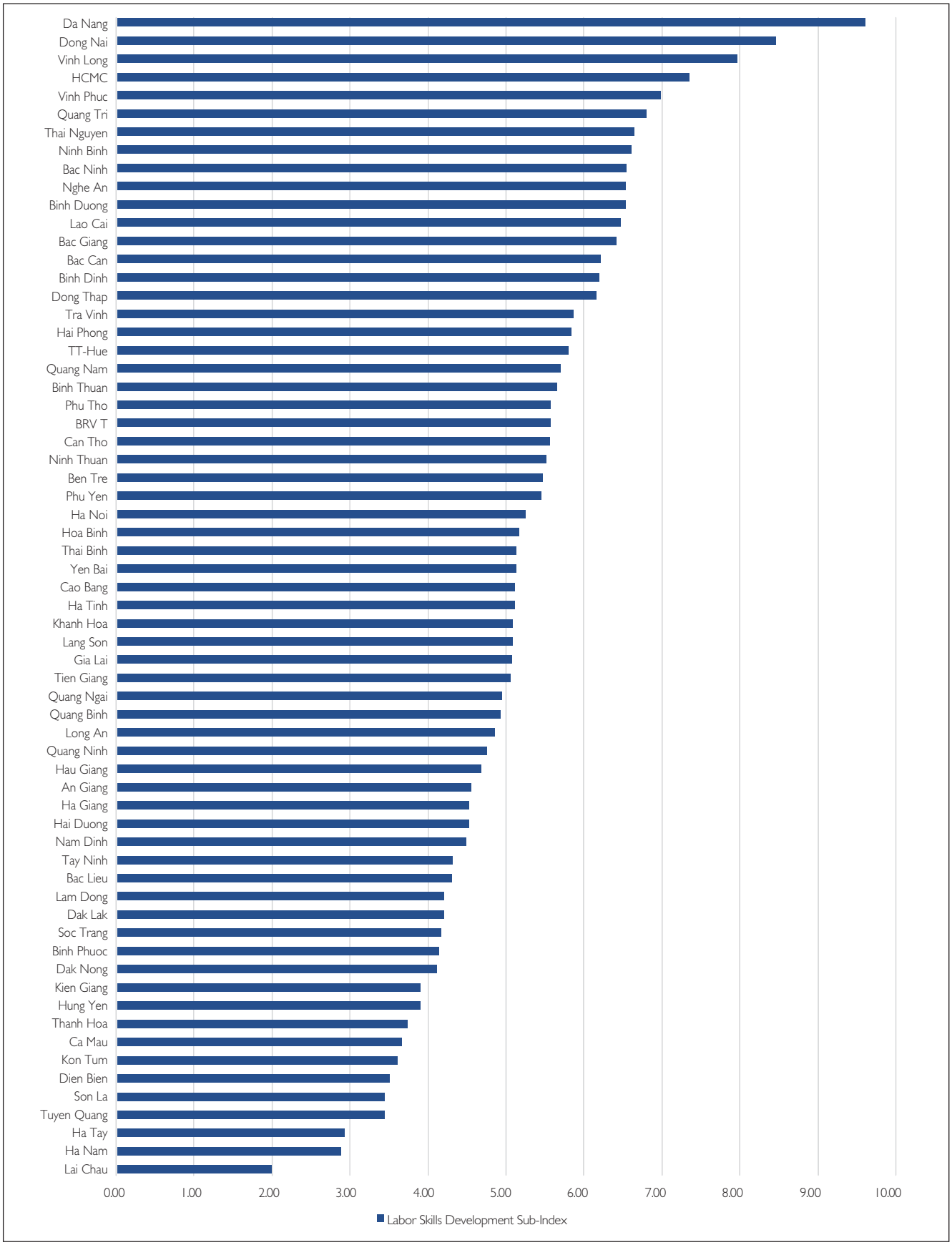
- *The percentage of firms who rate education in their province as 'good' or 'very good'.* This indictor is a baseline measure of firms' perceptions of education standards in the province. After all, many new hires will be coming straight out of the public school program, rather than vocational centers.
- *The percentage of firms who view vocational training in their province as 'good' or 'very good'.* This is a more direct question, narrowing the lens on exactly whether provinces do support labor skills upgrading.
- *The percentage of firms who rate provincial exchange services as 'good' or 'very good':* Exchange services are fairs or agencies which help match employees with firms who make use of their talents. These are crucial for lowering the transaction costs faced by firms when searching for employees on their own.
- *The number of vocational schools per 100,000 provincial citizens is used as the 'hard indicator', to anchor fi'ms' perceptions.* This data, supplied by the General Department of Vocational Training, includes centers and agencies funded from local budgets or privately-funded ventures with licenses to operate in the province. Da Nang had the most extensive set of schools with 2.09, followed by Bac Can (2.03), Dong Nai (1.79), and HCMC (1.57). A better measure might have been the number of citizens who have graduated from such centers in each province, so as to capture the scale of the vocational schools, but such data was not uniformly available.

Overall, Da Nang, Dong Nai, Vinh Long, Vinh Phuc, and HCMC are rated as offering the best labor training activities in the country.

45. United Nations, 2003. "Tap the Energies of Youth" UN Message on International Youth Day, August 12, http://www.un.org.vn/mr/2003/engl/1208youth.htm.

46. Ministry of Labor, Invalids, and Social Affairs, 2006. "Labor and Social Issues Emerging from Vietnam's Accession to the WTO." http://siteresources.worldbank.org.

Figure 16: Labor Training Sub-Index



Legal Institutions

For years, scholars and practitioners alike have stressed legal development and formal modes of dispute resolution as a weak link in Vietnam's economic transformation and development[47]. Strengthening legal institutions and local courts will become even more vital as Vietnam enters the WTO, and there is still much work to do. Most individuals and private firms still opt for informal mechanisms of dispute resolution. For instance, of the 6,500 firms in the PCI survey, only 0.8 % saw courts as their top dispute resolution option, 2.1% saw it as their second best option, and 5.5% saw it as the best tertiary option.

This year we did not expect much variance in the legal institutions index. Most Provincial People's Courts have very little independence in staffing, budgeting, or decision-making from the Central People's Court. Moreover, too few firms are familiar with the courts to allow for sophisticated differentiation. Nevertheless, as Vietnam enacts a host of legal reforms in accordance with its commitments under the Bilateral Trade Agreement (BTA) and WTO, it is important to have an initial measure of the baseline of legal development in the provinces. We use four indicators to create this sub-index.

- *The percentage of firms who 'agree' or 'strongly agree' that they are confident that the provincial legal system will uphold my contract and property rights in business disputes.* This is a straightforward measure of firms' perceptions of the legal environment in their provinces. It is useful, but not a perfect indicator, because most firms have never used the court system and therefore are typically replying based on hear-say. Indeed, it is conceivable that firms who have not used the legal system may be the most likely to respond positively, because they have never tried and failed. Firms in Vinh Phuc and Vinh Long provinces are the most confident, with over 94% of their firms responding positively. Quang Ngai firms are the least confident – only 67% of firms believe the government will uphold their rights. Interestingly, both Ha Noi (67%) and HCMC (71%) were also in the bottom group.

- *The percentage of firms who believe they can always or usually go to a higher authority for redress in dealing with over-zealous inspections or unofficial payments?* This indicator is a measure of whether the local legal system and bureaucracy provides a mechanism for firms to appeal against corrupt behavior on the part of officials. Once again, this is an interesting indicator, but not perfect, because it relies on the fact that firms must have already experienced some type of overzealous behavior.

- *Usage of Legal Institutions.* A third indicator, measuring firms' usage of formal modes of dispute resolution was added to PCI 2006[48]. Firms were asked to rank their top three modes of dispute resolution. As noted above, most firms do not use formal institutions at all, but we developed an intricate ranking system to reward provinces where firms do feel comfortable enough to use these processes. Firms have two primary legal modes to resolve disputes: the Provincial People's Courts, and arbitration through the local administrative apparatus. As the administrative channel opens up possibilities for rent-seeking and selective behavior, it receives only ½ the weight of the courts channel in the measure. The final formula is:

Use of Legal Mechanisms =

6*(% of firms using courts as primary dispute resolution mechanism out of 10 listed)

+4*(% of firms using courts as secondary dispute resolution mechanism)

+2*(% of firms using courts as tertiary dispute resolution mechanism)

+3*(% of firms using provincial government as primary dispute resolution mechanism)

+2*(% of firms using provincial government as secondary dispute resolution mechanism)

+1*(% of firms using provincial government as tertiary dispute resolution mechanism)

Vinh Long and Binh Duong rank at the top, with scores of 209 and 187 respectively. The use of legal institutions is rarest in Ca Mau and Dien Bien, with less than 50 points.

- Actual usage of Provincial People's Courts is a hard data measure that captures how much confidence firms have in the court system, by the most

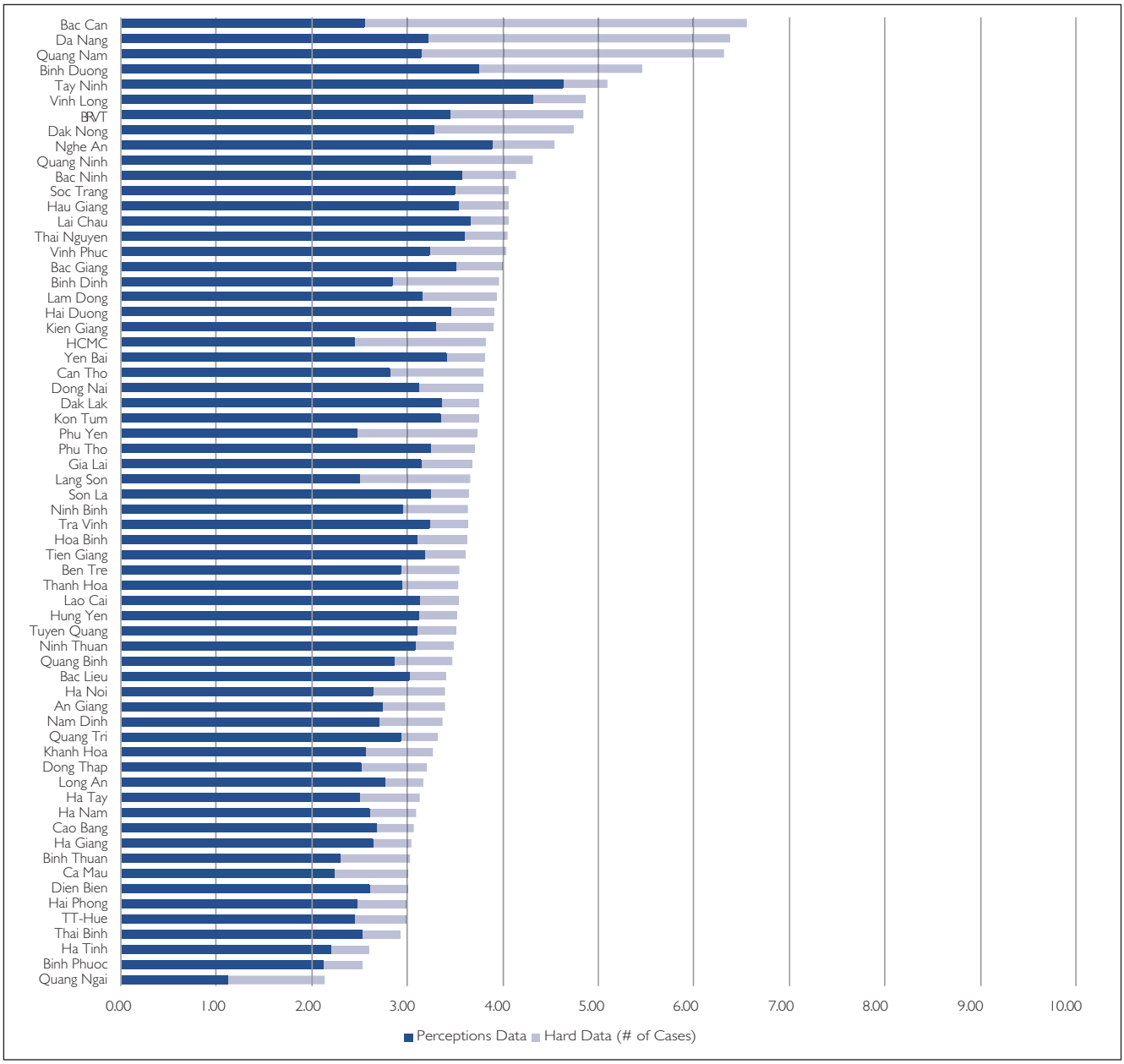
47. Lan Cao and Spencer Weber, 1997. "Law Reform in Vietnam: The Uneven Legacy of Doi Moi," New York University Journal of International Law & Politics Vol. 29, 557-576; AusAid, 2000. "Vietnam: Legal and Judicial Development," Working Paper 3. Hanoi, Vietnam, April; Gillespie, John, 2002. "Continuity and Change in Vietnamese 'Socialist' Legal Thinking." In Law and Governance: Socialist Transforming Vietnam Conference, 1-37. Gillespie, John, 2002. "Transplanted Company Law: An Ideological and Cultural Analysis of Market-Entry in Vietnam." International and Comparative Law Quarterly 51, 641-672.

48. This indicator was based upon a survey of Chinese entrepreneurs. See Tsai, Kellee, 2006. "Capitalists without a Class: Political Diversity Among Private Entrepreneurs in China," Comparative Political Studies 39.

direct measure possible: that is, how frequently they use it. (The underlying logic here being that filing cases to the provincial courts is not without costs, so businesses behaving rationally would not submit their cases if they thought that this was a useless excercise). Using data from the National People's Court, we calculate the number of cases (where the claimant was a domestic private firm, and not an SOE or foreign investor) per 100 active domestic private firms. Bac Can (9.49), Quang Nam (7.32), and Da Nang (7.31) have the largest number of average cases, by quite some margin. The fourth ranked province, Binh Duong, had only 3.5 cases. Over 20 provinces did not have a single private sector case filed. Because it is the only hard data and most accurate measure, this indicator is worth 40% of the final index.

As can be seen in Figure 17, the high number of cases serves Bac Can well. It ranks first, ahead of Da Nang, Quang Nam, and Binh Duong -- provinces that score highly in a number of other areas.

Figure 17: Legal Institutions Sub-Index



Part III:

IMPACT AND DEVELOPMENT OF PCI 2005 AND PCI 2006

Impact of the PCI in Vietnam

An economist from another donor agency, visiting VNCI in 2005, casually remarked that 'it is good ideas, rather than big budgets that have real impact in development aid, and the PCI is clearly a good idea'. While this remark was made prior to the release of the first PCI – PCI 2005, in May 2005 – the story that has subsequently unfolded suggests that that the PCI is a good idea that has had substantial impact. As will be described below, the PCI has received widespread coverage in the media, which has helped highlight the critical importance of on-going regulatory reform efforts and put pressure on provincial officials and policy-makers to improve their treatment of the private sector.

To mid of June this year, VNCI has identified over 145 media reports on the PCI, but suspect there are many others. Due to this widespread coverage of the PCI in the media, even 'survey-fatigued' businesses have been able to see the real benefits of the PCI, and consequently have used the PCI as a vehicle to voice their concerns about the business environment. Also, there have been requests from numerous provinces for the customized PCI diagnostic workshop. Within a month of PCI 2006 being released in June, four provincial PCI diagnostics had already been completed. Most impressive, however, have been the positive actions undertaken by many provincial authorities to use the PCI to better understand the problems confronting the private sector, and thereby undertake a number of initiatives to improve their quality of administrative services to local business.

Box 2: Impact of PCI 2005 in An Giang Province

Soon after the publication of PCI 2005, both VCCI and VNCI were contacted by various provinces to seek more information about the PCI methodology and results. Various People's Committees also inquired about the possibility of the PCI visiting their province to discuss, and provide more in-depth analysis, regarding their particular province's performance. First off the mark was An Giang, in the Mekong Delta. At the invitation of the Provincial People's Committee, the PCI team visited Long Xuyen, in June 2005, less than one month after the release of PCI 2005.

Because An Giang had recorded a relatively low ranking, the PCI team initially approached their visit with some trepidation, believing that the reaction would in all likelihood be negative. However, as soon as the team arrived in the province, it became clear that An Giang's provincial leadership simply wanted to learn as much as possible, in order to improve its ranking in subsequent iterations of the index. The workshop was chaired by the People's Committee Chairman and attended by over 130 representatives of provincial government agencies, including all department heads. The response from participants was overwhelmingly positive. There were a few queries about the PCI methodology, but little sign of defensiveness regarding VNCI-VCCI's assessment of economic governance in An Giang. Speaker after speaker got up and urged participants to 'accept the diagnosis' and to formulate ways of improving the business environment. As the workshop progressed, increasingly the questions and comments from participants were directed to each other, and not to the PCI team. As originally intended, the PCI was acting as a catalyst for change.

One announcement at the workshop was made by the Deputy Chairman of the People's Committee of An Giang, and concerned a recent commitment to reduce the number of provincial SOEs, from 34 to just four. If implemented, this should help to improve An Giang's performance on the SOE Bias sub-index.

Following the PCI Diagnostic meeting in Long Xuyen, the People's Committee held an official working session in August 2005 with all relevant departments of the province, to analyze the reasons behind the ranking, and discuss necessary remedies to improve it. Two important initiatives have been undertaken as a direct result of this meeting:

- In early September 2005, the People's Committee issued a SME Development Plan, with a strong commitment to foster private businesses.

A Decision by the People's Committee Chairman was issued (2864/QĐ-UBND, dated 18 October 2005), on the Establishment of a Task Force with a special focus on creating a more favorable business environment

for private business. The Task Force consists of leaders and experts from the People's Committee Office, Department of Planning and Investment, Department of Natural Resources and Environment, the Tax Department, and the Center for Trade and Tourism Promotion. The specific responsibilities of the Task Force are to monitor, supervise and access departments' interface with businesses, and thereby identify and propose measures to improve it.

A range of other measures have subsequently been undertaken, including:

- Following the earlier commitment to radically reduce the number of provincial SOEs, the valuation process is now underway.
- The People's Committee has set up a website -- at http://www.angiang.gov.vn -- and is working to improve the website in order to provide more investment-related information.
- A hot line has been established to receive business complaints. The private telephone numbers of provincial leaders have been publicized in local newspapers and through local radio.
- Efforts are now progressing to streamline and simplify the business registration process. This includes the provision of a manual of simple guidelines on the registration process.

Box 3: Impact of PCI 2005 in Tien Giang Province

The second provincial diagnostic was held in Tien Giang, in July 2005. As was the case in An Giang, the workshop was chaired by the People's Committee Chairman, and attended by local officials. Again, the response was both positive and highly constructive. In an effort to improve its PCI ranking, the People's Committee has instructed government officials to address the following:

- To improve its Transparency score: Upgrading the provincial website to ensure better access to information regarding business regulations, procedures and other relevant policies.
- To improve its Entry Costs score: Development of a one-stop shop service to facilitate business registration.
- To improve its Private Sector Development (PSD) policy score: The People's Committee has assigned the Department of Finance and the Department of Planning and Investment to review investment-related regulations and policies, and to develop new PSD policies and regulations for firms located inside and outside industrial zones.

The Tien Giang People's Committee is also keen to improve its channels of communication with the local business community. For the past two years, the People's Committee and relevant departments have been holding twice-yearly meetings with investors and businesses. Following the PCI diagnostic, the People's Committee has made new commitments to improve the overall effectiveness of these public-private dialogues. A direct hotline was developed to receive feedback and address questions from businesses and local citizens. An easy number to remember (073.888444) operates 24 hours a day even during the weekends, and holidays. There are operators to take note of people's calls during business hours; otherwise people's calls are recorded by answering machines.

Decree 66 issued by the People's Committee provided non-fiscal incentives for investment, such as assistance in infrastructure for industrial manufacture; research and development activities; training activities; marketing activities. In addition, a new Trade Promotion center was established to help businesses in Tien Giang find export partners, participate in trade fairs, etc. The Trade Promotion Center has a *website www.tiengiang-etrade.gov.vn*, which provides information for businesses in and out of the province.

Many provincial leaders have responded in the media with a commitment for further administrative and regulatory reform. Attracting most attention has been Hanoi's PCI 2006 ranking, which showed the need for improvement in its treatment of business. The response by Hanoi's leadership has been impressive. Leading the process is the new Hanoi Party Secretary, Mr. Pham Quang Nghi, who based upon his own analysis of the PCI data, is calling for a serious review of all procedures. Initiatives announced thus far include: 1) an inspection of procedures in three government units; and 2) the establishment of an effective one-stop business licensing center. "… Drawing upon the [PCI] survey results … the first action to be taken must be that each agency and department conducts a rigorous review of regulations, procedures and personnel. Specific time frames must be set for completion of corrective actions at each point of contact where citizens and firms transact daily with government officers. In each agency, the leader must lead by example and without delay, eliminate unnecessary red-tape and other 'negative' behavior, with the ultimate objective of improving the business enabling environment ...". (Pham Quang Nghi, Hanoi Party Secretary, Hanoi Moi, 20 July 2006 'Thoughts from Data').

