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# PCI 2022

## THE VIETNAM PROVINCIAL COMPETITIVENESS INDEX

*Measuring economic governance  
for business development*





HOPE

Artist Nguyen Thanh Vu

**PCI**  
**2022**

**THE VIETNAM PROVINCIAL  
COMPETITIVENESS INDEX**

*Measuring economic governance  
for business development*

In celebration of the 60th Anniversary of the founding of  
the Vietnam Chamber of Commerce and Industry  
(1963-2023)

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# FOREWORD

The 2022 Provincial Competitiveness Index report, the eighteenth edition, assembles the collective business perceptions regarding economic governance and reform endeavors across Vietnam's 63 provinces. This year's report is fortuitously released on the eve of the 60th Anniversary of the founding of Vietnam Chamber of Commerce and Industry (1963-2023).

The PCI remains a reliable and useful tool that informs policy making at all levels, spreads administrative reforms across provinces, and promotes business environment reforms while providing a reference for investors' decisions. By exploring firms' perceptions and experiences in provinces where they operate, the PCI can identify gaps between policy intent and implementation on ground, motivating action to gradually bridge these gaps.

The 2022 PCI report, based on the responses of over 12,000 firms, reveals the tremendous efforts of both businesses and provincial governments to navigate through the rough waters of the COVID-19 pandemic. Both domestic and foreign firms reported improvements in administrative procedures, reductions in the time costs of bureaucratic compliance, and liberation from the burdens of informal charges. However, the effects of the challenging economic context are also clear in this year's report, as reforms in many policy areas slowed and business optimism remained low. Many firms report multiple difficulties in access to finance and hiring employees, limited infrastructure growth, and a gap between central policy and implementation at the grassroots level.

In this year's report, we also launch the Provincial Green Index (PGI), an initiative developed by VCCI with the support from the United States Agency for International Development (USAID) and private sector partners. This index evaluates and ranks provinces' environmental policy from the perspective of businesses with the goal of promoting better business behavior and practices, including the application of new green technologies.

With the introduction of the PGI, we hope to encourage provinces and cities in Vietnam to pay greater attention to environmentally responsive economic development, provide up-to-date information that informs investment and environmental policy, and ultimately promote an environmentally friendly business ecosystem that contributes to the country's green growth orientation.

Vietnam's green transformation will not be an easy journey, but we have high hopes for a fruitful one. Despite major challenges ahead in 2023, businesses are optimistic about the prospects of this new adventure. This year, we chose "HOPE" by the Vietnamese artist Nguyen Thanh Vu as the cover art for the PCI report, as it visualizes this optimistic sentiment. There is hope that Vietnam will make it through the global economic downturn, maintain a sustainable business environment, and deliver greater success to the business community in the country.



Pham Tan Cong  
Chairman and President  
Vietnam Chamber of Commerce and Industry



# ACKNOWLEDGEMENTS

The Provincial Competitiveness Index (PCI) is the result of a major ongoing, collaborative effort between the Viet Nam Chamber of Commerce and Industry (VCCI) and the U.S. Agency for International Development (USAID) to enhance provincial economic governance and create a healthy business-enabling environment for private sector development in Vietnam.

The PCI 2022 Report was developed under the overall direction of Pham Tan Cong, Chairman and President of VCCI, Vice Chairman of the Prime Minister's Administrative Procedures Reform Advisory Council, and Dau Anh Tuan, Deputy General Secretary of VCCI, General Director of VCCI's Legal Department, and PCI Program Director. It also benefited from important support of Aler Grubbs, USAID Viet Nam Mission Director. Additionally, Gregory Leon, Director of the Office of Governance and Economic Growth (OGEG), USAID/Viet Nam, Trevor Hublin, Deputy Director of OGEG, and Nguyen Thi Cam Binh, Program Management Specialist, USAID/Viet Nam, provided strong managerial support for the program.

Edmund Malesky, Professor of Political Economy at Duke University and Director of Duke's Center for International Development, led the development of the research methodology for the PCI and the new Provincial Green Index (PGI) and was the primary author for the presentation of its analytical findings. Pham Ngoc Thach, Deputy Director of VCCI's Legal Department, led the PCI data collection, index construction and data analysis, and co-authored the initial versions of Chapter 1. Truong Duc Trong, expert from the Legal Department supported all data processing and index construction and co-authored Chapter 1. Dr. Phan Tuan Ngoc, Lecturer at Fulbright University Vietnam, wrote Chapter 2. Dr. Quynh Nguyen, Senior Lecturer in international political economy at the Australian National University co-authored Chapter 3.