Binh Duong has been ranked ranked first in two consecutive years by businesses in terms of its economic governance in support of private sector development. In subsequent meetings with the People's Committee and Department of Planning and Investment (DPI), Binh Duong provincial officials conceded that they feel the pressure to maintain the top ranking. The DPI was mandated to study each of the sub-indices that make up the PCI survey, and identify the areas where improvements could be made. Initiatives as a result have been put forward quickly. Specifically, the issue of transparency was found to be one of the three lowest-ranking sub-indices for the province, ranking 20 out of 64 provinces since businesses feel that they do not get enough opportunities to raise their concerns and questions with the local government. Also, many documents are not brought to businesses' attention. So, in response to this feedback from businesses, as conveyed through the PCI survey, in June 2006 the Chairman of Binh Duong People's Committee issued a formal announcement (135/TB-UBND), calling for a monthly meeting between local officials and the business community. The announcement states that the Chairman and/or Vice Chairman of Binh Duong province will meet with businesses every 15th of the month. Representatives of relevant provincial departments are also required to attend, in an effort to increase participation and interaction between businesses and local government.

Also, the donor community has embraced the PCI, its various measures and indicators, and the PCI diagnostic methodology, into their provincial work-plans. Following recent successes to push forward important business-related laws at the national level (such as the new Enterprise Law and Investment Law, the Competition Law, the Bankruptcy Law, etc.), attention is increasingly being focused on the implementation of these and other laws at the sub-national level. Unsurprisingly, many donors are starting to devise and implement programs to improve provincial economic governance. In this context, the PCI is very timely, as donors can use its data to benchmark the governance performance of their target provinces, and to identify elements of the provincial business environment requiring the greatest attention.

DANIDA's Business Sector Program Support (BSPS) provides an excellent example of a donor effectively integrating the PCI into its program work-plan. In its Monitoring and Evaluation framework, the BSPS notes that the program's Provincial Business Environment component could "… be monitored and evaluated directly with the work related to the Provincial Competitiveness Index …". The same document also notes that the PCI provides an important starting point for developing provincial programs. "The provincial authorities that were consulted during this consultancy (Khanh Hoa and Ha Tay) conveyed a very clear message of interest in improving the rating in the PCI. In both localities, management meetings in the People's Committee and DPI had, shortly after the publication of the index, discussed the rating and prospects for possible improvements. The clear expression of interest of the provincial authorities, the solid evidence base and [the] rigorous work that has gone into the preparation of the index makes the choice of indicator for this component obvious."

GTZ has also mainstreamed the PCI into its provincial programming, as a monitoring and evaluation tool. In the component to promote local economic development, the PCI data is to be used as a performance indicator of public and private participative stakeholder efforts to promote policies conducive for local business development. As noted by GTZ: "In general, the PCI is closely linked to the GTZ approach for the local economic development process in Vietnam. It firstly acts as the diagnostic tool for benchmarking and awareness raising of competitiveness in the first stage of the LED process in the four provinces under the framework of the GTZ Programme. Later the PCI and its sub-indices are being used to identify focus intervention areas to improve the local business and investment climate." Specifically, GTZ's workplan requires an improvement in at least three of the PCI sub-indices as a measure of success.

Other donors have been cooperating with VNCI-VCCI to incorporate the PCI into their provincial programs. For example, IFC-MPDF has been working closely with VNCI to undertake a number of joint PCI diagnostic workshops. The objective of these workshops is to work with the Provincial People's Committee in order to identify the areas of greatest concern, and where MPDF could provide direct assistance. VNCI is also planning similar joint diagnostic workshops with the EU Private Sector Support Project and SNV in their respective focus provinces.

Changes in the PCI from 2005 to 2006

During the many public discussions surrounding the release of PCI 2005, and the various follow up workshops and diagnostics, a number of important suggestions were made to improve the PCI methodology. These suggestions were put forward by commentators, experts, government officials and the general public, and can be broadly summarized as follows:

- The PCI should cover all 64 provinces, not just the 42 contained in PCI 2005.
- More firms need to be surveyed at the provincial level to strengthen the data analysis.
- The PCI should include other dimensions of the regulatory environment, and notably some kind of measure of the effectiveness of local legal and dispute resolution institutions.
- The PCI should make a number of changes to the data collation and analysis, particularly with regard to indicator selection.

These were all good suggestions, but responding to them presented some difficulties -- and indeed some dilemmas -- for the PCI research team. Responding to the first suggestion was primarily an issue of resources. Did VNCI have sufficient resources to cover all 64 provinces? It was also a matter of breadth versus depth. If PCI 2006 covered all 64 provinces, we ran the risk of stretching our limited resources too thinly across a greater area. This in turn would make it even harder to respond to the second suggestion; that we need larger data samples in each province, so as to make the analysis more robust.

Fortunately a confluence of factors allowed the PCI research team to respond to the first two suggestions:

- First, VNCI was able to divert more resources to the PCI. This was done by focusing on provincial economic governance issues and transitioning away from some other activities.
- Secondly, learning from our experience in 2005, VCCI was able to significantly improve its sampling techniques to get the response rate up, from 13% in 2005 to over 20% in 2006. (Of particular note was the success in using follow-up phone calls to get businesses to respond.)
- Thirdly, seeing the positive impact that PCI 2005 had on provincial treatment and attitudes toward the private sector, it was much easier to get businesses to respond to the PCI 2006 survey. Given the controversial nature of many of the PCI questions, and the fact that the PCI represented something that had not been done before in Vietnam, there was some trepidation and hesitancy in the response by businesses in 2006. In 2006, however, this was much less the case.[49]

The third and fourth suggestions required some major changes to the PCI. Whilst we have been conscious of the need to develop the PCI over time, so as to reflect changes in the way the private sector is governed at the provincial level, we are also

49. Many businesses even took the effort to write detailed letters outlining their concerns about the regulatory environment and appended this to their completed questionnaire.

aware that numerous changes make it difficult to compare provincial performance from year to year (i.e. to undertake longitudinal analysis with a consistent set of indicators). Thus, the PCI team had three options: 1) to make no changes at all; 2) to make gradual changes overtime; and 3) to make all major changes in one year. In the end, we chose the latter option. Given the significant changes associated with the expansion of the sample, from 2,000 to 6,500 businesses, and the increased coverage, from 42 to 64 provinces, it was decided that this was an opportune time to incorporate a number of major methodological changes, so that the PCI remains consistent in its future iterations.

In retrospect, PCI 2005 can be regarded as a pilot exercise. It took a hard-working team at VNCI and VCCI over 18 months to develop the first PCI, but less than 6 months to implement PCI 2006, because of the experiences gained and the lessons learnt in the previous year. Both VNCI and VCCI are now more confident that the PCI represents a sophisticated and relevant instrument to measure and review provincial economic governance. Needless to say, one downside of making such changes is that it makes the PCI data less comparable over time, both for the rankings and scores of the various sub-indices and the overall index.

Comparing PCI 2005 and PCI 2006

As noted above, there were substantial changes to the PCI in 2006. This included: increasing the respondent sample from 2,000 to 6,300, expanding coverage of provinces from 42 to all 64 provinces, the development of two completely new sub-indices, and numerous structural changes to some of the other sub-indices. As a result, the sub-indices and overall index scores and rankings – for PCI 2005 and PCI 2006 – are not directly comparable across the two years.[50]

This point was made repeatedly during the various dissemination workshops in May and June 2006. Nevertheless, as expected, an important focus of the considerable media coverage following the PCI release was the movements in rankings by certain provinces. And, as discussed in greater length elsewhere in this report, much of this focus was on the decline in the rankings for Hanoi. From the perspective of the PCI team, the specific rankings and scores showed remarkable stability across the two years, despite the methodological changes discussed above. Although taking a different route, the PCI was able to arrive at the same destination, to consistently determine which provinces have the best economic governance in Vietnam. These provinces include (but are not limited to): Binh Duong, Da Nang, Vinh Long, Dong Nai and Vinh Phuc.

In this respect, the key questions for other provinces to consider are: 1) What are these provinces doing differently in their treatment of business that enables them to consistently score well in the PCI? and ; 2) more importantly, what can be learnt (and applied) from these high ranked provinces?

Another issue reducing the comparability of the two PCIs thus far, and their constituent sub-indices, relates to the practice of standardizing scores. As noted earlier, each individual indicator was standardized to a ten-point scale, in order ensure that relative differences -- and not the magnitudes of scores -- was responsible for differences in the index scores. The following formula was used if a high score on an indicator meant good economic governance:

{9*((Provincial Score – Sample Minimum)/(Sample Maximum-Sample Minimum))+1}.

If a high score on an indicator meant poor performance, the above formula was subtracted from 11.

11-[9*((Provincial Score – Sample Minimum)/(Sample Maximum-Sample Minimum))+1].

This technique, borrowed from the Global Competitiveness Index, is the most appropriate way to be able to directly compare different forms of data, which range from 5-point scales, to the number of inspections, to the percentage of firms answering a particular question. All of these disparate pieces of information are re-scaled to 10 points, and therefore receive exactly the same weight in the index. Moreover, the technique makes the PCI more relevant to the Vietnamese context, as the maximum and minimum values are not some 'impossible to reach' ideal points, but actual levels found in

50. For about 400 firm responses drawn from the earlier PCI 2005 study, the time difference between the two surveys was closer to two years.

Vietnam. However, one trade-off with this technique is that because the maximum and minimum values are drawn from the year of the survey, re-scaling makes it very difficult to compare scaled scores from one year to the next, as a gauge of provincial improvement, especially given that more provinces were added to the sample. For example, a province may receive a higher score on a particular re-scaled indicator, not because its performance improved drastically, but because its performance remained the same, while the minimum value dropped, due to the addition of new provinces. To track improvement over time, provinces and researchers must rely on the 'raw', un-scaled indicators.

Now that all provinces have been included, and the survey instrument and indicators are unlikely to be changed drastically as they were between 2005 and 2006, the PCI team will begin using universal minimum and maximum values from the entire period of time that PCI has been covered, and not from the most recent year. For example, if the province with the minimum score on the indicator "percentage of firms who feel their province has a positive attitude toward the private sector," rises to 40% in 2007, PCI 2007 will continue to use the 2006 minimum score of 30.21%. Thus, all provinces will be compared to the lowest province over time, and not the lowest province in a given year. This change will simplify tracking provincial improvements over time.

While the sub-indices and the overall index are not directly comparable across the two years, it is possible to construct a consistent dataset comprised of raw-data responses to the questions used in both the 2005 and 2006 survey instruments. The table compares performance in consistent indicators using four measures: Minimum (Min – the lowest provincial score), Median (the middle-ranked provincial score), Maximum (the maximum provincial score) and Correlation (a measure of the relationship across provincial aggregates for the same indicator for the two years).

Given the robustness of the sampling approach, and the fact that the PCI was undertaken in consecutive years (leaving limited time for significant change and reform at the provincial level), we would expect to see some positive correlation across the two years. We also need to be realistic that these data are drawn from responses from different samples of firms (the 2006 sample was over three times the size of the 2005 sample), and should therefore expect some variation across the two years as a consequence. Even if the same firm was sampled in both years, it is quite possible that different people from that firm responded in different ways to the same question. This in turn would reduce the correlations.

If it is the case that real reform efforts were undertaken in the period between the two surveys, we would expect considerable variation in these efforts. That is, some provinces would try harder and do better than others. This would also work to reduce the positive correlation across the two years of data. Of the thirty indicators, only three had a negative correlation (two of which were insignificant), and two others had correlations close to zero. Of the remaining twenty five indicators, just under half had levels of significance of 5% or less. Nine of the indicators had a very strong correlation, with significance levels of less than 1%. Note that in non-technical language, a low significance level, say 5% or less, tells us that the probability of this correlation being a 'fluke' is very low. At 1% or less, this probability is approaching nil. The fact that just under half of the perceptions-based indicators had strong correlations raises confidence in the validity of the research methodology, and the sampling techniques in particular.

As seen in the Table below, the strongest correlations were in the Pro-activity and Transparency sub-indices. It is interesting to note that the four pro-activity measures all record significant correlations at the 1% level. Out of all the indicators, we would expect the pro-activity measures to have the strongest correlations. This is because these measures capture mainly attitudinal aspects of provincial government treatment of private business. In contrast to other more immediately visible aspects of government treatment of business, such as changes in business entry procedures and/or efforts to disseminate investor information, there would likely be a longer lag between changes in government behavior and those changes being captured in firms' perceptions.

Another interesting observation is that corruption-related indicators tend to have a nil or negative correlation across the years. Part

of the reason for this is that firms surveyed for PCI 2005 were unsure as to how they should respond to questions of such a controversial nature. But in PCI 2006, this was less the case. It could also be that the general tone of discussion about corruption in the country has changed between the two surveys. In 2005-06, various government-sanctioned reports were released, highlighting the problem of corruption. Also, as can be seen by even the most casual observer, the media were considerably more active in reporting corruption issues, particularly the PMU-18 case and various land scandals. This may have increased the comfort level for businesses to provide more candid responses to corruption-related questions.

Table 6: Comparing Consistent Indicators across PCI 2005 and PCI 2006

Sub-index	Indicator	Measure	2005	2006
Entry Costs	Percentage of firms waiting over a month to complete all steps necessary to start their business	Min	9.76	3.23
		Median	33.33	25.81
		Max	63.41	44.00
		Correlation	0.24	
	Percentage of firms waiting over three months to complete all steps necessary to start their business	Min	0.00	0.00
		Median	5.90	5.78
		Max	21.95	25.64
		Correlation	0.02	
Land Access and Security	Percentage of firms that feel land availability constrains their business expansion	Min	48.48	48.57
		Median	71.31	64.27
		Max	81.08	78.38
		Correlation	0.28	
Transparency and Access to Information	Transparency of planning documents	Min	-0.79	-0.40
		Median	-0.04	-0.02
		Max	1.49	0.68
		Correlation	0.40**	
	Transparency of decisions and decrees	Min	-0.49	-0.45
		Median	0.04	0.01
		Max	0.48	0.35
		Correlation	0.46**	

Sub-index	Indicator	Measure	2005	2006
	Relationship important or very important to get access to provincial documents	Min	50.00	31.48
		Median	72.11	62.50
		Max	100.00	77.14
		Correlation	0.27	
	Friends important to get access to provincial documents	Min	34.35	37.74
		Median	56.07	57.21
		Max	80.00	82.35
		Correlation	0.22	
	Negotiations with tax authority are an essential part of doing business	Min	52.17	47.17
		Median	75.22	61.05
		Max	96.15	86.96
		Correlation	-0.16	
	Predictability of implementation of laws at the provincial level	Min	4.35	2.76
		Median	14.91	9.49
		Max	60.38	37.88
		Correlation	0.38*	
	Province discussed changes in laws with you	Min	0.00	0.00
		Median	12.16	8.84
		Max	61.54	20.90
		Correlation	-0.29	
	Web Page Score	Min	0.00	0.00
		Median	10.00	9.00
		Max	21.00	18.00
		Correlation	0.36*	
Costs of Regulatory Compliance	Days reduced since the Enterprise Law	Min	18.18	23.94
		Median	40.00	41.72
		Max	78.57	60.87
		Correlation	0.18	
	% of firms spending over 10% of their time on bureaucracy	Min	3.64	6.52
		Median	13.67	21.24
		Max	30.43	39.39
		Correlation	0.44**	

Sub-index	Indicator	Measure	2005	2006
	Median number of inspections	Min	1.00	0.00
		Median	1.00	1.00
		Max	3.00	2.00
		Correlation	0.35*	
	Inspections have decreased since E-law	Min	12.50	28.07
		Median	42.12	45.52
		Max	70.00	73.91
		Correlation	0.26	
	Median Tax Inspection hours	Min	1.00	1.00
		Median	7.50	8.00
		Max	24.00	40.00
		Correlation	0.62**	
Informal Charges	The percentage of firms that believe that extra payments are an obstacle	Min	5.00	22.73
		Median	26.42	42.59
		Max	60.61	65.09
		Correlation	-0.48**	
	The percentage of firms that felt that enterprises in their line of business were subject to bribes from provincial authorities	Min	6.67	53.57
		Median	26.57	70.00
		Max	48.28	84.62
		Correlation	0.05	
	The percentage of firms paying over 10% of their revenue in extra payments	Min	0.00	4.35
		Median	9.60	12.99
		Max	29.41	34.38
		Correlation	0.21	
State Sector Bias	SOE Favoritism	Min	33.33	21.00
		Median	59.40	34.61
		Max	78.95	53.16
		Correlation	0.25	
	Attitude toward private sector	Min	20.59	30.21
		Median	47.83	48.28
		Max	78.26	71.56
		Correlation	0.63**	

Sub-index	Indicator	Measure	2005	2006
State Sector Bias	Attitude has improved since the Enterprise Law	Min	53.85	46.15
		Median	71.34	68.34
		Max	95.45	83.08
		Correlation	0.31*	
	Attitude does not depend on contribution	Min	29.09	18.28
		Median	52.17	36.56
		Max	78.57	50.00
		Correlation	0.23	
	Bias toward equitized firms	Min	18.18	11.29
		Median	31.87	29.45
		Max	50.00	41.67
		Correlation	0.14	
Proactivity	Provincial officials are knowledgeable enough about present national law to find opportunities within existing law to solve firm problems	Min	43.75	51.61
		Median	76.93	74.44
		Max	94.29	93.48
		Correlation	0.60**	
	Provincial officials are creative and clever about working within the national law to solve the problems of private sector firms	Min	31.25	40.00
		Median	63.27	61.88
		Max	85.71	88.64
		Correlation	0.69**	
	All good initiatives come from the provincial government, but the center frustrates them	Min	4.76	16.04
		Median	31.35	29.07
		Max	60.00	61.54
		Correlation	0.40**	
	There are no good initiatives at the provincial level; all important policy comes from the central government	Min	7.89	14.63
		Median	33.33	32.88
		Max	60.42	48.84
		Correlation	0.59**	
Private Sector Development Services	Provision of Market Information	Min	0	30.43478
		Median	21.99256	49.7191
		Max	41.53846	64.89362
		Correlation	0.17	

Sub-index	Indicator	Measure	2005	2006
Private Sector Development Services	Matchmaking for business partners	Min	0.00	24.49
		Median	13.36	48.05
		Max	26.19	60.94
		Correlation	0.18	

* Correlation significant at the 0.05 level (2 tailed)
** Correlation significant at the 0.01 level (2 tailed)

What's next for the PCI?

Developing 'hard data' sources

Although a number of major changes were made in 2006 to the PCI survey, this does not preclude further changes in the future. Vietnam now has a very dynamic economy, driven in large part by a rapidly expanding private sector. As the governance of the private sector evolves over time, so too must the PCI instrument. However, in making changes in the future, the PCI team will need to ensure that the main indicators and sub-indices, as well as the overall index rankings, are largely comparable across years.

One area where there are on-going efforts to develop the PCI is in strengthening the 'hard data' components of the sub-indices. As explained earlier, an important strategy to provide stability to the various sub-indices and PCI scores, and to offset possible anchoring problems in the 'soft' perceptions data, is to include objectively verifiable 'hard data' in the sub-indices. This has been done to a certain extent in five of the sub-indices, but in each case this is limited to one indicator. Clearly, more hard data indicators would be desirable. For these reasons, the PCI team has been exploring developing various 5-point scales, intended to describe, and systematically capture, provincial government efforts to improve various elements of the regulatory environment for business. This data could be drawn, from field visits to various departments and offices in each of the 64 provinces.

Building Provincial Understanding of the PCI

For the PCI to better support economic governance reforms, provincial officials need to understand the factors behind provincial scores, and how to ultimately improve those scores. As in previous years, and in response to strong demand from provinces to better understand the PCI results, the PCI team will continue work closely with provincial officials to identify both their respective strengths and weaknesses in economic governance, and what specific actions they could take to improve their economic governance levels, and hence improve their ranking in subsequent iterations of the PCI.

To this end, the PCI team will continue its series of PCI diagnostics and related workshops. At the invitation of the provincial authorities (usually the Peoples Committee, the Party Secretary, or the DPI), the PCI team performs a detailed analysis of that province's performance in the PCI, and then discusses the analysis with the provincial leadership. The PCI team then finishes with recommendations for future action, reflecting particular weaknesses identified through the diagnostic.

To facilitate greater understanding of the PCI, a 'PCI Provincial Profiles' website has been developed. This website, available in English and Vietnamese, enables the user to generate customized diagnostic reports on individual provinces or groups of provinces. The website can be accessed at http://www.pcivietnam.org

An important lesson emanating from the diagnostics carried out to date is that provincial officials would like more assistance in understanding how to improve economic governance (and therefore their PCI rankings), beyond that provided through the diagnostic workshops. The diagnostic workshops are typically only half-day events, and in that limited time the PCI team can only provide suggestions on general directions for reform. In response to provincial requests for more detailed understanding and recommendations on policy reforms, the PCI team is now researching and developing a

manual on best national practices in provincial economic governance, to be delivered in a number of provinces in 2007.

The manual and training course will comprise a series of modules, each with a brief explanation of best provincial practices in key areas of economic governance. The modules will be distilled from earlier VNCI policy studies (such as those on business regulation reform, policy lending, and one-stop shop business registration studies), as well as other reports, but presented in an accessible and easy to understand manner. Each module will link directly to one or more of the PCI sub-indices, and provincial officials attending the one-day training course will take away a clear set of ideas and recommendations as to how they can improve their respective province's performance in these sub-indices.

A parallel activity, that will strengthen efforts to spread best provincial governance practices in Vietnam, is an initiative to carry out on-the-ground research on PCI performance of select provinces. This activity seeks to explain why some provinces do very well, or very poorly, on particular PCI sub-indices (such as Transparency, Costs of Regulatory Compliance, Entry Costs, etc.), and more importantly, what best practices can be learnt from these provinces, and applied elsewhere in Vietnam. This information will be fed back into the best practice training and diagnostics work. It will also greatly improve our understanding of the PCI results, shedding light, for example, on why some little-known provinces consistently perform well in the PCI (e.g. Vinh Long and Binh Dinh), and why neighboring provinces with mainly similar endowments (such as Lao Cai and Lai Chau) score very differently in the PCI.

Part IV:

THE METHODOLOGY BEHIND THE PCI

The PCI's methodology can be divided into three major components: Data collection of company perceptions survey ('soft') and hard data; Construction of the sub-indices; and Weighting of each sub-index to create the final PCI. This section will deal with each of these components in turn.

Data Collection

Two primary research methods were chosen to assemble the Provincial Competitiveness Index. First, researchers surveyed 31,186 businesses across all 64 provinces to collect what is termed "perceptions" data. Second, the research team engaged in a large-scale collection of published resources and price data, and interviewed third parties, such as logistics companies and state-owned commercial banks, in order to assemble "hard" data that could be used alongside the perceptions of firms in the assembly of the index.

The Survey Instrument

The survey instrument was an updated version of PCI 2005's survey. It asked questions about basic business performance data, as well as covering twelve separate dimensions of economic governance, across 60 questions. Some of the questions were modified from the World Bank's Business Environment and Enterprise Performance Survey (BEEPS), but most questions were written specifically for the Vietnamese context[51]. After the survey was written, it was translated into Vietnamese and then circularly translated into English to make sure the original meaning of the questions was retained.

Survey Approach

Once the survey instrument was finalized, the research team had a difficult decision to make. While a door-to-door survey would have led to a higher response rate than a mail-out survey, it had several disadvantages that would have undermined the overall goals of the project. First, sending research teams to all 64 provinces would have been prohibitively expensive, limiting the number of provinces that could be covered, and limiting the ease of surveying smaller firms based in rural localities. Second, door-to-door surveys would have eliminated the anonymity of respondents and possibly reduced their openness. In most provinces, the research goals of the team would need to be articulated to provincial officials in a letter of introduction, prior to the onset of the research. While they may not attend the interview and directly influence answers (though this has been known to happen on occasion), firms would still worry that they could be identified and punished for critical answers. Finally, a project of this scale would have required hiring dozens of different interviewers, who even with excellent training may introduce new "treatment effects" through their interview techniques or personalities. These treatment effects would have been non-systematic across provinces and therefore difficult to account for. For these reasons, the research team chose to use a postal survey approach, but introduced several precautions to limit the impact of non-response bias. These precautions are discussed below.

Stratified Random Sampling

Researchers began their study by obtaining a list of tax-paying firms in every province from the National Tax Authority. This list was considered preferable to similar lists from the provincial DPI for two reasons. First, most observers tend to believe that the DPI lists are inflated. Because recent donor and media attention has been focused on the absolute number of registrations, provincial officials have had an incentive to bolster scores by including as many firms as possible on their register, and not deleting them from the register after they become no longer active. Moreover, firms themselves have an incentive to register without actually beginning operations. While some commentators have focused on the so-called "ghost firms" that registered in order to engage in illicit activities, such as VAT receipt processing, the majority of the gap between registrations and activities consists of firms that simply took care of the paperwork early, while they went about preparing more difficult preliminary business activities, such as obtaining necessary licenses and business premises, and researching potential suppliers and customers. Second, addresses and phone numbers obtained from the Tax Authority were deemed to be more reliable, as these came from the same data used by provincial tax officers to contact firms regarding payment.

The Tax Authority supplied a list of 151,140 firms for the 64 provinces

51. See The Business Environment and Enterprise Performance Survey (BEEPs) at http//info.worlldbank.org/governance/beeps/

in which the research team originally expected to conduct the survey. Population sizes ranged from 46,666 firms in HCMC, to 105 and 161 in the newly formed provinces of Lai Chau and Hau Giang respectively. The median provincial number of firms was 1,045 firms. Addresses and telephone numbers of all firms were verified by VCCI's branch offices. Because researchers wanted to compare provinces, it was necessary to construct 64 separate provincial-level stratifications, rather than one large national-level survey which would have sampled most heavily in HCMC and Ha Noi.

To construct province-level stratifications, researchers used the Tax Authority lists to group firms by type of enterprise (Sole Proprietorship, LLC and Joint-Stock Company), economic segment (manufacturing, natural resource exploitation, service and commerce, and agriculture) and firm age (measured by whether the firm was registered before or after the 1999 Enterprise Law). Note that firm size was not used in the stratification, because it correlated too closely with type of firm. After verifying phone numbers and addresses, mail-out surveys were sent to firms based on their proportional representation in the 24 categories listed in Table 7. Firms were selected randomly from within each category.

Table 7: Stratification of Firm Populations within 64 Provinces by Type, Sector and Age

	Joint Stock Companies								LLC								Sole Propietorships							
	Manufacturing/ Construction		Natural Resoure Exploitation		Services/ Commerce		Agriculture/ Aquaculture		Manufacturing/ Construction		Natural Resoure Exploitation		Services/ Commerce		Agriculture/ Aquaculture		Manufacturing/ Construction		Natural Resoure Exploitation		Services/ Commerce		Agriculture/ Aquaculture	
	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New
An Giang	0.33	0.53	0.07	0.13	0.53	0.93	0.00	0.00	0.86	10.41	0.20	0.13	1.86	10.15	0.00	0.20	9.15	11.27	0.33	0.07	25.00	27.72	0.07	0.07
Bac Can	0.80	11.55	0.00	0.40	0.80	3.98	0.00	0.00	0.80	18.33	0.40	3.59	0.00	8.76	0.00	0.00	2.39	31.47	0.00	5.58	1.20	9.96	0.00	0.00
Bac Giang	1.81	10.18	0.00	0.33	0.82	7.22	0.16	0.99	1.81	29.06	0.00	0.66	1.97	26.44	0.00	0.99	0.99	3.61	0.00	0.16	1.64	10.34	0.00	0.82
Bac Lieu	0.14	0.98	0.00	0.00	0.00	0.42	0.00	0.00	1.39	2.51	0.00	0.00	0.56	4.04	0.00	0.00	14.37	12.13	0.00	0.00	24.97	38.49	0.00	0.00
Bac Ninh	0.77	4.98	0.00	0.00	0.69	2.23	0.09	0.09	3.86	42.40	0.00	0.00	1.63	15.88	0.00	0.34	1.55	15.28	0.00	0.00	1.63	8.24	0.00	0.34
Ben Tre	0.12	1.08	0.00	0.00	0.12	0.60	0.00	0.00	0.60	3.83	0.00	0.00	0.36	4.91	0.00	0.00	3.05	9.16	0.00	0.06	40.18	35.57	0.00	0.36
Binh Dinh	0.61	1.88	0.12	0.54	0.42	0.97	0.06	0.12	3.27	18.83	0.30	2.54	1.69	15.80	0.12	0.36	3.09	12.83	0.06	1.09	9.50	25.48	0.06	0.24
Binh Duong	0.20	3.42	0.07	0.00	0.07	1.36	0.00	0.17	4.85	29.84	0.03	0.56	0.86	18.54	0.00	0.80	5.42	10.80	0.07	0.23	6.41	16.15	0.03	0.10
Binh Phuoc	0.12	2.50	0.00	0.12	0.37	0.12	0.00	0.25	1.37	14.98	0.12	1.00	0.62	15.48	0.25	2.50	2.75	5.74	0.62	1.75	13.11	34.96	0.00	1.25
Binh Thuan	0.38	1.97	0.00	0.38	0.28	2.54	0.00	0.00	2.35	11.56	0.00	0.66	0.47	21.15	0.00	1.13	4.14	14.94	0.00	0.75	6.11	30.55	0.00	0.66
BRVT	0.34	4.02	0.10	0.34	0.48	2.97	0.00	0.19	3.21	20.97	0.19	0.53	2.30	22.64	0.00	0.34	2.58	9.43	0.19	1.24	7.18	20.30	0.05	0.43
Ca Mau	0.22	1.83	0.00	0.00	0.11	0.89	0.00	0.06	0.61	4.72	0.00	0.00	0.33	5.61	0.00	0.00	4.83	10.49	0.00	0.00	15.38	54.86	0.00	0.06
Can Tho	0.28	3.72	0.00	0.00	0.28	2.25	0.05	0.00	1.38	13.54	0.00	0.00	1.38	16.89	0.00	0.05	6.33	14.92	0.00	0.00	9.27	29.60	0.00	0.09
Cao Bang	0.94	3.46	0.00	0.63	0.63	2.52	0.31	0.31	1.26	13.21	0.00	0.63	1.26	6.92	0.00	0.00	5.97	38.68	0.63	2.52	1.26	18.55	0.00	0.31
Da Nang	0.38	4.21	0.00	0.07	0.24	4.16	0.00	0.14	1.92	15.55	0.02	0.38	3.70	36.19	0.05	0.19	1.01	4.95	0.00	0.14	6.42	20.16	0.02	0.07
Dak Lak	0.46	1.46	0.00	0.07	0.46	1.79	0.13	0.27	2.32	18.85	0.00	0.33	0.86	14.27	0.13	1.33	1.39	6.10	0.00	0.27	17.45	30.79	0.13	1.13
Dak Nong	0.00	3.65	0.00	0.00	0.00	1.04	0.00	0.00	1.04	25.52	0.00	2.08	0.52	18.75	0.00	3.65	0.00	7.81	0.00	2.60	0.00	31.77	0.00	1.56
Dien Bien	0.38	1.53	0.00	0.00	0.00	1.15	0.00	0.00	0.38	10.69	0.00	0.76	2.67	7.63	0.00	0.76	7.25	51.91	0.00	0.38	0.38	14.12	0.00	0.00
Dong Nai	0.29	1.82	0.03	0.08	0.21	0.94	0.10	0.08	2.71	16.62	0.16	0.44	2.24	20.29	0.10	0.31	9.65	10.02	0.13	0.52	11.11	21.80	0.10	0.26
Dong Thap	0.23	1.17	0.00	0.00	0.23	0.85	0.00	0.08	1.86	9.25	0.00	0.08	0.93	7.23	0.08	0.39	15.23	21.83	0.00	0.00	17.64	22.22	0.08	0.62
Gia Lai	1.14	3.52	0.00	0.11	0.91	1.82	0.00	0.00	1.59	9.32	0.11	1.25	1.36	10.23	0.11	0.45	2.95	16.70	0.11	2.50	14.66	30.45	0.11	0.57
Ha Giang	0.00	2.34	0.00	0.33	0.67	1.00	0.00	0.00	7.69	44.48	0.00	0.33	0.33	11.04	0.00	0.67	1.67	17.73	0.33	0.33	1.34	8.36	0.33	1.00
Ha Nam	0.17	4.86	0.00	2.08	0.35	2.95	0.00	0.52	3.65	40.28	0.17	9.03	0.69	21.01	0.00	1.04	0.17	2.95	0.35	0.52	2.60	6.60	0.00	0.00
Ha Noi	0.80	9.79	0.00	0.01	0.67	17.58	0.01	0.07	2.00	13.09	0.01	0.04	6.68	44.29	0.02	0.08	0.20	0.82	0.00	0.00	1.02	2.80	0.00	0.01
Ha Tay	0.93	11.20	0.00	0.16	0.47	4.30	0.21	0.10	3.11	34.23	0.05	0.21	1.30	20.95	0.00	0.78	2.18	8.30	0.00	0.05	4.56	6.79	0.05	0.05
Ha Tinh	1.49	18.06	0.00	0.50	0.87	4.48	0.12	0.50	0.75	15.32	0.00	0.37	0.00	10.96	0.00	0.62	3.11	22.42	0.00	1.25	2.12	16.44	0.00	0.62
Hai Duong	0.63	11.67	0.00	0.56	0.49	7.02	0.14	0.21	3.68	17.44	0.00	0.28	3.96	18.00	0.07	0.14	1.95	10.91	0.00	0.07	3.27	19.46	0.00	0.07
Hai Phong	1.12	11.20	0.00	0.11	0.64	19.28	0.02	0.05	1.56	12.97	0.00	0.05	4.31	39.61	0.02	0.21	0.48	2.11	0.00	0.05	0.57	5.60	0.00	0.02

Hau Giang	0.00	4.97	0.00	0.00	0.00	1.24	0.00	0.62	0.62	20.50	0.00	0.00	0.62	11.18	0.00	0.00	0.00	23.60	0.00	0.00	0.00	34.16	0.00	2.48
HCMC	0.25	2.46	0.00	0.03	0.28	4.15	0.01	0.06	2.81	18.05	0.00	0.09	5.36	43.05	0.03	0.25	0.79	4.13	0.00	0.03	4.75	13.36	0.00	0.05
Hoa Binh	0.86	9.03	0.22	1.51	0.22	4.09	0.00	0.22	1.51	37.20	0.00	2.80	0.65	18.49	0.00	3.44	1.08	4.73	0.00	0.65	1.29	11.61	0.00	0.43
Hung Yen	1.07	6.22	0.00	0.00	0.64	3.11	0.11	0.21	2.58	37.88	0.00	0.11	0.64	20.82	0.00	0.97	1.50	6.12	0.00	0.00	3.00	14.38	0.00	0.64
Khanh Hoa	0.46	3.16	0.00	0.14	0.27	3.62	0.00	0.05	2.15	12.96	0.23	0.64	2.06	24.23	0.05	0.41	1.74	8.57	0.05	0.82	7.65	30.46	0.00	0.27
Kien Giang	0.24	1.18	0.00	0.05	0.14	0.99	0.00	0.00	1.23	7.72	0.00	0.24	0.43	7.96	0.00	0.09	9.90	12.27	0.05	0.43	26.29	29.09	0.66	1.04
Kon Tum	0.79	2.36	0.00	0.26	0.00	0.52	0.00	0.00	3.14	21.99	0.00	1.57	1.83	12.57	0.00	0.79	4.19	18.59	0.00	2.62	6.81	20.68	0.26	1.05
Lai Chau	0.00	1.90	0.00	0.00	0.00	1.90	0.00	0.00	0.95	25.71	0.00	1.90	0.00	6.67	0.00	0.95	0.00	50.48	0.00	0.95	0.00	8.57	0.00	0.00
Lam Dong	0.58	2.49	0.00	0.10	1.15	2.01	0.29	0.38	2.21	20.13	0.00	0.19	0.00	0.67	0.00	0.10	3.36	11.41	0.29	1.15	21.76	30.39	0.38	0.96
Lang Son	0.62	8.70	0.00	1.24	0.41	12.42	0.00	0.62	3.52	12.01	0.41	1.66	2.07	23.81	0.00	0.83	0.21	5.38	0.21	1.04	4.35	20.08	0.00	0.41
Lao Cai	0.87	2.32	0.00	0.00	0.29	2.03	0.00	0.15	1.02	33.53	0.15	0.87	0.73	21.92	0.00	0.15	4.64	13.93	0.00	1.31	1.74	14.08	0.00	0.29
Long An	0.20	3.77	0.00	0.00	0.25	1.02	0.00	0.25	2.55	19.11	0.00	0.00	0.71	8.36	0.05	0.25	7.54	22.38	0.00	0.15	12.90	20.13	0.05	0.31
Nam Dinh	0.70	14.43	0.00	0.00	0.35	6.62	0.28	0.91	3.00	24.53	0.00	0.28	1.32	19.30	0.14	0.70	0.70	9.76	0.00	0.07	2.72	13.87	0.00	0.35
Nghe An	0.76	13.85	0.04	0.59	0.89	8.63	0.04	0.34	1.78	16.53	0.08	1.49	2.17	23.12	0.00	0.04	0.81	3.78	0.00	0.93	4.80	19.00	0.00	0.30
Ninh Binh	1.46	3.02	0.10	0.21	0.31	2.82	0.10	0.21	1.15	11.26	0.21	0.63	1.04	12.30	0.10	0.31	6.26	29.30	0.31	2.19	6.26	19.71	0.00	0.73
Ninh Thuan	0.24	1.68	0.00	0.48	0.48	2.64	0.00	0.00	2.16	12.98	0.00	0.24	1.20	14.18	0.24	0.24	3.37	10.82	0.00	0.48	20.91	27.64	0.00	0.00
Phu Tho	1.34	19.12	0.10	1.34	0.57	7.84	0.10	0.10	1.72	19.60	0.00	1.15	2.77	25.33	0.00	0.48	1.34	6.79	0.19	0.29	2.77	6.79	0.00	0.29
Phu Yen	0.60	3.73	0.15	0.15	0.15	1.49	0.00	0.00	1.79	22.39	0.00	0.60	0.15	10.75	0.00	0.45	2.24	16.87	0.00	0.00	8.21	29.85	0.00	0.45
Quang Binh	0.48	1.94	0.00	0.00	0.73	1.45	0.00	0.36	3.87	30.27	0.00	1.33	1.45	23.73	0.00	0.36	0.36	9.32	0.00	0.12	5.57	18.40	0.00	0.24
Quang Nam	0.50	7.30	0.08	0.42	0.25	2.85	0.17	0.08	1.26	25.10	0.25	2.27	1.09	18.30	0.00	0.42	1.34	8.65	0.00	0.34	8.23	20.82	0.00	0.25
Quang Ngai	1.08	3.46	0.00	0.22	0.00	1.52	0.00	0.11	2.16	21.75	0.00	0.32	1.41	17.75	0.00	1.52	4.65	16.56	0.00	0.65	6.17	19.91	0.00	0.76
Quang Ninh	0.58	9.16	0.05	0.73	0.58	12.56	0.05	0.31	0.84	11.77	0.10	0.84	2.56	34.64	0.00	0.47	1.20	4.60	0.21	0.26	2.98	15.23	0.05	0.21
Quang Tri	1.26	2.99	0.16	0.16	0.31	3.62	0.16	0.16	2.83	30.35	0.16	0.16	1.73	18.08	0.16	0.16	2.04	15.25	0.00	0.00	2.99	16.98	0.00	0.31
Soc Trang	0.00	1.67	0.00	0.00	0.12	1.55	0.00	0.00	0.83	7.26	0.00	0.00	0.83	6.90	0.00	0.12	10.36	17.26	0.00	0.00	16.07	36.55	0.00	0.48
Son La	1.37	10.96	0.00	0.55	1.37	3.84	0.00	1.10	0.55	13.97	0.00	0.27	0.27	9.59	0.00	0.27	4.66	27.67	0.00	1.64	1.37	17.81	0.00	2.74
Tay Ninh	0.27	1.95	0.00	0.27	0.09	1.06	0.00	0.18	0.98	13.03	0.00	0.18	0.80	14.63	0.18	1.86	3.99	15.60	0.18	0.71	15.07	28.01	0.00	0.98
Thai Binh	1.88	9.58	0.00	0.00	0.38	6.48	0.28	0.85	6.20	24.13	0.00	0.09	3.47	22.54	0.09	0.56	3.00	8.36	0.00	0.00	3.38	8.54	0.00	0.19
Thai Nguyen	0.39	8.75	0.00	0.68	0.39	6.03	0.00	0.19	1.36	11.66	0.10	1.07	0.97	13.90	0.00	0.29	1.46	14.38	0.10	0.78	5.05	32.26	0.00	0.19
Thanh Hoa	1.84	8.56	0.18	0.36	1.07	4.81	0.12	0.24	2.61	24.60	0.00	0.77	3.45	32.92	0.00	0.42	1.43	6.60	0.00	0.48	2.08	7.37	0.06	0.06
Tien Giang	0.10	0.67	0.00	0.00	0.10	0.67	0.00	0.00	0.82	4.46	0.00	0.00	0.72	4.62	0.00	0.15	17.34	14.37	0.00	0.00	28.78	26.99	0.05	0.15
Tra Vinh	0.00	2.11	0.00	0.00	0.00	0.85	0.00	0.00	0.63	10.57	0.00	0.00	0.21	6.34	0.00	0.00	6.98	10.99	0.00	0.00	21.99	39.11	0.21	0.00
TT-Hue	0.63	3.08	0.14	0.00	0.77	3.22	0.14	0.14	0.63	10.16	0.14	0.21	0.84	15.28	0.21	0.84	3.57	14.72	0.00	0.42	12.33	32.03	0.07	0.42
Tuyen Quang	2.28	2.78	0.00	1.01	1.01	1.01	0.25	0.51	0.00	39.75	0.00	3.80	0.25	14.68	0.00	1.01	0.76	11.14	0.00	2.78	1.01	15.19	0.00	0.76
Vinh Long	0.29	0.68	0.00	0.10	0.19	0.78	0.00	0.00	1.07	12.32	0.00	0.10	0.68	6.11	0.00	0.10	13.19	13.19	0.00	0.19	24.44	26.19	0.10	0.29
Vinh Phuc	0.75	8.14	0.00	0.17	0.50	3.99	0.00	0.50	2.66	38.46	0.08	0.58	0.75	20.76	0.17	0.25	1.66	7.56	0.00	0.08	3.16	9.80	0.00	0.00
Yen Bai	1.25	10.97	0.00	1.57	0.94	2.51	0.00	0.94	0.31	24.76	0.00	3.13	1.25	15.99	0.00	0.00	3.76	12.85	0.31	1.25	4.39	13.17	0.31	0.31