The entire process of the PCI survey and research would not have been possible without the support of and coordination by a competent PCI research team. Le Thanh Ha, Division Head, VCCI's Legal Department and Tran Minh Thu, PCI Program Manager, managed the PCI research and report schedule and outputs. Renate Kwon, Communication Coordinator at the Asian Pacific Institute at Duke University, improved the report with excellent copyediting. The PCI 2022 report was based on a high-quality survey, implemented by fifty students under the management and coordination of Nguyen Le Ha, Luu Ngoc Anh, and Ngo Khanh Huyen at VCCI. The survey process and report development were effectively supported by Nguyen Thi Le Nghia, Bui Linh Chi, Vu Ngoc Thuy, Le Thi Hong Hanh, and Nguyen Thi Thu Thuong from VCCI.

This year, we would like to express our gratitude to Nguyen Thanh Vu, a Vietnamese painter, for giving us permission to use his paintings “Hope” as the theme for the report design and “Into the Green” as the theme art for the PGI chapter.

Special thanks go to our team whose contributions have been very important to the development and refinement of the PCI over the years, and who have made efforts to spread the PCI findings. These individuals include Madam Pham Chi Lan, Senior Economist and former member of the Prime Minister’s Advisory Board; Dr. Vu Tien Loc, former Chairman of VCCI and the Chairman of Vietnam International Arbitration; Tran Huu Huynh, former Chairman, Vietnam International Arbitration; Dr. Le Dang Doanh, Senior Economist and former member of the Prime Minister’s Advisory Board; Dr. Nguyen Dinh Cung, member of the Prime Minister’s Economic Advisory Panel and former Director of the Central Institute for Economic Development (CIEM), Ministry of Planning and Investment; Prof. Dr. Tran Dinh Thien, member of the Prime Minister’s Economic Advisory Panel and former Director of the Vietnam Institute of Economics at the Vietnam Social Sciences Academy; Phan Duc Hieu, Standing Member, Economic Committee, 15th National Assembly; Dr. Nguyen Minh Phong, Vice Director, Communication and Theory Committee, People’s Newspaper; Hoang Thi Lan Anh, Deputy Director, Modernization and Reform Committee, General Tax Department, Ministry of Finance; Nguyen Duc Lam, Department Director, Training Center for Elected Representatives, Deputies’ Affairs Committee, Standing Committee of the National Assembly; the late Prof. Dr. Nguyen Van Thang, Sustainable Development Institute, National Economics University; Dr. Doan Hong Quang, Senior Economist, The World Bank Viet Nam; Nguyen Thi Cuc, former Deputy Director of the General Tax Department, Ministry of Finance, Chairman of Vietnam Association of Tax Consultants; Nguyen Cao Cuong, Chief Editor, TheLeader [Online Magazine]; Tran Thi Lan Anh, Secretary-General cum Director General of Bureau for Employers’ Activities, VCCI; Dr. Luong Minh Huan, Director, Business Development Institute, VCCI; Tran Ngoc Liem, Director, VCCI Hochiminh City; Nguyen Tien Quang, Director, VCCI Da Nang; Nguyen Dien, former Deputy Director, VCCI Da Nang; Nguyen Phuong Lam, Director, VCCI Can Tho; Do Dinh Hieu, Director, VCCI Thanh Hoa; Dang Thi Thu Nguyet, Chief Representative, VCCI Khanh Hoa; Nguyen Huu Truong, Chief Representative, VCCI Binh Thuan; Nguyen Huu Thap, Chairman, Tuyen Quang Province Business Association; Nguyen Van Thoi, Chairman, Thai Nguyen Province Business Association; Duong Trong Khang, Secretary General, Vinh Phuc Province Business Association; Vu Thi Kim Chi, Vice Director, Quang Ninh Investment Promotion Agency; Dr. Nguyen Phuong Bac, Director, Bac Ninh Institute of Socioeconomic Studies; Dr. Le Duy Binh, Director, Economica Vietnam and many other experts from provinces, cities, research institutes, associations, and businesses that we cannot list here.

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The opinions expressed herein are the authors' own and do not necessarily reflect the views of the Viet Nam Chamber of Commerce and Industry (VCCI) and the U.S. Agency for International Development, the United States Government, the aforementioned individuals, or their agencies.