Table 8 : Sample of Firms within 64 Provinces, by Type, Sector, and Age

	Joint Stock Companies						Limited Liability Companies						Sole Propietorships					
	Manufacturing/ Construction		Services/ Commerce		Agriculture/ Aquaculture/ Forestry		Manufacturing/ Construction		Services/ Commerce		Agriculture/ Aquacul-ture/ Forestry		Manufacturing/ Construction		Services/ Commerce		Agriculture/ Aquaculture/ Forestry	
	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New
An Giang	0.00	0.00	1.15	3.45	0.00	0.00	2.30	14.94	5.75	10.34	0.00	2.30	3.45	9.20	12.64	31.03	2.30	1.15
Bac Can	4.11	15.07	0.00	6.85	0.00	0.00	1.37	10.96	0.00	8.22	0.00	0.00	6.85	30.14	1.37	10.96	0.00	4.11
Bac Giang	1.46	9.49	1.46	10.22	0.00	0.00	4.38	26.28	0.73	25.55	0.73	1.46	0.73	8.76	1.46	6.57	0.00	0.00
Bac Lieu	0.00	1.33	0.00	1.33	0.00	0.00	2.67	9.33	0.00	5.33	0.00	0.00	13.33	28.00	12.00	18.67	2.67	5.33
Bac Ninh	0.00	7.23	3.61	9.64	0.00	0.00	0.00	25.30	2.41	25.30	1.20	1.20	1.20	9.64	3.61	8.43	0.00	1.20
Ben Tre	0.00	1.03	0.00	2.06	0.00	0.00	0.00	9.28	2.06	13.40	1.03	3.09	11.34	16.49	13.40	21.65	1.03	4.12
Binh Dinh	1.75	1.75	2.63	1.75	0.00	0.88	3.51	22.81	1.75	13.16	0.00	0.88	6.14	21.05	5.26	15.79	0.88	0.00
Binh Duong	0.00	3.57	0.00	5.36	0.00	0.00	5.36	5.36	12.50	28.57	3.57	0.00	5.36	8.93	12.50	7.14	0.00	1.79
Binh Phuoc	0.00	0.00	0.00	1.08	0.00	0.00	3.23	7.53	4.30	10.75	0.00	0.00	12.90	26.88	12.90	18.28	1.08	1.08
Binh Thuan	1.79	1.79	0.00	5.36	0.00	1.79	1.79	5.36	1.79	14.29	0.00	3.57	7.14	19.64	1.79	25.00	1.79	5.36
BRVT	2.44	1.22	0.00	6.10	0.00	0.00	1.22	19.51	6.10	36.59	1.22	2.44	1.22	8.54	3.66	8.54	1.22	0.00
Ca Mau	3.13	0.00	0.00	1.56	0.00	0.00	3.13	7.81	3.13	6.25	0.00	0.00	17.19	31.25	7.81	18.75	0.00	0.00
Can Tho	0.00	4.30	0.00	7.53	0.00	0.00	6.45	17.20	3.23	13.98	0.00	3.23	6.45	10.75	5.38	15.05	3.23	3.23
Cao Bang	1.15	4.60	1.15	8.05	0.00	0.00	3.45	13.79	1.15	9.20	0.00	2.30	3.45	17.24	5.75	26.44	0.00	2.30
Da Nang	4.00	8.00	4.00	8.00	0.00	2.67	1.33	28.00	4.00	18.67	0.00	1.33	0.00	8.00	0.00	10.67	0.00	0.00
Dak Lak	1.09	2.17	3.26	4.35	0.00	1.09	4.35	20.65	3.26	18.48	0.00	7.61	2.17	11.96	6.52	9.78	0.00	1.09
Dak Nong	1.67	1.67	1.67	3.33	0.00	0.00	3.33	10.00	1.67	25.00	0.00	1.67	5.00	15.00	5.00	23.33	0.00	1.67
Dien Bien	1.89	1.89	0.00	1.89	0.00	0.00	1.89	11.32	0.00	5.66	0.00	0.00	3.77	32.08	7.55	28.30	1.89	1.89
Dong Nai	0.00	2.20	0.00	5.49	1.10	0.00	2.20	9.89	8.79	23.08	0.00	1.10	6.59	13.19	6.59	19.78	0.00	0.00
Dong Thap	0.00	4.13	0.00	0.83	0.00	0.00	2.48	6.61	2.48	7.44	2.48	4.13	14.88	21.49	13.22	17.36	0.83	1.65
Gia Lai	0.00	4.88	2.44	6.10	0.00	0.00	3.66	13.41	1.22	4.88	0.00	1.22	4.88	14.63	14.63	25.61	0.00	2.44
Ha Giang	0.00	1.49	0.00	0.00	0.00	0.00	8.96	28.36	4.48	29.85	0.00	0.00	1.49	17.91	4.48	1.49	1.49	0.00
Ha Nam	0.00	5.61	1.87	3.74	0.00	0.00	5.61	25.23	3.74	32.71	0.00	2.80	1.87	9.35	1.87	4.67	0.00	0.93
Ha Noi	2.02	15.15	4.04	17.17	0.00	0.00	2.02	20.20	8.08	28.28	0.00	0.00	0.00	0.00	2.02	1.01	0.00	0.00
Ha Tay	0.00	3.19	4.26	12.77	1.06	0.00	5.32	24.47	8.51	22.34	0.00	1.06	2.13	6.38	2.13	5.32	1.06	0.00
Ha Tinh	3.76	6.77	2.26	11.28	0.00	1.50	2.26	12.03	3.76	15.79	0.00	0.00	5.26	13.53	4.51	15.79	0.75	0.75
Hai Duong	3.10	10.85	0.78	5.43	0.00	1.55	3.10	18.60	3.88	14.73	0.78	3.10	3.10	23.26	0.78	4.65	0.00	2.33
Hai Phong	6.98	15.50	4.65	13.95	0.78	0.78	6.98	13.18	3.88	16.28	0.00	0.00	0.78	4.65	2.33	8.53	0.00	0.78
Hau Giang	0.00	2.63	0.00	2.63	0.00	0.00	2.63	2.63	0.00	15.79	2.63	0.00	5.26	23.68	0.00	39.47	2.63	0.00

HCMC	2.61	4.35	3.04	6.96	0.43	0.00	12.61	23.91	7.83	25.22	0.00	0.87	0.87	3.48	2.61	4.78	0.43	0.00
Hoa Binh	3.75	8.13	1.88	9.38	0.00	0.00	2.50	31.88	5.63	13.75	0.63	1.25	3.13	9.38	0.00	8.13	0.00	0.00
Hung Yen	3.26	13.04	0.00	6.52	0.00	1.09	2.17	25.00	0.00	16.30	0.00	2.17	3.26	6.52	3.26	17.39	0.00	0.00
Khanh Hoa	0.00	5.94	1.98	10.89	0.00	0.00	1.98	15.84	3.96	17.82	0.99	0.99	5.94	11.88	4.95	10.89	0.99	3.96
Kien Giang	2.86	0.00	0.00	2.86	0.00	0.00	1.43	8.57	1.43	12.86	1.43	1.43	10.00	17.14	15.71	15.71	5.71	2.86
Kon Tum	0.00	2.67	1.33	0.00	0.00	0	6.67	21.33	1.33	17.33	0.00	2.67	5.33	16.00	4.00	21.33	0.00	0.00
Lai Chau	0.00	0.00	0.00	0.00	0.00	0.00	5.41	8.11	2.70	24.32	0.00	2.70	5.41	18.92	8.11	18.92	0.00	5.41
Lam Dong	1.89	3.77	0.00	5.66	0.00	0.94	2.83	25.47	1.89	17.92	0.00	0.94	7.55	13.21	5.66	10.38	0.00	0.94
Lang Son	0.00	13.11	0.00	8.20	0.00	0.82	3.28	21.31	2.46	14.75	0.82	3.28	2.46	18.85	4.92	5.74	0.00	0.00
Lao Cai	0.89	4.46	0.89	4.46	0.00	1.79	3.57	22.32	4.46	26.79	0.00	4.46	1.79	7.14	3.57	11.61	0.00	1.79
Long An	0.00	2.20	2.20	1.10	0.00	0.00	2.20	7.69	0.00	18.68	1.10	1.10	8.79	18.68	4.40	28.57	2.20	1.10
Nam Dinh	0.82	13.11	2.46	18.85	0.82	0.82	4.92	15.57	2.46	16.39	0.82	2.46	1.64	8.20	1.64	7.38	0.82	0.82
Nghe An	3.70	13.89	3.70	10.19	0.93	0.00	4.63	16.67	0.93	15.74	0.00	2.78	3.70	11.11	2.78	8.33	0.93	0.00
Ninh Binh	2.86	1.90	0.95	2.86	0.00	0.00	3.81	18.10	1.90	13.33	0.95	0.00	3.81	21.90	4.76	20.95	0.00	1.90
Ninh Thuan	0.00	4.59	0.00	0.92	0.00	0.00	0.92	21.10	0.00	19.27	0.00	0.00	5.50	13.76	7.34	22.94	0.00	2.75
Phu Tho	4.17	20.83	2.08	11.46	0.00	1.04	3.13	17.71	3.13	17.71	0.00	0.00	1.04	7.29	1.04	6.25	0.00	3.13
Phu Yen	1.54	5.38	0.77	2.31	0.00	0.77	3.85	26.15	0.00	14.62	0.00	0.77	2.31	12.31	5.38	20.00	0.77	3.08
Quang Binh	1.02	1.02	0.00	1.02	0.00	0.00	5.10	21.43	0.00	16.33	0.00	1.02	3.06	11.22	15.31	22.45	0.00	1.02
Quang Nam	0.00	7.78	0.00	3.33	0.00	0.00	0.00	27.78	2.22	13.33	0.00	0.00	0.00	14.44	8.89	21.11	0.00	1.11
Quang Ngai	0.00	6.73	0.00	1.92	0.00	0.96	5.77	22.12	1.92	16.35	0.00	1.92	2.88	18.27	5.77	11.54	0.00	3.85
Quang Ninh	0.85	11.86	1.69	10.17	0.00	0.85	1.69	5.93	8.47	27.97	0.00	2.54	4.24	6.78	5.93	11.02	0.00	0.00
Quang Tri	0.95	6.67	0.00	3.81	0.95	0.95	7.62	21.90	0.95	22.86	0.00	0.00	1.90	8.57	2.86	15.24	0.00	4.76
Soc Trang	0.00	3.75	1.25	0.00	0.00	1.25	1.25	10.00	1.25	2.50	1.25	0.00	11.25	32.50	6.25	20.00	2.50	5.00
Son La	2.97	6.93	1.98	4.95	0.00	0.00	0.00	16.83	1.98	10.89	0.00	3.96	1.98	17.82	2.97	19.80	1.98	4.95
Tay Ninh	0.00	3.70	1.85	3.70	0.00	0.00	3.70	11.11	5.56	11.11	0.00	0.00	9.26	22.22	7.41	12.96	3.70	3.70
Thai Binh	0.00	11.70	3.19	6.38	0.00	2.13	5.32	17.02	1.06	19.15	0.00	5.32	3.19	10.64	1.06	10.64	0.00	3.19
Thai Nguyen	0.00	12.05	2.41	13.25	0.00	1.20	0.00	9.64	2.41	15.66	1.20	1.20	1.20	21.69	2.41	13.25	0.00	2.41
Thanh Hoa	0.00	10.22	1.46	12.41	0.00	2.19	2.19	24.82	5.11	27.01	1.46	4.38	1.46	3.65	0.00	3.65	0.00	0.00
Tien Giang	0.00	0.00	0.00	1.16	0.00	1.16	2.33	8.14	4.65	9.30	0.00	1.16	11.63	15.12	18.60	17.44	3.49	5.81
Tra Vinh	0.00	4.58	0.00	0.76	0.00	0.00	0.00	10.69	0.76	8.40	0.00	0.76	12.21	31.30	7.63	22.14	0.76	0.00
TT-Hue	4.00	8.00	2.67	2.67	0.00	0.00	2.67	16.00	0.00	10.67	0.00	0.00	6.67	14.67	10.67	20.00	1.33	0.00
Tuyen Quang	0.00	0.00	0.94	4.72	0.00	0.94	0.94	15.09	2.83	38.68	0.00	3.77	0.94	11.32	2.83	15.09	0.00	1.89
Vinh Long	0.00	1.65	0.83	0.83	0.00	0.00	5.79	10.74	4.96	8.26	0.00	1.65	10.74	9.09	23.14	19.83	0.00	2.48
Vinh Phuc	0.00	10.48	0.95	2.86	0.00	0.00	4.76	36.19	2.86	18.10	0.00	2.86	1.90	5.71	1.90	9.52	0.00	0.95
Yen Bai	2.16	12.23	0.00	1.44	0.72	2.16	0.00	26.62	0.72	17.99	0.00	1.44	1.44	10.79	6.47	12.23	2.16	0.72

Some provinces have questioned the choice of performing a stratified random sample, as opposed to a census of all firms, querying whether one could reasonably draw conclusions based on only a portion of the total population of firms. What these criticisms fail to understand is that random sampling is the preferred technique of pollsters around the globe. As Floyd Fowler has put it, "The size of the population from which a sample of a particular size is drawn has virtually no impact on how well that sample is likely to draw the population. A sample of 150 people will describe a population of 15,000 or 15 million with virtually the same degree of accuracy, assuming that all other aspects of the sample design and sampling procedures are the same."[52] Indeed, most political polls in the U.S. rely on about 1,500 people to describe the U.S. population of 25 million. Certainly, 100 firms is enough to describe the Hanoi population of 28,315 firms.

What Fowler means by sampling procedures is that we must be certain that the research team randomly chooses firms within the specific stratification baskets. If each firm has the same probability of being selected, we can be fairly certain that the sample is an accurate reflection of the true population. Think about randomly drawing marbles out of a round jar. Let us say that you have a blue, red, and white marbles in the jar, and that these colors represent satisfied, neutral, and unsatisfied firms in the Hanoi population respectively. If the percentage of red marbles in the jar is 75%, the probability of blindly drawing a red marble (i.e. an unsatisfied firm) is also 75%. Alternatively, you have only a 25% probability of drawing a blue or white marble. Though, you may not draw exactly 75% blue every time, it will be quite close; and after 100 draws the mean number of blue marbles drawn is going to be about 75%. The more red marbles in the jar, the more likely you are to draw a red marble. Randomization is thus the crucial ingredient of the sampling process. In this analogy, the process of randomization is achieved by shaking the jar so that the marbles are well mixed. If all the blue marbles were layered at the top of the jar, we would not be making a random selection. In the same way, when sampling for the PCI, firms are not chosen from one street or one sector, rather in a random manner from the various provincial stratifications, so that we have representative cross-section of the provincial population of businesses registered on the tax-list.

One simple test of stratified random sampling is simply to compare population proportions for each

Table 9: Hanoi Population and Sampling Distribution

Population Distribution		
Joint-Stock	Limited Liability Companies	Sole Proprietorships
28.94%	66.21%	4.86%
Manufacturing/ Construction	Services/Commerce	Agriculture/Natural Resources
26.69%	73.06%	0.25%
Registered before Enterprise Law		Registered after Enterprise Law
11.42%		88.58%
Sample Distribution		
Joint-Stock	Limited Liability Companies	Sole Proprietorships
38.38%	58.59%	3.03%
Manufacturing/ Construction	Services/ Commerce	Agriculture/ Natural Resources
39.39%	60.61%	0.00%
Registered before Enterprise Law		Registered after Enterprise Law
18.18%		81.82%

52. Fowler, Floyd, J. 2002. Survey Research Methods: Third Edition. Sage Publications: Thousand Oaks, p. 35.

province to the sample which is drawn out. Using Hanoi as an example in Table 9, we can see that the population and sample are very close. There are small differences, but for the most part our sample is a good reflection of the distribution of firms in Hanoi. The majority of firms in the Hanoi population are limited liability companies (LLCs) engaged in services or commerce, and the majority of firms in our sample our LLCs engaged in services. The slight differences in sector type have to do with the fact that the PCI survey instrument did not ask firms the sector of their registration form, like the Tax Authority. Rather, it asked firms to list the percentage of their activities in a particular sector, as most firms operate in more than one sector. We then took the percentage of firms with 50% of their activities in a particular sector for our classification. Thus, a firm with 51% of its activity in manufacturing would be classified as manufacturing, even if its registration was in the service/commerce sector. Nevertheless, the striking similarities between firms' proportions are clear evidence that our sampling strategy worked. That is, our sample of 6,379 firms is representative of the broader population of firms in Vietnam.

For a more nuanced test of all provinces, we can regress the percentage of the total population accounted for by a particular stratification on the percentage accounted for by that same stratification in our survey sample. The Root Mean Squared Error (Root MSE) from this series of regressions is the first number listed in each stratification box. Essentially, this number is our sampling error. It is the absolute value of the average deviation from the population per province in our sample expressed in percentage points. For instance, the Root MSE for Joint Stock Firms in our sample is 3.55%. This means that we under- or over-sampled joint stock firms in each province by an average of about 3.5% points. In our most fine-grained strata, the sampling errors ranged from just about 0 to a high of 8.72 for sole proprietorships in services that registered after the Enterprise Law.

While 9% is quite low, our assessment cannot stop with this number, as strata with very large ranges and those which account for a higher average proportion of the total population tend to have higher Root MSE simply because of their large variances. To demonstrate this effect, we display the mean and standard deviation for each stratum in the total population in the second row of each box. In the lowest strata, these are displayed in parentheses.

Where we have relatively high sampling errors, it is important to check whether this is a systematic problem or stochastic. If it is systematic, it means we over-sampled by about the same amount in every province, so while the actual proportion is not perfect, the relationship between provinces is roughly the same in the population as well as the sample. To check this, we place the bivariate correlation coefficient in parentheses in each box. High correlation coefficients indicate a systematic relationship between the population and sample proportions in each stratification across all 64 provinces. As can be seen, the strata with the largest sampling errors tend to have very high correlation coefficients, which are often highly statistically significant. Note for instance the .81 correlation between population and sample in the strata of joint stock companies in manufacturing, which registered after the Enterprise Law. This particular relationship is also shown in Figure 18 below. Provinces above the trend line were over-sampled in this stratification. Those below were under-sampled.

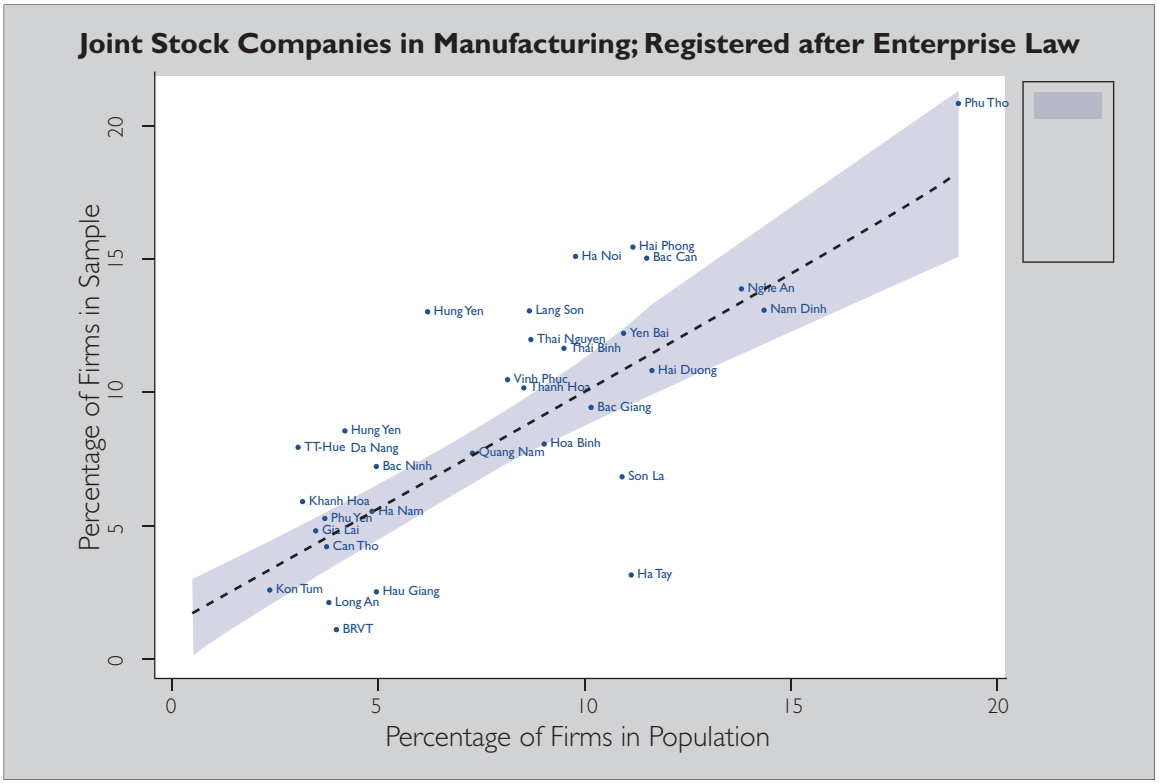
The high correlation coefficients and relatively low sampling errors in each stratification allow us to feel comfortable that our survey sample is an adequate representation of the total population. With this validity test behind us, we can feel quite secure comparing governance across the different provinces, as long as the variation on a particular indicator of governance is not caused by the variation in type of firm.

Table 10: Sampling Errors (Root MSE) for Each Stratification

Joint Stock Companies					
3.55% (.90***)					
Mean: 10.4; Standard Deviation: 8.2					
Manufacturing/ Construction		**Services/ Commerce**		**Agriculture/ Aquaculture/ Forestry**	
2.77% (.82***)		2.66% (.73***)		0.61% (.27**)	
[Mean: 5.92; SD: 4.75]		[Mean: 3.91; SD: 3.88]		[Mean: .6; SD: .62]	
Old	**New**	**Old**	**New**	**Old**	**New**
0.51% (.26**)	2.6% (.81***)	0.31% (.27**)	2.64% (.72***)	0.1% (.23*)	0.58% (.22*)
[.64; .5]	[5.2; 4.4]	[.42; .32]	[3.49; .3.77]	[.08; .11]	[.52; .60]
Limited Liability Companies					
9.06% (.86***)					
Mean: 41.2; Standard Deviation: 17.4					
Manufacturing/Construction		**Services/ Commerce**		**Agriculture/ Aquaculture/ Forestry**	
8.48% (.65***)		8.88% (.54***)		1.75% (.02)	
[Mean: 21.46; SD: 11.01]		[Mean: 18.22; SD: 10.49]		[Mean: 1.53; SD: 1.74]	
Old	**New**	**Old**	**New**	**Old**	**New**
1.24% (.47***)	8.16% (.61***)	1.24% (.35***)	8.11% (.52***)	0.13% (-.09)	1.72% (.10)
[1.99; 1.39]	[19.47; 10.26]	[1.43; 1.31]	[16.8; 9.42]	[.09; .13]	[1.44; 1.72]
Sole Proprietorships					
8.92% (.92***)					
Mean: 48.3; Standard Deviation: 22.2					
Manufacturing/Construction		**Services/ Commerce**		**Agriculture/ Aquaculture/ Forestry**	
9.78% (.54***)		13.34% (.65***)		1.29% (.04)	
[Mean: 17.48; SD: 11.54]		[Mean: 29.58; SD: 17.35]		[Mean: 1.28; SD: 1.28]	
Old	**New**	**Old**	**New**	**Old**	**New**
2.94% (.66***)	8.56% (.52***)	6.12% (.72***)	8.72% (.55***)	0.2% (.23*)	1.22% (.10)
[3.82; 3.9]	[13.65; 9.94]	[8.55; 8.72]	[21.04; 10.37]	[.12; .20]	[1.16; 1.22]

The first number displayed is Root Mean Squared Error (Root MSE) resulting from bivariate regression of population percentage on sample percentage for each stratification. The second number displayed in parentheses is the bivariate correlation coefficient between population and sample. The statistical significance of these coefficients is denoted as follows: *** p<0.01, ** p<0.05, * p<0.1
The third set of numbers are the mean and standard deviation of the population percentage accounted for by that stratification across all 64 provinces. In the lowest strata they are displayed in brackets [Mean, Standard Deviation (SD)]

Figure 18: Relationship between Population and Sample Distributions



Response Rates and Non-Response Bias

Depending on the total number of firms in the province, between 105 and 1200 surveys were mailed-out based on the size of the population and assuming a 10% response rate, based on the success of previous mail-out surveys in Vietnam. This would be enough to ensure at least 50 responses per provinces responses and assume a 90% confidence interval around responses. Overall, 31,186 surveys were mailed out from the VCCI office in Ha Noi. In many cases, the number of forms sent to each province represented quite large over-sampling, in some cases such as Lai Chau and Hau Giang, covering the entire population of firms. Such conservatism was necessary, however, because researchers expected a very low return rate on the mail-out survey. Even in the United States, low response rates on business surveys are considered to be the norm due to the time commitments of entrepreneurs and business policies prohibiting the release of proprietary company information. A statistical study of norms in response rate reporting in business journals put it this way:

The case is different when questionnaires are submitted to representatives of organizations such as the Chief Executive Officer (CEO), managing director, Human Resource (HR) director, etc. Direct approaches such as this are typically characterized by a lower response rate compared to populations of individuals. Denison and Mishra (1995) justified their 21% response rate for CEO level response by citing Henderson (1990) who argued that a response rate of 20-30% is fairly typical for a mail-out survey to a large sample of firms[53].

The PCI research team was concerned that due to the sensitivity of governance surveys in many parts of Vietnam, the large number of topics which needed to be covered (the survey took approximately 45 minutes to fully fill out) and the sensitivity of many questions, the response rate would be around 10%. Two other surveys of Vietnam conducted by the World Bank/MPDF and the Japanese Bank for International Cooperation (JBIC),

53. Baruch, Yahuda. 1999. 'Response Rate in Academic Studies: A Comparative Analysis.' Human Relations, Vol. 52. No. 4, p. 3. Also see Denison, D. R. and Mishra, A. K. 1995. 'Toward a theory of organizational culture and effectiveness' Organization Science. Vol. 6 No. 2, p. 204-223.

which covered a more limited set of governance questions, had response rates of just about 15%, despite the fact that the majority of respondents for both of these surveys were in the most developed areas of Vietnam[54]. In many of the new provinces the PCI was trying to cover, firms had never been surveyed, leading to even more trepidation among respondents.

Because a low response-rate was expected, the research team took the precaution in 2005 of dispatching members of the team to six provinces to interview a random sample of 100 firms not covered in the original study. By comparing surveyed firms with responses of firms that did not receive the survey, it was determined that results (including point-estimates and rankings) varied only marginally from the results obtained in the mail-out. The exercise convinced the team that the mail-out survey did indeed offer a valid measure of firm performance.

This year a vigorous effort was made to increase the response systematically across all provinces. To this end, the survey was printed on quality paper and mailed in an eye-catching envelope the week after Tet when entrepreneurs of all sectors were mostly likely to be at their listed addresses. In 2005, Mekong Delta fishermen were under-sampled because the survey went out during fishing season, so many never received the letter. VCCI included a letter explaining in detail the importance of this survey for improving the business environment and enhancing the VCCI's ability to promote positive changes in the business environment. Respondents also had the option of receiving a free selection from VCCI's list of publications. This list included such popular volumes as 100 Questions and Answers Regarding the Enterprise Law and Uncle Ho with Enterprises and Business People, a book explaining Ho Chi Minh's positive views of the non-state sector. Finally, phone calls were made to a random sample of firms in every province that had not yet responded to the mailed survey. A prepared narrative was read during the phone call once again detailing the importance of the survey and reminding firms to complete and return the volume to the Ha Noi office of VCCI. Firms that had trouble responding to specific questions on the survey could also receive assistance if they requested it.

With the success of the random phone calls, the overall return rate was raised to 20.26%, higher than researchers anticipated. Individual provincial response rates were tightly concentrated around 20%, as evidenced by the fact that the median provincial response rate was 20.21%. This indicates that there is little worry that differential response rates impacted scores. Surprisingly, many of the new provinces in the Northern Uplands and Central Highlands, including Yen Bai (43%), Lai Chau (35%), Hoa Binh (33%), Bac Can (31%), Dak Nong (29%), Son La (29%), Cao Bang (28%), and Bac Giang (28%), had the highest response rates in the sample. These provinces are under-surveyed relative to their lowland peers and the PCI survey offered the first opportunities for them to voice their perspectives on provincial policies. Every province had over 50 respondents with only two exceptions. Hau Giang and Lai Chau, two newly created provinces with very small firm population each had 37, which represented about 1/3 of their total firm populations.

In choosing to do a mail-out, the research team opted for a systematic bias across all provinces rather than a stochastic bias that affected only a few provinces. We did this because the sensitivity of the questions led us to the concern that some provinces may seek to influence firm responses if they knew interviewers were in town. By choosing to do a mail-out, we offered firms' anonymity and could be more certain that they were not pressured to respond. On the other hand, it introduced some non-response bias into the analysis. Only 20.26% of the firms that received surveys chose to respond. We can assume that these firms responded because they felt the most compelled to respond. In other words, respondents were more likely to be negative about the business environment than non-respondents. But this bias is systematic, as can be seen by the very similar non-response across provinces (Table 11). For example, Ha Noi with a relatively low score had a very similar response rate to other provinces in the analysis

54. Stoyan Tenev, Amanda Carlier, Omar Chaudry, and Quynh-Trang Nguyen, Informality and the Playing Field in Vietnam's Business Sector (Washington, D.C: International Finance Corporation, 2003); Edmund Malesky, 'Entrepreneurs on the Periphery: A Study of Private Sector Development Beyond the High Performing Cities and Provinces of Vietnam', Mekong Private Sector Development Facility, Private Sector Discussion Series No. 18, Ha Noi, November 2004; Japanese Bank of International Cooperation. Survey of Vietnamese Enterprises (Ha Noi, 2002).

(particularly many high performing ones). There is no reason to suspect that we tapped only into the negative firms in Ha Noi and the positive firms in other provinces. If the Ha Noi firms assessed their province as more poorly governed, it is because - relative to other provinces - they are in fact more negative as a whole. All scores in all provinces are likely to be somewhat lower than the true unobserved measures of governance. But the trend should remain the same even if the specific point predictions are slightly off. Since we are interested in relative rankings, we didn't worry about specific point prediction – only that the trend remained.

Further analysis revealed that deviation in response rates had only a marginal impact on scores and virtually no impact on rankings. As can be seen in Table 11, response rates were only significantly correlated with one of the sub-indices (SOE bias), but the impact of the upward bias was almost entirely negated by lower scores associated with higher response rates on PSD Services. Indeed, response rates are correlated both positively and negatively with particular sub-indices – there is simply no systematic relationship. Further regression analysis shown in column three reveals that moving one standard deviation from the mean response rate would lead to small and statistically insignificant changes in scores. The net effect would be about a 1.16 point decline in total scores due to a full standard deviation shift in response rates.

Table 11: Impact of Response Rate

Sub-Index	Bivariate Correlation between Response Rate and Index Score	Predicted impact of a one standard deviation (7%) increase from mean response rate
Entry Costs	0.0849	0.07 points
Land access and security	-0.1576	-0.13 points
Transparency	-0.2894	-0.37 points
Time costs of regulatory compliance	-0.0934	-0.08 points
Informal charges	-0.0984	-0.07 points
SOE bias (competition environment)	0.3898*	0.27 points
Pro-activity	-0.137	-0.23 points
PSD services	-0.3083	-0.45 points
Labor training	-0.1619	-0.21 points
Legal Institutions	-0.0248	-.03 points
Unweighted PCI	-0.1920	-1.26 points

* = p<.05; ¥ = Results of bivariate regression of response rate on Sub-Index with predicted values obtained using Clarify.

External Validity

While the above diagnostic tests appear to show that non-response bias and sampling bias had very limited impact on scores, the final step is to compare the survey data to some objective number for which verifiable data were available. If the survey data and the objective measure match, it can be concluded that the instrument has strong external validity. In other words the results drawn from this sample of firms can be generalized to the wider population.

This is a very important diagnostic, because it allows researchers to feel comfortable in the assumption that firms can accurately assess their business environment, that the non-response bias did not impact on perceptions of specific provinces, and that the anchoring problems are minimal. This is exactly what External Validity Tests 1 and 2 in Figure 19 and 20 respectively demonstrate. The first test compares firms' rating of their FDI attraction policies on a five-point scale in their province with the natural log of actual projects contracted in 2005 obtained from GSO's Statistical Handbook. Indeed, private firms have a very accurate assessment of how well their province has done in attracting foreign direct investment and they report those numbers accurately in the survey. The bivariate correlation of .5 is significant at the .01 level. Interestingly, the most disproportionately negative firms regarding FDI attraction were in Binh Duong and Dong Nai – two of

the highest FDI recipients in recent years and also among the very top performing provinces in the PCI.

The second test involves firms' perceptions of industrial zone policies in their province with two measures – the occupancy rate of IZs and the number of IZs.

As is obvious in Figure 20, firm perceptions of their province's policies regarding industrial zones is highly correlated with the willingness of firms in the province to move into the zones. This is clear evidence that firm perceptions match their actions. Indeed, they are correlated at .63. Moreover, firms are even capable of nuance. Provinces with a large number of IZs (demonstrated by bubble size) but low occupancy rates receive low firm ratings, so sampling building more IZs does not distort firm ability to accurately assess the quality of these programs.

Figure 19: External Validity Test 1

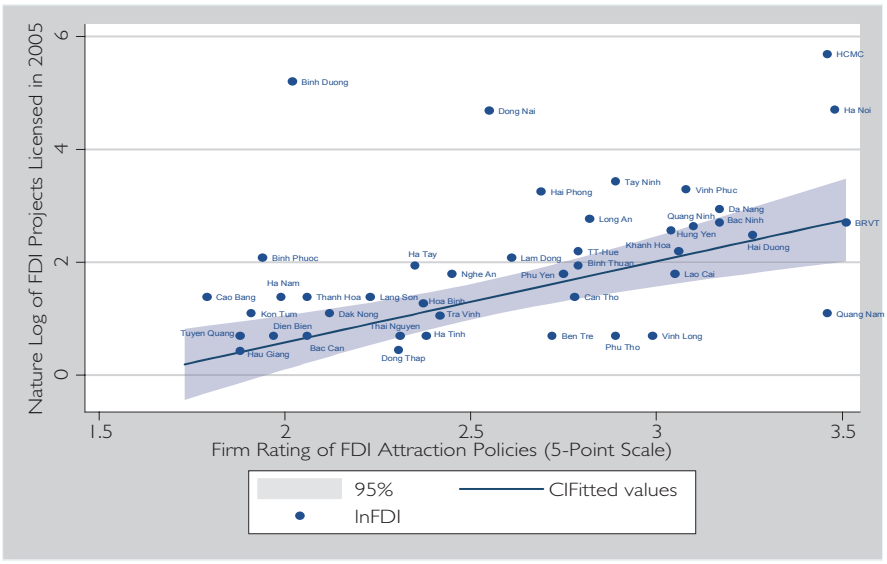
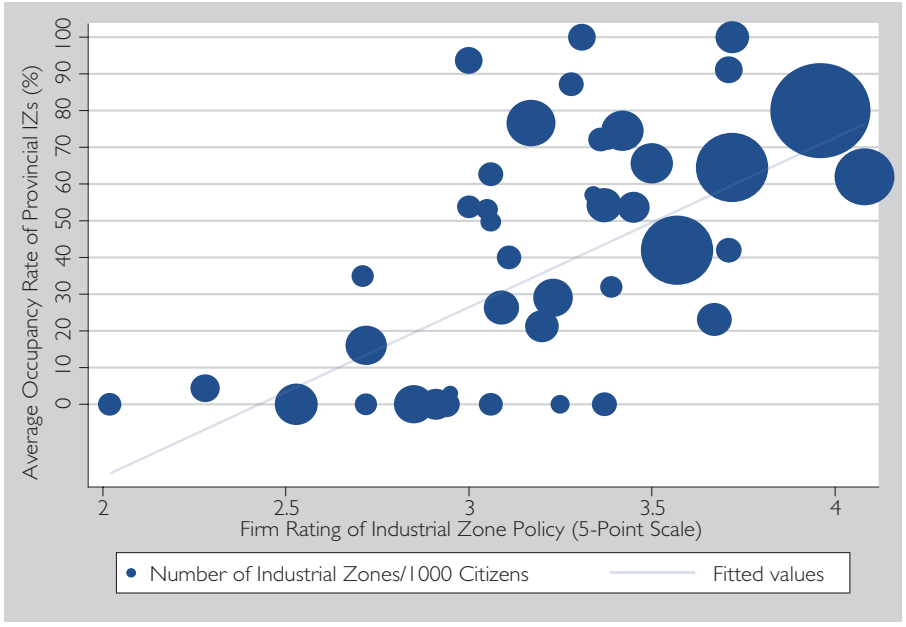


Figure 20: External Validity Test 2
Comparison of Perceptions of Industrial Zones with Occupancy Rates and Number of IZs



Preliminary Data Analysis

After the returned survey data were entered into a database, preliminary analysis revealed that some questions from the survey-instrument could not be used for the index. The primary reasons for these omissions were missing data due to firms skipping questions[55], lack of variance in responses across provinces and, discoveries that variance in responses was driven not by differences among provinces but among types of firms. Other questions were dropped when it appeared that the interpretation of answers may have differed from the original intention of the survey. One important example was the decision not to use questions about how much influence firms had over provincial policy when it became clear that only large, powerful firms answered this question affirmatively, indicating that influence may have instead been interpreted as capture of the provincial leadership or undue influence through close relationships with provincial leaders[56]. A second example was the difficulty in ascertaining whether heavy reliance by the private sector on informal credit from friends and families should be considered a sign of good provincial leadership or the opposite. Still other questions were dropped when they correlated too closely with our measures of structural endowments. As these measures were to be used as control variables of regression analysis for weighting the index, collinearity with key components of the sub-indices would have reduced overall sub-index weights.

Finally, before indicators could be used in the creation of the index, they had to pass two additional tests.

- Scaled data had to pass a Chi Square test indicating that there were statistically significant differences between provinces as to the percentage of firms that checked different values of the scale.
- Confidence intervals around mean scores had to demonstrate limited overlap, so that it was possible to determine that another random sample would not yield different ordering. Figure 21 exemplifies this exercise with the mean waiting period for registration. Here, there is some overlap but for the most part, intervals are tight around sample means. We can be fairly certain that the rank ordering would be maintained with another random sample. The major exceptions are the provinces at the far right, which have extremely large confidence intervals due to wide variation in provincial scores (generally due to outliers). With another sample these provinces could potentially be the highest or lowest score in the sample. In cases like this where outliers generated high variation, it was necessary to take median scores to avoid distortions caused by outliers.