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## ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
CBAM	European Union's Carbon Border Adjustment Mechanism
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
DDI	Domestic Direct Investment
EVFTA	European Union-Vietnam Free Trade Agreement
FDI	Foreign direct investment
FIE	Foreign Invested Enterprise
GDP	Gross Domestic Product
GRDP	Gross regional domestic product
ISIC	International Standard Industry Classification
LEP	Law on Environmental Protection
LNG	Liquefied Natural Gas
MONRE	Ministry of Natural Resources and Environment
NDC	Nationally Determined Contribution
OECD	Organisation for Economic Co-operation and Development
PCI	Provincial Competitiveness Index
PDP8	8th Power Development Master Plan
PEPI	Environmental Protection Performance Indicators
PGI	Provincial Green Index
PPP	Public-Private Partnerships
SOE	State-owned enterprise
SPVB	Suntory PepsiCo Vietnam Beverage
USAID	United States Agency for International Development
VCCI	Vietnam Chamber of Commerce and Industry





# EXECUTIVE SUMMARY

## **The 18th Provincial Competitiveness Index (PCI) Report**

The PCI is designed to assess the ease of doing business, quality of economic governance, and the effectiveness of administrative reform efforts in 63 provinces and municipalities in Vietnam. This is the eighteenth edition of the report and is based on a rigorous survey of the perceptions of domestic and foreign firms. The PCI project strives to augment the collective voice of investors in Vietnam regarding economic governance in provinces where they invest and in the country as a whole.

This Executive Summary is divided into two main sections. In the first section, we describe the seven surveys and datasets which we use to create the Index and analyze governance reforms in Vietnam. As the PCI has grown, we have added more precise research tools. While examining the report, readers often conflate these very different sources of information. Here, we step back and delineate our data sources and the purposes for which we use them.

In the second section, we present our primary research products. Over time, PCI research has diversified beyond our signature index of economic governance for private firms. Each year, we also survey foreign investors, measure business confidence, rank provincial infrastructure improvements, and pursue one particular critical research topic.

This year, we launch the Provincial Green Index (PGI) in Chapter 3. The inaugural PGI was initiated by VCCI and USAID to assess environmental protection in Vietnam's growth trajectory. Like its cousin, the PGI aggregates the perception of businesses into a common voice to communicate their views on environmental policy to national and local decision makers.

## I. PCI Survey and Datasets Used in Research

Analysis in the report is based on seven datasets that the PCI collects and adds to each year as part of its research enterprise:

- *Annual survey of over 8,000 existing domestic private businesses.* In 2022, 8,478 domestic private firms from all 63 provinces answered the full survey. Firms are selected using random sampling to mirror provincial populations. Stratification is used to make sure that firm age, size, legal type, and sector are accurately represented. The adjusted response rate for the survey is 19.31 percent (out of 43,903 firms connected from a sample of 82,510 firms). Throughout the report, we refer to these data as the “PCI survey.”
- *Annual survey of over 2,000 newly established enterprises.* This year, we identified 15,584 businesses in all 63 provinces that started operations in 2021 and 2022. Among these new entrants, enumerators were able to verify the locations and contact information of 8,980 firms. From this subgroup, 2,112 responded for an overall response rate of 23.5 percent. The research teams use these answers exclusively to calculate the first PCI subindex on experiences with business registration and licensing. In the report, we call this the “New Business Survey.”
- *Annual survey of 1,282 foreign-invested enterprises (FIEs).* This section reports on data collected from 51 provinces, with a focus on 19 provinces and cities with the highest concentration of foreign direct investment (FDI). These firms are also selected using stratified random sampling. The adjusted PCI-FDI response rate is 25.1 percent, which is extremely high for research published in high quality refereed management journals.<sup>1</sup> The survey includes 1,282 FIEs from 42 different countries

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<sup>1</sup> Anseel, F., Lievens, F., Schollaert, E., & Choragwicka, B. (2010). Response rates in organizational science, 1995–2008: A meta-analytic review and guidelines for survey researchers. *Journal of Business and Psychology*, 25(3), 335-349; Mellahi, K., & Harris, L. C. (2016). Response rates in business and management research: An overview of current practice and suggestions for future direction. *British Journal of Management*, 27(2), 426-437.



and territories. The highest concentration is businesses from Asia, especially South Korea (28.8 percent), Japan (23.2 percent), and China (12.7 percent). We refer to this throughout as the “PCI-FDI survey.”