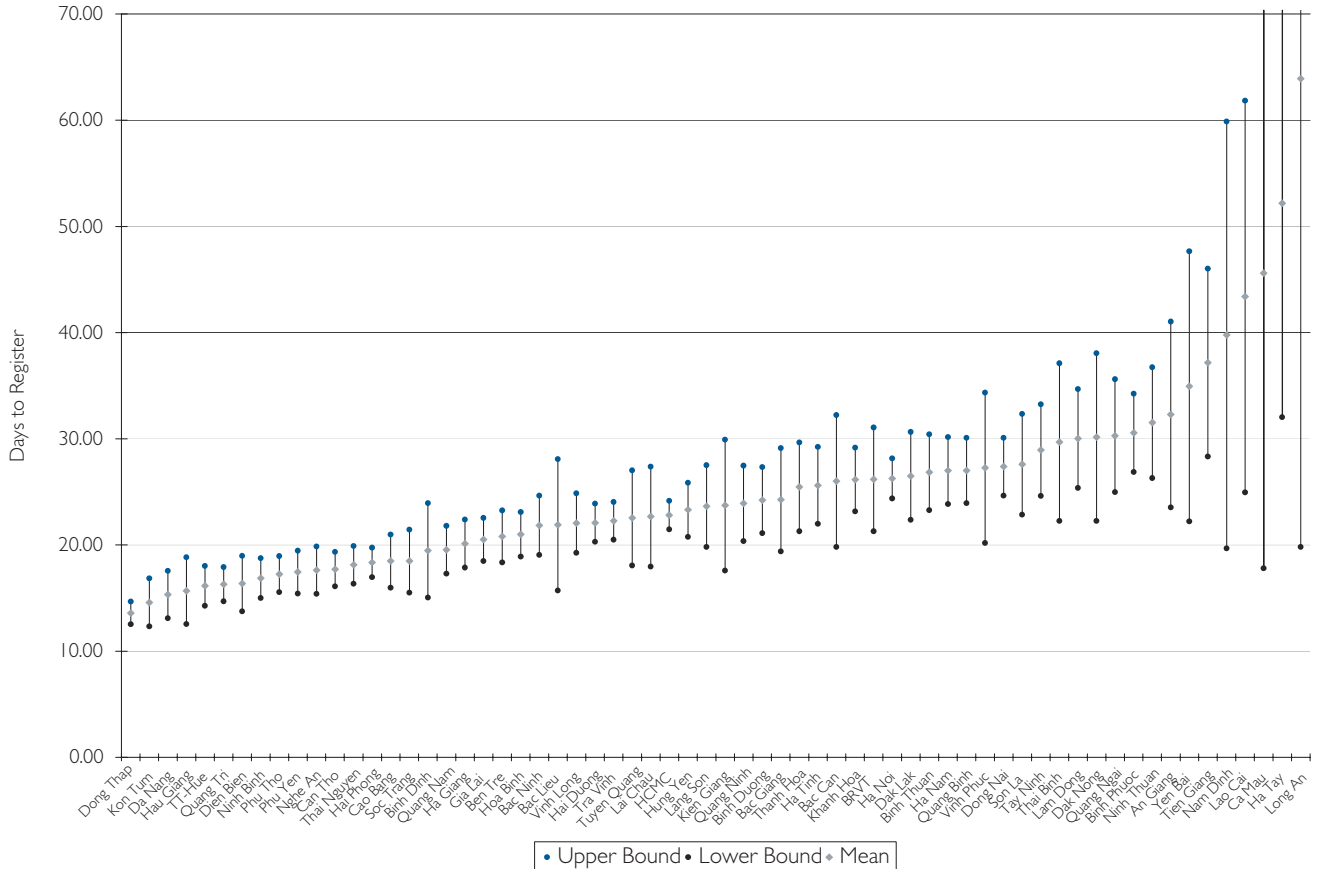
Hard Data Collection

Why Employ Hard Data in the Sub-Indices?

There were three primary reasons for the collection of hard data from published sources and third parties. First, researchers intended to use hard data to offset the anchoring problem in survey research. This issue, which is discussed in more depth in the TAF-VCCI Economic Governance Report Volume I[57], can pose dangers for an exercise like the PCI. Put simply, firms (often of small- or medium-scale) that have operations only in one province do not know much about the administrative quality of their neighbors, much less provinces on the far side of the country. Therefore, on questions where they must rank a policy of their province along a likert scale, they may rank their province lower or higher than an objective observer with knowledge of all provinces would. As their reference point is only one province over time, they do not know how a specific policy may differ slightly in another province. Moreover, researchers have no concept of the ideal model that is being used by these firms as their comparative reference point. To some extent, the low scores

55. In one or two cases, data were deemed too valuable to drop and missing data problems were limited. In these cases data were imputed using the software program known as NORM. For more information please see Schafer, J.L. 1997. Analysis of Incomplete Multivariate Data. London: Chapman & Hall. A free version of this software can be obtained at http://www.stat.psu.edu/~jls/misoftwa.html#aut. The PCI was constructed with both imputed and un-imputed data to ensure that the imputation process did not fundamentally alter the results. The final index includes predominately un-imputed data with only two exceptions: 'the effective price of land' and 'extra fees to the tax authority/ firm revenue'.
56. Hellman, Joel et al, 'Seize the State, Seize the Day: State Capture, Corruption, Influence in Transition', World Bank Policy Research Working Paper no. 2444, World Bank Institute (September 2000), p. 7-14; Joel Hellman, et al, '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 2000).
57. The Asia Foundation and Vietnam Chamber of Commerce and Industry (forthcoming). Provincial Economic Governance in Vietnam Provincial Economic Governance in Vietnam, Volume 1, Ha Noi, Vietnam: The Asia Foundation, Appendix 2, p.39.

Figure 21: Confidence Intervals around Mean Registration Time (Days)



that Binh Duong and Dong Nai gave to FDI attraction in Figure 22 above offer evidence of this problem.

Three possibilities existed for researchers to resolve the issue of multiple anchors of firms across provinces.

- *Expert Opinions:* Researchers could perform an expert survey of those knowledgeable about provincial governance in every province. These expert opinions would be used to correct misperceptions of firms in the final index assembly. The creators of the Global Competitiveness Index used just such an "Expert Opinion Survey" of foreign investors, which they included in their index[58]. An attempt was made at an expert survey of Vietnamese provinces, but this was discarded after too few respondents had the breadth to answer definitively about more than a handful of provinces.
- *Anchoring Questions:* Researchers could insert anchoring questions into the survey, asking firms to list which provinces they perceived to be the best and worst on a ten-point scale, inserting their own province somewhere on that scale. This was the method employed by the TAF-VCCI Economic Governance study, but it was more difficult to use in the PCI study as the geographic scope meant that many provinces had little familiarity with high and low performing provinces in other regions, especially in the North Central Coast and Mekong Delta. Furthermore, the TAF-VCCI research project found that anchoring questions took a great deal of time, which would have increased the non-response bias.
- *Hard Data:* The third alternative was the approach favored by the PCI research team. Collect as much data as possible from published sources and third parties and include these along with the perceptions data in the index under the assumption

58. See Blanke, Jennifer, Fional Paua, and Xavier Sala-i-Martin, 'The Growth Competitiveness Index: Analyzing Key Underpinnings of Sustained Economic Growth', The Global Competitiveness Report (New York: Oxford University Press for the World Economic Forum, 2002 - 2003), p. 27.

that the combination of firms' perceptions with hard data will be a more reliable score than perceptions alone.

The second reason for the hard data collection effort was to build measures of structural endowments to be used in weighting the index. Researchers wanted to disentangle private sector performance related to good governance from performance caused by infrastructure, proximity to markets and human capital. As the PCI seeks to inform policy, a narrow focus on initial structural conditions is problematic. Equalizing differences in structural conditions is at best a long-term project and at worst an impossible goal. No matter how creative and clever the leadership and no matter how innovative the policies, Quang Binh is unlikely to move any closer to the large retail markets and foreign buyers of HCMC. Infrastructure projects are also expensive endeavors that must be carefully considered on a national basis. It makes little sense to build a port in each harbor, as international shipping companies are unlikely to make more than one or two calls in Vietnam on any trip. As a result, the national government must choose carefully the infrastructure projects that are likely to have the largest effect on the country as a whole, so an index that rewarded provinces for having more or higher quality ports is unfair and misleading.

The third reason for the hard data collection effort was to measure the relative contribution of sub-indices in order to weight the index (see the final chapter in this report for a detailed discussion of this process). The goal of the research team was to weight the index by the impact each dimension of governance had on important private sector outcomes (i.e. number of active firms, investment and profit). These outcome variables (or "dependent variables" in statistics terminology) should be collected by a third party and therefore not subject to the same methodological process as the survey data.

Hard Data Collection Methods

Hard data collection involved a great deal of work on the part of the research team and a very resourceful and creative project intern. The first step was to collect as many published data sources as possible. These included not only large data compilations – such as The Statistical Yearbook of the GSO, Labor Statistics from the Ministry of Labor, Invalids and Social Affairs (MOLISA), data on court cases from the People's Supreme Court, and GSO's Enterprise Census, and the General Department of Vocational Training. A final important source of published information was the provincial budget data and targets from the Ministry of Finance (MOF), which are available on the MOF website[59].

When published data still proved wanting, the research team engaged in third-party interviews in order to collect additional hard data. Logistics and freight forwarding companies were surveyed to collect price data on the cost of shipping a 40-square foot container from the provincial capital to Tokyo. Real estate firms and local business associations were interviewed regarding the price of land on a major street in the provincial capital and the average price of utilities in the province. State Commercial Banks were asked to provide their lending data to SOEs and private firms by province. These sources were forthcoming and helpful with information.

The measure of web page transparency was our own analysis of information provided on each provincial web page. The exact metric is explained in Table 5. This analysis can be replicated simply by typing "www.ProvinceName.gov.vn" with a few exceptions where provinces have slightly different names for their sites.

Conclusion

In summary, the PCI research team was methodical and diligent in its data collection. Potential data problems, such as non-response bias and sampling bias, were carefully considered and their impact on the results tested through a battery of diagnostic tests. Internal validity and external validity tests proved that the data quite closely matched the data in the general population of firms and that firm perceptions corresponded with more objective measures of FDI attraction and infrastructure. Some sampling bias was discovered, but it had a marginal impact on the overall index scores. Of course, survey data has some limitations and responsible researchers must be transparent about these problems and how they were resolved – as transparent as the research team would expect provincial leaders to be about their own data.

59. www.mof.gov.vn

The research team is already working to identify ways to further limit biases in the next iteration of the survey. On the whole, however, the PCI data is the best quality of any firm-level survey performed in Vietnam to date. The following chapter explains the next step: assembling perceptions and hard data into the final nine sub-indices.

Disentangling Structural Endowments from Economic Governance

From the outset of the project, the research team strove to construct an index that measured a province's competitiveness independent of its endowments. It is undisputed that many provinces had head starts in economic development due to better infrastructure, a more skilled and literate workforce and closer proximity to large markets either in Vietnam or abroad.

Moreover, the advantage of initial conditions granted to provinces can be reinforced due to the peculiarity of the Vietnamese financial system. Vietnam sets national taxes through the MOF but returns all revenue generated by provinces to the province above an annually negotiated target[60]. While only six provinces routinely bring in more revenue than expenditure, close to two-thirds meet their targets on a regular basis[61]. For the highest revenue earners, the central government negotiates percentage return rates. HCMC, for example, can keep 29% of its surplus revenue, while Binh Duong can keep 44%[62]. The return can be substantial in some cases and many recipient provinces have been able to retain a great deal of revenue. In fact, the gap between target and actual revenue in the highest income provinces on a per capita basis has been higher than the total planned expenditure per capita in low-income provinces[63]. This extra revenue can be pumped back into infrastructure spending and educational spending, so that provinces that began under initially auspicious conditions can continually expand their advantage over time.

As the philosophy of this index is to focus on what provincial leaders can do in the short-term to improve the business climate for private sector companies, the research team was primarily interested in the ten dimensions of the regulatory climate discussed in Chapter 3. Nevertheless, properly assessing the impact of good economic governance necessitates that the portion of the success in private sector development that can be attributed solely to the regulatory environment independent of initial structural conditions is first isolated and calculated independently.

In the 2005 PCI, indicators of initial conditions were grouped together in baskets of variables using factor analysis. This year proxies were used, as they offer a more tangible measure of structural conditions. Telephone density and road quality in 1995 were highly correlated, so it made little sense to include them both in the same regression, as the project goal was not to isolate independent impacts of types of infrastructure, but simply initial conditions more generally. Also, early measures of initial conditions were chosen to avoid the analytical problem of endogeneity: the notion that provinces with high performing and better governed private sectors may have more tax revenue to invest in infrastructure improvements. Distance and Infrastructure were highly influential in explaining private sector performance, but initial human capital offered little explanatory value. The three proxy variables used were:

- Proximity to Market is proxied by the distance from markets measured by the distance in kilometers from the provincial capital to Ha Noi or Ho Chi Minh City;
- Quality of Human Capital is measured by the secondary school graduates as a percentage of the population in 2000 to account for the relevant labor force private firms would draw upon; and
- Initial Infrastructure Endowment measured by telephones per capita in 1995

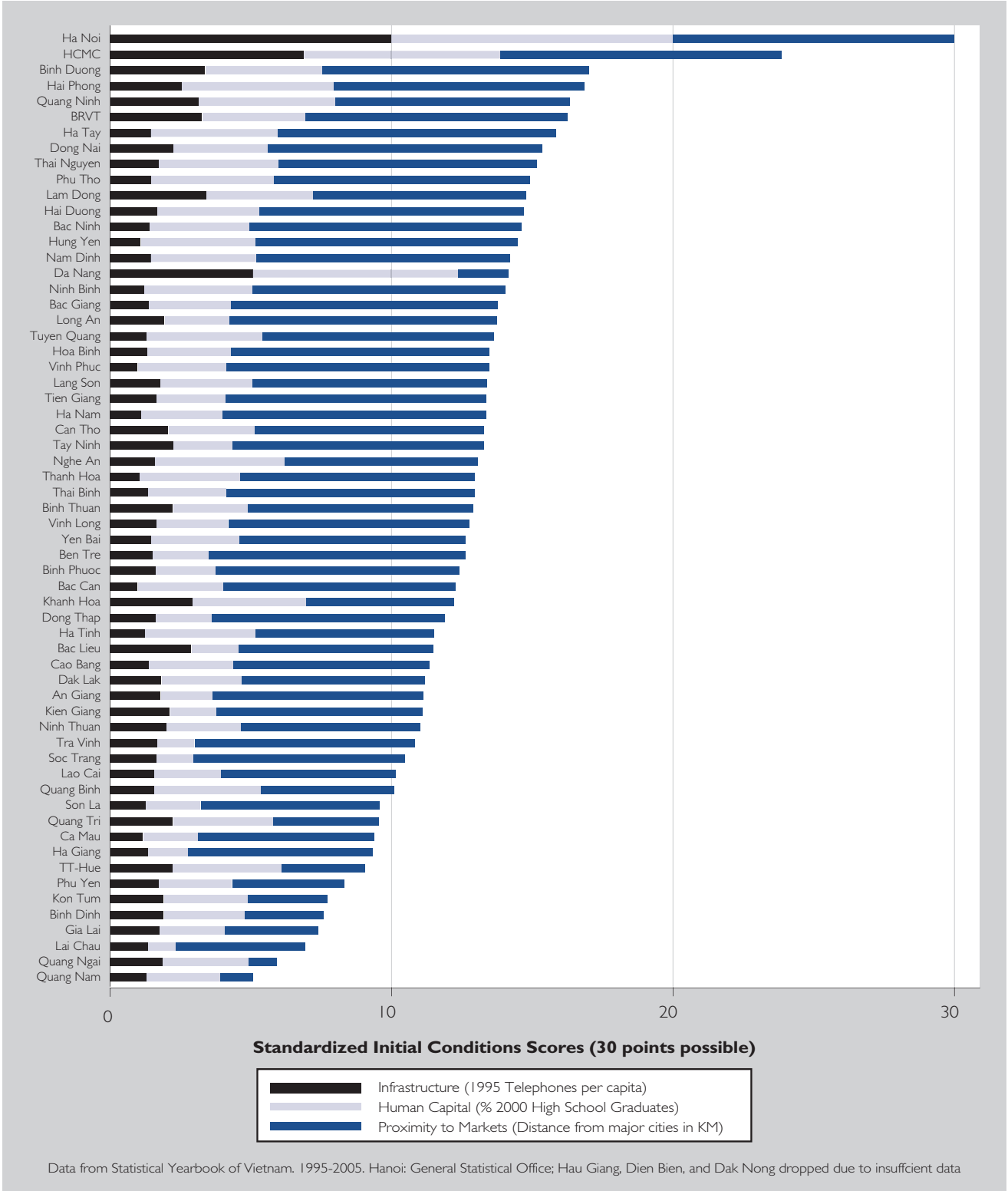
to determine their relative contributions (or 'weights') to the sub-indices.

Figure 22 shows the initial endowments of provinces. As is immediately obvious, Hanoi and HCMC dominate the measures. Hanoi has a slight advantage of

60. World Bank 1996; Vietnam is not the only country: Kazakhstan, Ukraine and China have all used this mechanism for periods of time (Norris, Martizes-Vazquez, and Norregard 2001).
61. Bird et al 1995; Rao, Bird and Litvack 2001; Vasavakul, 2002; Government of Vietnam-Donor Working Group, 2000
62 Before its request was granted in 2001, HCMC was only able to keep 15% of its revenue.
63. World Bank 1996.

HCMC due to a higher percentage of high school graduates. The graph demonstrates clearly why the two provinces have the highest absolute number of firms and highest investment. These factors are undoubtedly important for investor decisions. More interesting analytically, however, is what possibility is there for private sector growth given a province's initial endowment.

Figure 22: Initial Structural Condition



Data from Statistical Yearbook of Vietnam. 1995-2005. Hanoi: General Statistical Office; Hau Giang, Dien Bien, and Dak Nong dropped due to insuffcient data

Predicted dependent variables using structural condition

The next step was to analyze the impact of structural conditions on economic growth in order to derive baseline models by which to compare governance measures. The evidence is mixed depending on which outcome variable (See "Step 3" on Page 6) researchers choose to highlight (Model 1 of Appendices 1 - 3). Structural conditions alone account for 90% of the explained variance in number of enterprises per 1000 citizens, 46% of average private investment per capita (2000-2004), but only 7% of the variance in average profit per firm (2000-2004). These results are graphically illustrated in Figures 23 and 24, where predicted investment and profit based on structural conditions are displayed on the horizontal axis, with actual investment and profit on the vertical axis. In both cases, provinces above the line are out-performing their structural conditions, while those below the line are under-performing. The shaded gray area allows for a 5% margin of error due to measurement error. Despite the tighter fit of investment, in both cases there are a quite a large number of provinces which diverge from their structural legacies. For instance, Binh Duong has much higher investment and profit than one could predict based on its endowments. By contrast, Long An, its neighbor in the NSE tends to under-perform.

Figure 23: Predicted natural log of average investment per capital (2000-2004) using structural conditions

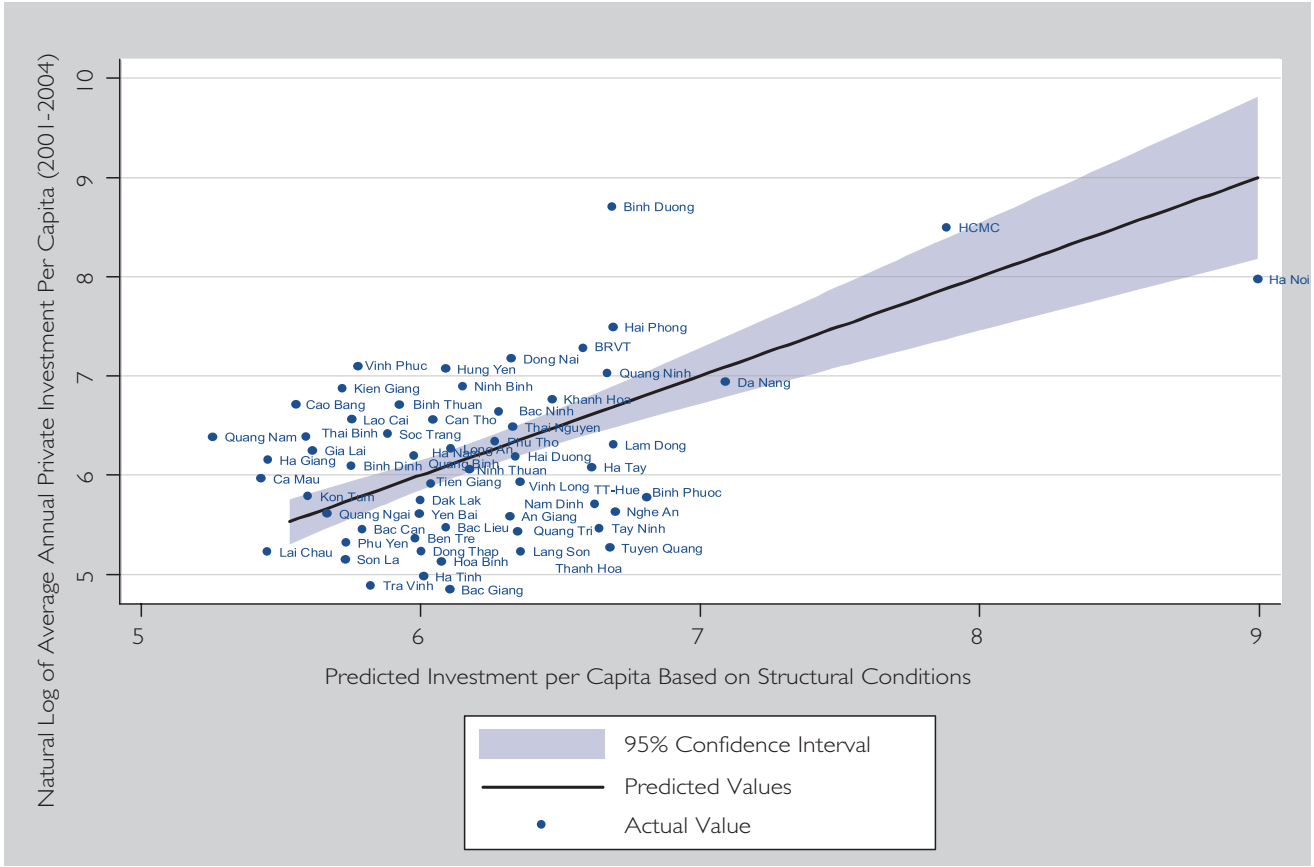
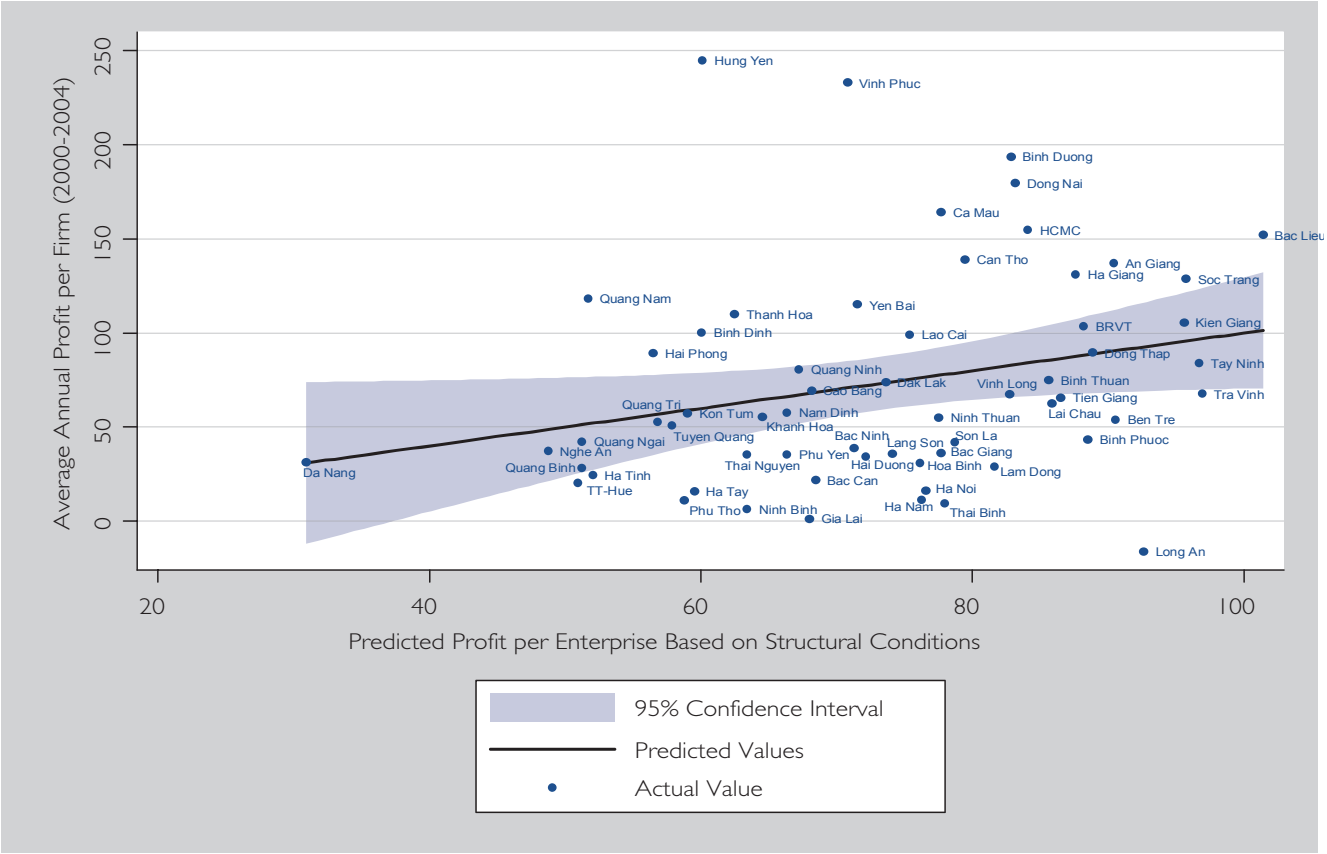


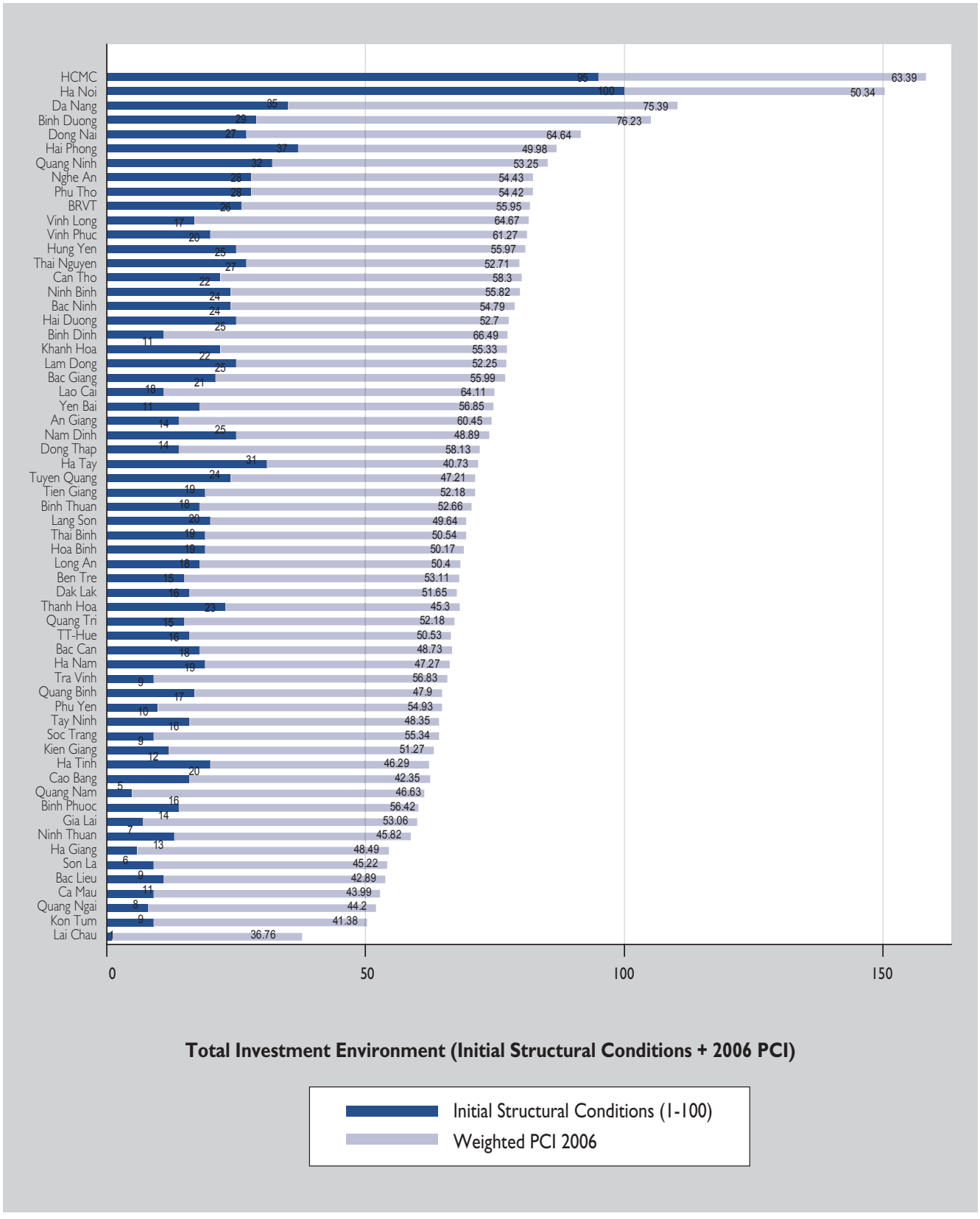
Figure 24: Predicted average profit per enterprise (2000-2004) based on structural conditions



Remarks on structural conditions

It is the above divergence from the advantage or tyranny (as the case may be) of structural conditions that the PCI attempts to explain. In essence, this is an attempt to capture the impact of improvements in the regulatory environment, given a set legacy of structural conditions. More importantly, the PCI hopes to identify the provinces that have made the most progress in private sector development at all levels of initial structural conditions. Once these benchmark provinces are determined, they can be used to identify what policies and initiatives are conducive to inspiring private sector growth in provinces with high, low and medium scores on initial conditions. One policy certainly does not fit all and the PCI allows us to find the tailored policy that is most likely to be effective in a particular setting. Figure 25 is helpful in this process by displaying the PCI and structural conditions on the same 200-point scale, with both factors counting for half the final score. If we were to take all of these factor into consideration in a Total Investment Environment Index, it would look something like this. Hanoi would rank second only to Ho Chi Minh City. But even that would leave out factors such as culture, history, and quality of life. How can we accurately measure and account for these factors?

Figure 25: Total Business Environment (Structural Conditions +Weighted Provincial Competitiveness)



Constructing a Weighted Composite Index

Assessing the relative importance of sub-indices

Once all ten indicators were constructed and standardized to a ten-point scale, the research team set about constructing the final composite index. While a simple additive index was clearly the easiest method, it would be inappropriate as a policy tool. This is because some sub-indices are more important than others in explaining private sector development.

Every analyst and practitioner in Vietnam has a favorite measure of private sector development, and recent data improvements have facilitated collection efforts on a wide variety of these measures. After careful consideration, the team selected three dimensions of competitiveness (outcome variables) that it believed provided the widest and deepest insights into private sector development at the provincial level. These were:

- The ratio of private enterprises (*including Sole Proprietorships, Partnerships, LLCs and Joint-Stock Companies*) actively operating in the provinces to the number of citizens in the province. Researchers believed that this data obtained from the GSO's Enterprise Census offered a far better picture of the robustness of private sector growth, post- 1999 Enterprise Law, than the number of registered private firms available at the provincial DPIs. Registered data simply records the number of entrepreneurs who filled-out the paperwork to start a business, but does not subtract the number of entrepreneurs who did not actually commence business activities, or who began but subsequently closed, due to poor performance or regulatory restrictions. The GSO's number of active enterprises effectively captures the number of firms that completed registration procedures and that have been successful enough to continue business operations beyond the initial entry stage. The total number of firms in 2004 was then divided by thousands of provincial citizens, to account for the fact that larger population centers may simply have a larger absolute number of firms. The number of private enterprises ranged from a low of 0.20 for every thousand citizens in Son La to a high of 4.4 firms in Ha Noi, with a median score of 0.52.
- *Average private sector long-term investment per capita (2000-2004) was chosen to gauge the size of the risk entrepreneurs were willing to make*. The assumption is that private entrepreneurs will be more willing to make sizable investments in more conducive regulatory environments, where they can more accurately assess the long-term potential benefits and costs of their enterprise. Investments should remain small in areas where firms face a high risk of expropriation or corruption, or where subtle barriers are erected to prohibit their success. By controlling for structural conditions, such as infrastructure and proximity to markets, in multivariate regressions, researchers can accurately determine how many of the risks entrepreneurs are willing to endure can be attributed to their faith in the regulatory environment. Average private investment per capita varied quite widely, from a minimum of VND 133,000 in Tra Vinh to a maximum of VND 6.1 million in Binh Duong. The provincial median was VND 436,000. Because of the large spread, the natural log of this variable is most appropriate for analysis.
- *Average profit per firm, in millions of VND (2000-2004) was selected as a measure of the success of individual firms over the post-1999 Enterprise Law period*. Firm profitability in one specific time period is a very good predictor of the potential for more investment in subsequent periods. High PCI performers are more likely to create an environment in which entrepreneurialism is encouraged and rewarded by business profits, rather than by public largesse. Average profit had a mean of VND 71 million, and varied between net losses of VND 16 million in Long An to profits of VND 200 million or more in Hung Yen, Vinh Phuc and Binh Duong.

Calculating the impact of sub-indices on outcome variables

Ideally, determination of sub-index weights would involve simply regressing all ten sub-indices on the three dimensions of competitiveness, controlling for the structural conditions discussed in the previous chapter. Weights could simply be read directly from the coefficients of the regression output, which records the substantive impact of a one-point change in the sub-index. For instance, if a one-

point increase in Legal Institutions led to an additional four enterprises per capita, while a one-point change in the Entry Costs sub-index led to only an additional two enterprises, then the weight of the Legal Institutions sub-index would be twice the weight of Entry Costs in the final index.

After creating the sub-indices, researchers encountered one large problem in this ideal: multi-collinearity among the sub-indices. As Table 12 illustrates, several of the sub-indices are highly correlated, particularly Property Rights, Transparency, SOE Bias, Proactivity and Private Sector Development Services. Provinces which excel at one of these activities also tend to excel at the other five. Running highly correlated sub-indices in the same regression will lead to imprecise measures of their respective substantive effects[64]. In practice, running two correlated sub-indices together will lead to a statistical output that shows one of the indices as highly significant and the other insignificant (or worse, significant in a negative direction), because the variance it would explain in the dependent variable has already been accounted for.

Deriving three uncorrelated factors from the ten sub-indices

Researchers chose to solve the problems of multi-collinearity by relying on the same factor analysis technique described earlier. Table 13 reveals the factor loadings and scores resulting from this exercise. Factor loadings are essentially the bivariate correlation with the underlying factor, while factor scores are the percent contribution of each sub-index to the factor score. Adding up all factor scores on a given factor is equal to 1. Three factors were delineated from the varimax rotation procedure. Together the three factors account for about 60% of the variance among sub-indicators:

Factor 1 – Generation 2 and 3 Reforms (See page 8): The first factor is composed of PSD, Transparency, Time Costs, Labor Training, and Proactivity. All of these sub-indices are related to the post entry business environment for firms.

64. Statistically, the size of the coefficient of any one sub-index is likely to be highly dependent on which other sub-indices are included.

Table 12: Bivariate Correlation Between Sub-Indices

Sub-Index	1	2	3	4	5	6	7	8	9	10
1. Entry Costs	1									
2. Land access and security	-0.0116	1								
3. Transparency	0.1424	0.1822	1							
4. Time costs of regulatory compliance	-0.0672	-0.0745	0.3037	1						
5. Informal charges	-0.056	0.3262*	0.2206	0.0939	1					
6. SOE bias (competition environment)	0.1908	0.1974	0.2571	0.1536	0.1949	1				
7. Proactivity	0.1833	0.3233*	0.5091*	0.1813	0.4189*	0.3726*	1			
8. PSD services	0.1849	0.2342	0.7107*	0.3415*	0.065	0.1881	0.5556*	1		
9. Labor training	0.2424	0.002	0.5203*	0.3136*	0.1605	0.0817	0.4009*	0.5954*	1	
10. Legal Institutions	0.2848*	-0.1316	0.0857	0.1385	-0.0084	0.0905	0.3497*	0.2764*	0.3822*	1

Labor Training and PSD specifically represent the types of pro-market interventions that can assist firms' businesses by providing services that eventually have yet to be provided by private entities, such as market information consulting or training centers to assist labor skill upgrading.

Factor 2 – Generation 1 Reforms: Land Access and Tenure, Informal Charges, and SOE bias are initial reforms which assist provinces in attracting new firms and encouraging business to formalize their activities. To some extent, Proactivity is also partially related to this index.

Factor 3 – Low Variance Sub-Indices: The final factor represents the two sub-indices which have little variance across provinces. Entry Costs has low variance due to the fact that most provinces have made significant improvements to streamline business registration procedures. There are very few stars in this area anymore. Legal Institutions has low variance, because no province has made significant improvement above the others in improving firm confidence that courts will uphold their property rights and business interesting.

Weighting the sub-indices by their contribution to improvement in outcomes

Each of the new derived factors was run in a series of three regressions on the three outcome variables of investment, profit, and number of enterprises described above. The regression results, controlling for structural conditions and starting points are shown in Model 3 of Appendices 2-4 below. By adding up the positive coefficients, the total impact of our competitiveness indicators on improvements in the dependent variables was determined. For instance, a standard deviation (one point) increase in Factor 1 would lead to a VND 37.78 million increase in profits; a similar shift in Factor 2 would increase profits VND 15.63 million; and a one-point increase in Factor 3 would result in VND 45,000 in profits. Taken together the governance improvements account for is a VND 53.86 million cumulative shift

Table 13: Results of Factor Analysis on Sub-Indices with Varimax Rotaion

Factor loadings are the bivariate correlation of each sub-index with the underlying factor Factor scores are the contribution of each sub-index to variance in the underlying factor (shown in parentheses)				
Sub-Index	**Factor 1 (Ω)**	**Factor 2 (Ω)**	**Factor 3 (Ω)**	**Uniqueness**
8. PSD services	0.8198	0.1819	0.1694	0.266
3. Transparency	0.7685	0.2918	0.03	0.3233
9. Labor training	0.7618	-0.0308	0.2796	0.3406
4. Time costs of regulatory compliance	0.6813	-0.1495	-0.2536	0.4492
7. Proactivity	0.5336	0.5709	0.3082	0.2944
2. Land access and security	0.0097	0.7766	-0.095	0.3878
5. Informal charges	0.1588	0.677	-0.1342	0.4984
6. SOE bias (competition environment)	0.1412	0.5215	0.2872	0.6256
1. Entry Costs	0.0349	0.0426	0.8229	0.3199
10. Legal Institutions	0.3337	-0.1661	0.6562	0.4306
Eigen Value	2.75	1.83	1.48	
Cumulative Variance	27.5%	45.8%	60.6%	

in profits, with Factors 1, 2, and 3 accounting for 65.9%, 31.5% and 2.6% of that increase respectively. If profit was the only outcome variable, these percentages would be the respective weights for these factors in the PCI. This procedure was repeated for all three outcome variables, deriving the outcomes displayed in Table 14 below. The final row reveals that the final weights will be Factor 1 (71.5%), Factor 2 (17.39) and Factor (11.12%).

Once the ultimate weight of each of the derived factors is known, the individual weights for each of the ten sub-indices can be derived by working backwards. This can be done because the factor loading is known; in other words, its contribution to the underlying factor, which is shown in parentheses in Table 13. The overall factor weights are simply multiplied with the statistically derived factor loadings and summed up in the column called contribution. Now, we simply calculate the individual contribution of each sub-index to the total contribution of (369.6). The result is the weight for that sub-index in the PCI. Take Entry Costs for example, which has an individual contribution of 11.76. 11.76 divided by 369.6 equals its final weight of 3.18. Table 14 demonstrates this procedure; final weights for each sub-index are listed in column six of Step 2, followed by the rounded weights which were actually used in the index. Rounded weights were used to enhance replicability in future year. Four variables, PSD, Transparency, Labor Training, and Proactivity receive the highest weights. Figure 26 summarizes this set of procedures.