- *Provincial-level panel data on 63 provinces between 2006 and 2022.*<sup>2</sup> This dataset records average levels on 360 measures of economic governance and business performance since the beginning of the PCI for each province. The research teams use these data to track progress over time on governance reforms and the economic outcomes of those endeavors. We refer to this throughout as “PCI panel data.”
- *Core PCI dataset.* These are data collected for each respondent of the PCI domestic survey between 2006 and 2022. These data contain 152,407 individual responses to questions asked in the annual PCI survey. Over 1,078 unique variables are covered.
- *Core PCI-FDI dataset.* This covers data for each respondent of the PCI-FDI survey between 2010 and 2022. These data contain 19,454 individual FIEs’ answers to over 160 questions asked in the annual PCI-FDI survey.
- *Panel data on domestic, private firms.* Panel data are taken from a small sample of Vietnamese firms that have answered the PCI every year since 2006.

## II. Research Outputs

This year, the PCI research report delivers seven intellectual products to assist Vietnamese businesses, policy-makers, local government officials, development practitioners, and academic researchers. Below, we describe each of the outputs and the key findings for 2022.

- The Signature Provincial Competitiveness Index (PCI).*** Since 2005, this index has ranked Vietnam’s 63 provinces based on economic governance areas that affect private sector development. In the 2022 PCI report, we showcase the top 30 provinces in economic governance (see Figure 1.7 in Chapter 1).
- What does the index measure?*** The overall PCI index score comprises ten subindices. A province that is considered as performing well on the PCI is one that has: 1) low entry costs for business start-ups; 2) easy access to land and security of business premises; 3) a transparent business environment and equitable business information; 4) minimal informal charges; 5) limited time requirements for bureaucratic procedures and inspections; 6) minimal crowding out of private activity from policy biases toward state, foreign, or connected firms; 7) proactive and creative provincial leadership in solving problems for enterprises; 8) high-quality business support

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<sup>2</sup> *In statistics and econometrics, panel data or longitudinal data are multi-dimensional data involving measurements over time. Panel data contain observations of multiple phenomena obtained over multiple time periods for the same provinces or respondents.*

services; 9) sound labor training policies; and 10) fair and effective legal procedures for dispute resolution and maintaining law and order.

- o How is the index created? The index is produced in a three-step sequence, referred to as the “three Cs”: 1) collect business survey data and published data sources, 2) calculate ten subindices and standardize them on a 10-point scale, and 3) calibrate the composite PCI as the weighted mean of ten subindices with a maximum score of 100 points.
  - o How does the index address changes in economic reform policies? To ensure the PCI reflects recent changes in the business environment of Vietnam as perceived by businesses and provides a useful tool for policy makers, every four years, the PCI re-evaluates its methodology and recalibrates the index. As we did in 2009, 2013, and 2017, we conducted an extensive review process in 2021, beginning with engaging our advisory board and local governments, though it did not rise to the level of a full recalibration this time for reasons discussed in Annex 1, 2021 PCI report. While updating the methodology poses problems for measuring improvements over time, the dynamic nature of the Vietnamese economy and ongoing reform efforts require these periodic adjustments. See Annex 1 for all changes made to this year’s methodology and section 1.4.1 in Chapter 1 for a discussion of the new subindex weights.
  - o Which are the top provinces according to this year’s PCI? Quang Ninh Province maintains the top ranking with 72.95 points for the sixth consecutive year. Second in this year’s ranking is Bac Giang (72.80 points). Coming in third and fourth place, respectively, are Hai Phong (70.76 points) and Ba Ria-Vung Tau (70.26 points). The remaining members of the top 10 are Dong Thap (69.68 points), Thua Thien Hue (69.36 points), Bac Ninh (69.08 points), Vinh Phuc (68.91 points), Da Nang (68.52 points), and Long An (68.45 points).
- ii. **The Core PCI.** To measure economic governance over time, the PCI developed a second tool, which we call the Core PCI,<sup>3</sup> constructed from a smaller set of 35 indicators that have remained fixed for 17 years (2006-2022). The Core PCI follows the 2006 PCI methodology in its entirety and is never recalibrated, so each indicator and subindex remain comparable over the entire PCI.
- o Improvement over time. According to the Core PCI, this is the sixth year in a row that the median province has scored above 60 points on the 100-point scale. The 2022 score landed at 65.67 points, which is 0.37 points higher than the Core Index in 2021 (65.37 points), continuing a generally upward trend between 2017 and 2022.
  - o Key governance trends to watch. Many firms continued to struggle with post-2022 recovery and growth. However, the national and provincial government have been proactive about creating a legislative and policy framework that is conducive to the

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<sup>3</sup> For the List of Indicators of the Core PCI, see Annex 2, e-version of the 2017 PCI report.



business environment. From the perspective of the business community, we highlight five critical trends that reflect relative progress on governance reforms in 2022:

- Continued improvement in the handling of administrative procedures over time; however, surveyed firms still reported troubles in certain key areas. The share of firms spending more than 10 percent of their time on understanding and completing administrative procedures declined from 26 percent in 2021 to 20 percent in 2022. Eighty-nine percent of businesses agreed that “Government officials are effective in processing paperwork;” 87 percent of businesses supposed that “government officials are friendly.” Compliance with inspection and examination procedures has become less burdensome. The proportion of businesses that underwent three or more inspections in the past year was 7.39 percent. Similarly, the percentage of firms reporting duplication of inspection content and actions in 2022 was 6.69 percent, a decrease from 13.46 percent in 2017.

Administrative procedures related to taxes and fees (35 percent), land clearance (29 percent), social insurance (20 percent), fire prevention and construction (13 percent each) are the most troublesome. Among firms encountering difficulties in complying with tax administrative procedures, those reporting problems with tax finalization accounted for the largest proportion (about 49 percent), followed by that of tax exemption and reduction (29 percent) and tax refund (21 percent). The troublesome procedures related to taxes and fees resulted not only from firms' limited compliance with new regulations but also from other tax management activities. The median number of hours spent on a tax inspection in 2022 reached nine hours, meaning an increase of four hours compared with 2021 and was one hour longer than 2020. More notably, 53.8 percent of firms agreed that negotiations on payable taxes with provincial tax officers are a necessary part of doing business, which is quite a bit higher than in 2021 (47.6 percent). The percentage of firms reporting payment of informal charges for tax officials in the past year also rose dramatically, from 33.8 percent in 2021 to 54.5 percent in 2022.

- Policy enforcement at the departmental and district levels is getting better, but there is still room for improvement. While there are continuous improvements in the proactivity of provincial governments and their positive attitude towards the private sector, there is still significant room for improvement in the policy implementation at departmental and district levels. About 31.9 percent of firms suggested that, “The provincial policies are not properly implemented by provincial departments” in 2021 while the 2022 figure increased to 45.2 percent. Similarly, 50.4 percent of respondents in the 2022 PCI survey agreed

that “The provincial policies are improperly implemented at district level,” considerably higher than 2021 (36 percent).

- There has been a measurable decline in the payment of informal charges; however, elicited payments and harassment during public service implementation remain common practices. In 2022, 42.6 percent of firms reported paying informal charges, a decrease of over 23 percentage points from the 2016 peak. The proportion of firms that spent more than 10 percent of their income on informal charges was 3.8 percent, a significant decrease from 9.1 percent in 2016. However, the share of firms agreeing that “it is common that government officials cause troubles when processing procedures for businesses” noticeably increased from 57.4 percent in 2021 to 71.7 percent in 2022. Further research needs to be conducted to find out the reasons behind the variance.
- Access to land continues to be a bottleneck and requires more steadfast reform efforts in 2023. In general, problems associated with conducting land-related procedures continue to be common. About 42.9 percent of firms experiencing difficulties while implementing land-related administrative procedures said that the experience caused them to delay or cancel their business plan. “Land dossiers took longer to process than the officially listed or regulated period” was the most common challenge encountered by surveyed firms (60.81 percent). Next were lengthy procedures for determining land-use levies (30.02 percent); land dossier processing procedures differing from the listed or regulated procedures (29.31 percent); and undetailed and inappropriate guidance from officials (29.15 percent).
- More types of information and documents are available, but businesses expect easier access to them in the future. The average scores reflecting the level of ease of access to planning documents follow an upward trend. The median average score surpassed 3 points (on a scale of 1 to 5) for the first time in 2022. Meanwhile, for legal documents, the median average values do not seem to suggest any trend; however, the 2022 average is also the highest ever (3.15 points). Nevertheless, the survey results indicate that firms have never found it easy to gain access to either planning documents or legal ones (i.e. no value equals 4 points or higher). The highest average for each type is 3.35 and 3.54, far below 4. Documents that were least accessible were land use allocation plans and maps, public investment plans, provincial investment supporting policies and new infrastructure projects. These are documents that must be made publicly available according to the government’s regulations. However, they are barely provided in a proper way by provinces.