Figure 26: Graphic Depiction of Weighting Technique

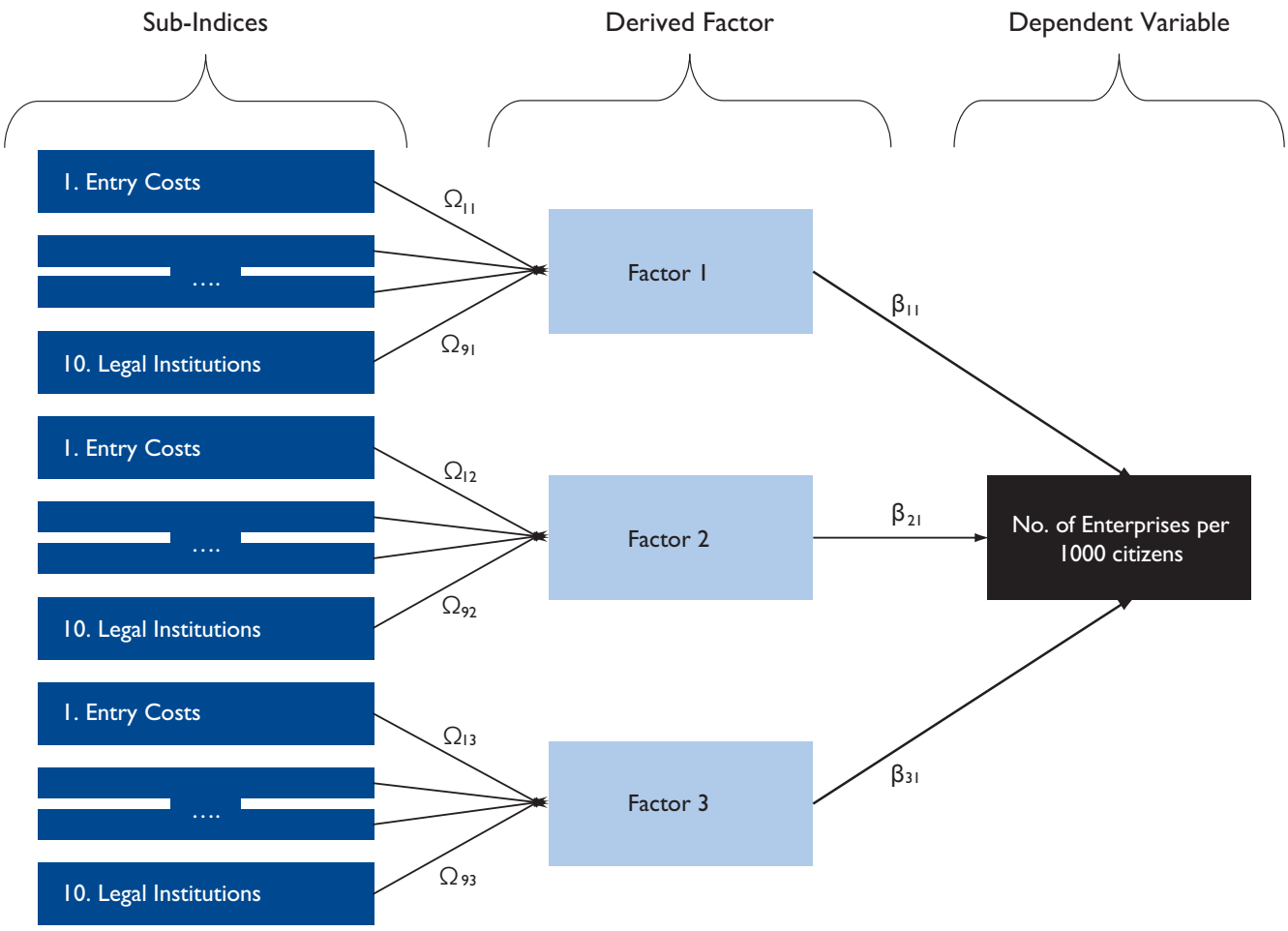


Table 14: Weighting Procedures

Step 1 - Calculate Contributions of Factors from Multivaiate Regression

(Impact of a one-point shift in derived factors on key outcome variables using standardized beta coefficients

Outcome Variables	Factor 1	Factor 2	Factor 3	Total
Profit per enterprises in millions of VND (1)	37.20	17.88	1.49	56.57
Wgt1: Contribution to profit per enterprise (%)	65.76	31.61	2.63	100.00
Number of Enterprises per 100,000 people in 2003 (b)	10.80	1.10	3.70	15.60
Wgt2: Contribution to number of enterprises per 1,000,000 people in 2003 (%)	69.23	7.05	23.72	100.00
Natural log of total average private sector investment 2000-2003 per capita (percent increase in investment) b	42.96%	6.26%	3.19%	44.96%
Wgt3: Contribution to average private sector investment per capita (%)	79.50	13.51	6.99	100.00
Total Factor Contribution (%)	71.50	17.39	11.12	100.00
Natuaral logariths can be converted to percentages by using the following fomula (e-1)*100, where is the coefficent from the regression				

Step 2 - Use Factor Loadings to Derive Individual Sub-Index Contributions

Multiply Derived Factor Scores (Ω in Table 13) with Total Factor Contribution (%) to Generate Final Weight for each Sub-Index

[((71.22* Factor1) + (17.45* Factor 2) + (11.43* Factor 3)) Total Contribution] = Final Weight

Sub-Index	Factor 1	Factor 2	Factor 3	Contribution	Final Weight	Rounded
1. Entry Costs	0.0277	0.0385	0.8196	11.76	3.18%	5%
2. Land access security	0.0103	0.7786	-0.0967	1320	3.57%	5%
3. Transparency	0.7677	0.2805	0.0279	60.07	16.25%	15%
4. Time costs of regulatory compliance	0.6826	-0.1258	-0.2312	44.05	11.92%	10%
5. Informal charges	0.1555	0.6724	-0.1367	21.29	5.76%	5%
6. SOE bias (competition environment)	0.1328	0.5346	0.2978	22.10	5.98%	5%
7. Proactivity	0.4991	0.5557	0.294	48.61	13.15%	15%
8. PSD services	0.8191	0.1799	0.1725	63.61	17.21%	15%
9. Labor training	0.7595	-0.0388	0.2798	5674	15.35%	15%
10. Legal Institutions	0.3267	-0.1501	0.6676	28.17	7.62%	10%
Total				*369.60*	*100.0%*	*100%*

Sub-Index	Factor 1	Factor 2	Factor 3	Contribution	Final Weight	Rounded
8. PSD services	0.8191	0.1799	0.1725	63.43	17.19%	15%
3. Transparency	0.7677	0.2805	0.0279	59.89	16.23%	15%
9. Labor training	0.7595	-0.0388	0.2798	56.59	15.33%	15%
7. Proactivity	0.4991	0.5557	0.294	48.57	13.16%	15%
4. Time costs of regulatory compliance	0.6826	-0.1258	-0.2312	43.80	11.87%	10%
10. Legal Institutions	0.3267	-0.1501	0.6676	28.21	7.64%	10%
6. SOE bias (competition environment)	0.1328	0.5346	0.2978	22.16	6.00%	5%
5. Information charges	0.1555	0.6724	-0.1367	21.26	5.76%	5%
2. Land access and sercurity	0.0103	0.7786	-0.0967	13.22	3.58%	5%
1. Entry Costs	0.0277	0.0385	0.8196	11.93	3.23%	5%
Total				*369.07*	*100.0%*	*100%*

Part V:

FREQUENTLY ASKED QUESTIONS ABOUT THE PCI

General Questions about the PCI

Why does the PCI only focus on private domestic firms?

While the private sector is only part of the national economy and corporate community, it is widely recognized as a critical component in sustaining long-term economic growth. Private domestic firms typically do not enjoy the kinds of privileges that SOEs and FIEs often receive from provincial government. And from a policy perspective, there is often a spillover effect from economic governance of domestic private firms to foreign firms. If local private companies are satisfied with the way provinces treat them, usually foreign firms are satisfied as well.

What can the PCI tell us about State Owned Enterprises (SOEs)?

The SOE Bias sub-index is only designed to indicate where provincial policies favor the state sector, to the detriment of the private sector. SOEs are still a major contributor to Vietnam's economic growth. However, the concern of the PCI is to determine the degree to which provinces provide equitable treatment towards state-owned and private enterprises.

Questions specific to PCI 2006

Why was the response rate greater for PCI 2006?

The number of responses in 2006 is particularly impressive, as double the number of survey forms were sent out compared to 2005, in order to make sure that every province provided a statistically valid sample. This could have been expected to reduce the response rate (ie. the proportion of firms responding, relative to the number of survey forms sent out), but in fact the response rate improved dramatically. There are a number of reasons for this:

- Businesses are now clearly much more aware of the PCI, and in particular the impact it is having upon policy-making at the provincial level. Consequently, firms are more willing to take the time to participate in the survey, despite the sensitive nature of some of the topics.

• Many rural and mountainous provinces have been omitted from other research projects studying private sector development. This year's PCI was the first time that many firms in such locations have had the chance to voice their concerns.

- More eye-catching colored envelopes and high quality paper were used, so that firms could differentiate the survey forms from junk mail.
- A shorter and more focused questionnaire, that took less time to complete, was distributed. More nuanced sampling techniques were also used, notably in low-responding provinces.
- Better trained researchers, with a variety of different regional accents, were able to respond immediately and accurately to firms' follow-up queries and concerns.
- Improved timing of the survey, occuring immediately after the Tet holiday.
- More attractive books were offered as an incentive for participating firms to respond.

Why are the weightings for the sub-indices different?

There are four reasons for the differences in weighting. First, dropping one sub-index (Implementation) and adding two new ones (Labor and Legal), alters the relative explanatory power of the eight original sub- indices. Secondly, the Land sub-index was revamped, with an entirely new dimension used to measure the security of tenure. Thirdly, new and better indicators were added to six of the original eight sub-indices, while some other indicators used in PCI 2005 were dropped. Indicators were dropped when the research team was persuaded by outside experts: i) that the interpretation of results for these indicators was ambiguous; ii) when equivalent data used in PCI 2005 could not be obtained for PCI 2006; or when the data was of lower quality than in 2005. Fourthly, adding 22 new provinces, many of which are under-developed rural provinces with less valuable land and different sets of firm problems and structural conditions, certainly impacted the importance of particular sub-indices.

What accounts for the improvement in the Ho Chi Minh City and An Giang Province scores in PCI 2006?

A number of factors probably came into play here, but perhaps the most important was the

active attention given by both these provinces to updating and improving business information provision through their websites. Further, these efforts coincided with a significant improvement in the methodology used for scoring provincial web pages in PCI 2006. Specifically, the research team used the GOOGLE methodology for scoring the website's popularity, rather than the (easily manipulated) self-recording of the number of hits on the page. These changes led to increases in the two provinces' transparency scores, which received the highest weight of 15% in PCI 2006.

The changes in weightings described in response to question 4, above, also had an impact. Both provinces had improved scores for transparency and private sector development policies, which also received the highest weighting of 15%. Ho Chi Minh City specifically benefited from the inclusion and high weighting of the new Labor Skills Development sub-index. (There was also a marked improvement in the response rates in both provinces, from under 10% for PCI 2005 to just about 20% for PCI 2006.)

Both provinces made impressive efforts to improve their economic governance, due in part to the results of PCI 2005. An Giang province actually had two diagnostic studies enacted by the VNCI research team. This would have contributed to a better understanding of the required policy improvements to improve the business environment for the private sector.

What accounts for the decline in Ben Tre and Thai Binh provinces' scores?

Both provinces benefited in PCI 2005 from the high weighting of Entry Costs last year. While these provinces actually received similar scores in this regard for PCI 2006, the reduced weighting applied to Entry Costs lowered their overall scores.

Both provinces also scored lowly on the two new sub-indices of Labor and Legal. Because of the high weighting given to these sub-indices, Ben Tre and Thai Binh were adversely impacted, relative to their peers. Ben Tre province was also impacted by the weighting decline for informal charges, where it managed to improve its score a great deal.

Thai Binh was adversely impacted by the lower weighting for SOE Bias, where it did well both this year and last. The addition of 22 new provinces in PCI 2006 augmented the impact of these declines more than if the number of provinces had remained the same, because four new provinces entered above Ben Tre, and nine entered above Thai Binh.

Why was the fifth indicator in the Pro-activity index dropped?

Since the release of the PCI 2006 summary report, in June 2006, the fifth indicator within the pro-activity sub-index has been dropped. This indicator entailed responses to the question: "When a new law, rule, regulation or decree is being discussed that could have a substantial impact on your business, does the provincial government solicit advice from firms like yours regarding the content or implementation of the legal document?"

After the June 2006 release of the PCI 2006 rankings, there was significant discussions between provinces and researchers about the meaning of this indicator. Concerns were raised as to whether the question could distinguish between benign collaboration with private interests versus undue influence by 'connected' enterprises. also In addition, a calculation error was discovered in this indicator. Consequently, the PCI research team decided to drop this indicator from the pro-activity sub-index for PCI 2006.

The impact of this change was minimal. Only 4 provinces had an absolute value shift greater than 5, and very few provinces moved in terms of their PCI rank groupings.

We have organized a number of trade fairs. Why does PCI 2006 say the number of trade fairs for our province was nil?

Information on trade fairs comes from Viettrade of the Ministry of Trade and is not based on firm perceptions. Our data only reflects numbers reported from the provincial Department of Trade to Viettrade.

Our province has equitized almost all of its state-owned enterprises, with the exception of a few public utilities companies, such as electricity and water. Why does PCI 2006 say we have an SOE bias?

'Hard data' on the presence of the state enterprise sector in

each province is taken from the Government Statistics Office's Enterprise Census. Due to the publication date of this kind of 'hard data', to the PCI can only use values taken from the most recent year, which tends to be at least one year out of date.

Survey Methodology Questions

Do you have enough firms to make accurate conclusions?

In PCI 2006 we had a total of 6,300 respondents. Ho Chi Minh City had the largest number of respondents with 234, while Lai Chau had the lowest number of respondents with 36.

In comparison with other surveys that rank economic governance in Vietnam, the PCI sample size is large. For example, the 'Global Competitiveness Report' surveys only 100 firms across Vietnam (50 firms in the North and 50 firms in the South), while other cross-country comparative indices – such as the IFC's 'Doing Business' survey and the 'Index of Economic Freedom' – tend to just use secondary data and/or expert opinions (ie. they do not directly survey individual businesses).

When we have at least 30 firms in a province, we can estimate how close our survey responses are to the estimated 'true score', to be derived from surveying the entire population of firms. Using the number of responses and the variance in answers, we can estimate a confidence interval that tells us the range of possible 'true population values' if we were to perform another 100 random samples of the population. A 90% Confidence Interval tells us that if we were to sample the same provincial population 100 times, in 90 out of 100 times the population score would be within this range.

The most important thing for creating an index like PCI is to make sure that these 90% confidence intervals are not so large that the confidence intervals of provinces overlap. If they do, it means that we can not be certain that one province's score actually is better than another's. In other words, the differences are not statistically significant. Therefore we sought to eliminate questions where statistically significant differences could not be determined between provinces.

How can you make a conclusion on the local business environment based on responses from just 10% or so of firms in the province?

Closely related to determining the size of the sample is ensuring the quality of the responses, or sampling. The sampling method is a process to ensure that a small group of respondents is 'representative' of the entire population. The PCI survey uses a very conventional sampling method known as random stratified sampling. The same methodology is used in the World Bank's Investment Climate Survey, as well as Vietnam's household business survey. Random means that there is an equally random chance to choose any firm, while stratified means we ensure that these random selections match key criteria that represents the broader population.

In the PCI we use the stratifications of: ownership type, business sector, and company age. Also, using the list of firms registered with the Tax Authority, we ensure that all the surveyed firms are active. We then divide the total number of firms according to 24 strata/ categories. The random selection process means that each firm of the same ownership type, sector and age has the same probability of being selected. The respondents per stratification then match the distribution within the actual population. After sampling was completed, the PCI research team was careful to compare samples to populations, in order to make sure that this was indeed the case.

How can you be sure that the other 90% or so of firms, which were not surveyed, will not respond differently?

For a mail-out survey like the PCI, the major issue is the non-response bias. In other words, can we credibly conclude that the respondents' opinions differ significantly from non-respondents' opinions. Mail-out surveys are a new technique for Vietnam and the research team took several key measures to reduce the effect of this bias, primarily by increasing the number of respondents (also see the response to question 3, above). As a result of these efforts, the PCI 2006 response rate was 20.45% — within the 20% to 30% range typical for large mail-out surveys in the United States. Tests to identify the effects of a non-response bias currently show no significant impact, and are detailed in the full report.

Think all the responding firms in my province are 'angry', and all the firms in the top provinces are 'happy', with local business conditions.

This comment, taken directly from several PCI Provincial Diagnostics, refers to a consistent type of non-response bias in the survey, also known as a systematic bias. By comparing the results from the mail-out survey with a follow-up survey in 6 provinces (see PCI 2005 full report, page 48), the scoring patterns did not consistently differ, as a systematic bias would suggest. Rather, tests indicate that the bias is unsystematic, meaning the non-response bias had no effect on lowering or raising one province's PCI score. Both 'happy' and 'angry' firms in all provinces tended to participate in the PCI survey. Provinces that scored better in the PCI rankings did so because they were more consistent in satisfying firms with their approach to economic governance.

APPENDICES

APPENDIX 1 : LINEAR REGRESSION ON NUMBER OF ACTIVE PRIVATE FIRMS PER 1,000 PEOPLE

	Models			
Independent Variables	(1)	(2)	(3)	Standardized Beta (Ω)
Distance from Hanoi or HCMC (kilometers)	-0.000228	-0.000215	-0.000234	-0.072
	(0.00014)	(0.00013)	(0.00015)	
Percentage of high school graduates in 2000	0.00792	0.00748	0.00496	0.058
	(0.0056)	(0.0054)	(0.0065)	
Telephones per 1,000 citizens in 1995	0.0728***	0.0718***	0.0715***	0.855
	(0.0053)	(0.0051)	(0.0053)	
Unweighted PCI Score (Sum of 10 Sub-Indices)		0.0123**		
		(0.0050)		
Factor Score 1 from Sub-Indices PCF Analysis			0.0789**	**0.108**
			(0.037)	
Factor Score 2 from Sub-Indices PCF Analysis			0.00799	**0.011**
			(0.039)	
Factor Score 3 from Sub-Indices PCF Analysis			0.0270	**0.0380**
			(0.031)	
Constant	0.0503	-0.620**	0.111	
	(0.090)	(0.28)	(0.11)	
Observations	61	61	61	
R-squared	0.90	0.91	0.91	
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1 PCF = Principal Component Factors				

APPENDIX 2: LOG LINEAR REGRESSION – AVERAGE ANNUAL INVESTMENT PER CAPITAL, 2001 – 2004

	Models			
Independent Variables	(1)	(2)	(3)	Standardized Beta (Ω)
Distance from Hanoi or HCMC (kilometers)	-0.000575*	-0.000535*	-0.000488	-0.141
	(0.00034)	(0.00031)	(0.00034)	
Percentage of high school graduates in 2000	0.0252*	0.0238*	0.0174	0.188
	(0.014)	(0.013)	(0.015)	
Telephones per 1,000 citizens in 1995	0.0361***	0.0328***	0.0299**	0.339
	(0.013)	(0.012)	(0.012)	
Unweighted PCI Score (Sum of 10 Sub-Indices)		0.0396***		
		(0.012)		
Factor Score 1 from Sub-Indices PCF Analysis			0.273***	**0.354**
			(0.087)	
Factor Score 2 from Sub-Indices PCF Analysis			0.0473	**0.062**
			(0.091)	
Factor Score 3 from Sub-Indices PCF Analysis			0.0258	**0.034**
			(0.071)	
	5.554***	3.398***	5.707***	
Constant	(0.22)	(0.67)	(0.27)	
Observations	61	61	61	
R-squared	0.46	0.55	0.57	
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				
PCF = Principal Component Factors				

APPENDIX 3: LINEAR REGRESSION ON AVERAGE PROFIT PER ENTERPRISE (2001 -2004)

	Models			
Independent Variables	(1)	(2)	(3)	Standardized Beta (Ω)
Distance from Hanoi and HCMC (KM)	-0.0397	-0.0350	-0.0247	-0.097
	(0.033)	(0.031)	(0.034)	
% of High School Graduate 2000	-2.386*	-2.496*	-2.634*	-0.386
	(1.33)	(1.25)	(1.50)	
Telephones per 1,000 citizens 1995	1.712	1.424	1.195	0.138
	(1.27)	(1.19)	(1.22)	
Unweighted PCI Score (Sum of 10 Sub-Indices)		3.292***		
		(1.10)		
Factor Score 1 from Sub-Indices PCF Analysis			21.49***	**0.378**
			(8.56)	
Factor Score 2 from Sub-Indices PCF Analysis			8.845	**0.156**
			(8.97)	
Factor Score 3 from Sub-Indices PCF Analysis			0.254	**0.05**
			(7.07	
	110.9***	-68.80	114.6***	
Constant	(21.3)	(63.3)	(26.3)	
Observations	61	61	61	
R-squared	0.07	0.20	0.21	
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				
PCF = Principal Component Factors				

APPENDIX 4: LINEAR REGRESSION ON GDP PER CAPITA (Millions of 2004 VND)

	Models					
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
Distance from Hanoi and HCMC (KM)	-0.00262***	-0.00251***	-0.00265***			
	(0.00080)	(0.00075)	(0.00083)			
% of High School Graduate 2000	-0.0189	-0.0215	-0.0493			
	(0.032)	(0.030)	(0.037)			
Telephones per 1,000 citizens 1995	0.195***	0.188***	0.184***			
	(0.031)	(0.029)	(0.030)			
Ba Ria - Vung Tau Dummy	34.88***	34.86***	34.39***	36.24***	36.19***	35.77***
	(1.37)	(1.29)	(1.36)	(1.37)	(1.44)	(1.38)
Unweighted PCI Score (Sum of 10 Sub-Indices)	0.0757***			0.0861***		
	(0.027)			(0.028)		
Factor Score 1 from Sub-Indices PCF Analysis			0.067***		0.536***	
			(0.21)		(0.21)	
Factor Score 2 from Sub-Indices PCF Analysis			-0.0530		0.208	
			(0.22)		(0.20)	
Factor Score 3 from Sub-Indices PCF Analysis			0.0824		0.0196	
			(0.17)		(0.18)	
Standardized Intial Structural Conditional Score (1-100 points)				0.0934***	0.0879***	0.0762***
				(0.011)	(0.014)	(0.015)
Dummy for PCI above Median Score						-0.00208
						(0.57)

	Models					
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
Interaction between Structural Conditions and Dummy for PCI above Median						0.0438***
						(0.022)
Constant	3.542***	-0.588	4.152***	-2.600	2.270***	2.075***
	(0.51)	(0.53)	(0.66)	(1.58)	(0.35)	(0.39)
Observations	61	61	61	61	61	61
R-squared	0.94	0.95	0.95	0.93	0.93	0.94
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						
PCF = Principal Component Factors						

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