- iii. **The PCI Infrastructure Index** ranks the quality of infrastructure and connectivity in each province. The infrastructure index is not included in the calculation of the PCI scores. However, it serves as a useful reference for businesses as well as policy-makers (see the Annex to Chapter 1).
- o Why is infrastructure not included in the signature PCI? The PCI research team determined it is unfair to include infrastructure in the overall PCI ranking for three reasons: i) initial endowments were dramatically different across provinces, making it very difficult for some rural provinces to catch up; ii) provinces are not solely responsible for infrastructure within their borders, as many investments are funded through central government initiatives; and iii) the team strongly believes improvement of infrastructure is best achieved through regional cooperation and does not want to encourage duplicative and damaging competition in such areas as port or airport construction.
  - o What does the infrastructure index measure? This index is built upon the survey results of firms' perceptions about infrastructure quality across provinces and cities and published data from government sources. It includes four subindices, measuring: 1) industrial zones/clusters; 2) roads and transportation; 3) basic utilities; 4) telecommunication, and 5) other infrastructure.
  - o Which provinces have the best infrastructure? Quang Ninh, Ho Chi Minh City, and Binh Duong comprised the Top 3 in the Infrastructure Index. These provinces have frequented the top rankings for many years.
- iv. **Challenges to Business Operations in 2022.** This year, the PCI repeated a module asking businesses about the greatest obstacles to business success. A large number of businesses pointed to non-governance issues as their key concerns.
- o Key challenges. The top five obstacles are accessing banks or other forms of credit (55.6 percent), finding customers (55.1 percent), COVID-19 effects (34.1 percent), market downturn (23.8 percent), and finding business partners (21.4 percent).
- v. **PCI Business Thermometer.** Each year, respondents to the PCI survey answer a question about their investment plans for the next year. We then record and plot the share of respondents planning to "increase the size of their operations." The measure has become an elegant indicator of optimism and confidence felt by the business community regarding its economic prospects, and it serves as an excellent leading measure of per capita GDP growth (see Figure 1.1, Chapter 1).
- o Optimism remained low. This year, the thermometer demonstrates that business confidence was negatively affected by the COVID-19 pandemic with only 35 percent of respondents planning to expand their operations in the following two years.

The 2022 PCI survey results indicate that there has been no substantial improvement in firms' size, growth rate and business performance since the outbreak of COVID-19. The average capital and employment size of a domestic firm were 15.6 billion VND and 21 employees, respectively. This is a significant decline from 2019 when the average capital size and number of employees were 22.3 billion VND and 23 employees. Only 5.1 percent of firms increased investment, and 4.9 percent increased their employment scale last year, a sharp decline from 2019 when 8.3 percent of firms expanded their investment and 11.5 percent recruited new laborers. Additionally, the survey results showed that business performance has been impacted severely, with only 42.6 percent of firms reporting profits in 2022, a sharp slide from 63 percent in 2019. In contrast, the proportion of loss-making businesses in 2022 was 35.3 percent, while it was only 23.4 percent in 2019. These startling figures depict the hardship that many domestic firms have experienced over the past three years.

- vi. **Analysis of the PCI- FDI Survey.** Each year in Chapter 2 of the report, we present the findings from the PCI-FDI survey regarding governance improvements and challenges that influence the performance of foreign-invested enterprises (FIEs) in Vietnam. The ramifications of COVID-19, international political insecurity, and a global economic slowdown dampened foreign investment activity worldwide, including FIEs in Vietnam. However, while investors were reluctant to commit to new projects, they continued to expand existing endeavors in 2022, which signals a degree of confidence in Vietnam's business environment and economic prospects.
  - o Characteristics of foreign investors. The majority of FIEs in Vietnam can be classified as small- and medium-sized enterprises (SMEs). Almost half the PCI-FDI respondents are manufacturers (49.5 percent), followed by businesses in the service/commerce sector (39 percent) and construction (7 percent). Within the manufacturing sector, there has been a dramatic shift in the sub-sectoral composition between 2010 and 2022 from garments/textiles toward computers/electronics. There is also an increase in the proportions of firms in computer/electronics and communication. The distribution of FIEs by country of origin has stayed relatively stable, with South Korean and Japanese FIEs forming the two largest groups.
  - o Evidence of continued recovery from the impact of COVID-19. FIEs continued their recovery from the ramifications of COVID-19. In contrast to the state of domestic firms, the share of firms reporting profits increased from 38.7 percent in 2021 to 42.8 percent last year. The share of firms reporting losses also dropped to 44.9 percent in 2022. Fifty-six percent of FIEs added new employees compared to 50.6 percent in 2021.
  - o Regulatory burden significantly improved. A declining share of FIEs reported spending more than five percent of their time on regulatory compliance (49.3 percent of firms



versus 60.6 percent in 2021). Payments of informal charges continued to trend downward, but pockets of malfeasance remained. Bribery continued to decline in both frequency and size. The fraction of PCI-FDI respondents that paid informal charges to regulatory inspectors fell to 17.4 percent from 25.4 percent in 2021. In terms of the corruption burden, more firms reported spending less than one percent of their annual income in informal payments than in previous years. However, bribes were still common in regulatory areas such as customs procedures (38.5 percent) and land procedures (19.2 percent).

- o Rising difficulties in recruiting and retaining manual workers. FIEs continued to face difficulties filling managerial and supervisory positions. An interesting divergence from previous years' results concerns the recruitment of lower-skilled manual workers. The share of FIEs finding it "easy" or "very easy" to recruit such workers dropped precipitously to 49 percent last year from 62 percent in 2021. In addition, firms were struggling to retain workers whom they trained. The share of such workers staying with FIEs for one year or more fell to 55.9 percent from 66 percent and 60 percent in 2020 and 2021, respectively. Disruptions caused by the pandemic and the associated policy responses will be most acutely felt by FIEs that employ many migrant workers. At the provincial level, challenges in hiring manual workers are closely correlated with the province's reliance on migrant workers. Overall, provinces with a large share of migrants in their labor force, such as Binh Duong and Ho Chi Minh City, tend to face more labor market frictions compared to those at the other end of the spectrum.
  - o FIEs are cautious regarding future plans. Due to upheavals in the global market, FIEs were conservative about future business expansion. Only 33 percent of FIEs expected to expand compared to 47.7 percent in 2021. The share of firms increasing investment was only 6.24 percent compared to 8.4 percent and 7.8 percent in 2020 and 2021, respectively
- vii. **The Provincial Green Index:** The inaugural PGI was initiated by VCCI, with the support of USAID, to assess the importance of environmental protection in Vietnam's growth trajectory and has been developed over the past five years. Like the PCI, the PGI aggregates the perception of businesses into a common voice to communicate their views on environmental policy to national and local decision makers. A province that performs well on the PGI is one that makes effort to combat pollution and private environmental accidents (subindex 1), designs and implements reasonable regulations that ensure compliance without creating overwhelming burdens (subindex 2), provides appropriate guidance to firms on green operations and operates environmentally friendly procurement (subindex 3), and incentivizes green operations through targeted incentives and subsidy programs (subindex 4).

The goal of the PGI is to provide actionable policy advice to national and subnational officials about the appropriate policy goals to reduce the impact of climate change and pollution on business performance and longevity. Consequently, the PGI, like the PCI, is an input-based ranking that is constructed with indicators capturing policy inputs (measures of provincial actions) that could be potentially correlated with climate and pollution outcomes that Vietnam cares about.

Assembly of the PGI adheres to the same methodology employed in the PCI and Infrastructure Index, which the research team describes as the three Cs: collection of survey and administrative data; construction of theoretically coherent subindices to critical environmental policy arenas; and a subindex calibration based on the relative importance of the measures. The 2022 PGI is comprised of 44 indicators, which are divided into four subindices that measure the effectiveness of green private sector development policy at the provincial level in Vietnam.

After constructing the index, several critical findings emerge:

- o The four subindices of the PGI are not strongly associated with one another. The same province can excel in one facet of green policies and lag on another. Thus, aggregating them into a composite index creates a noisy measure with high variance around provincial scores, which makes it difficult to distinguish excellent performers. As a result, we recommend using a dashboard approach that visualizes the subindices separately.
- o Survey data and administrative measures of green policies are not correlated. However, performing well on the overall PGI requires either outstanding performance on one of those measures or very good performance on both.
- o Foreign investors in a province are generally more pleased with provincial green policies than their domestic counterparts. However, there are a few areas where foreign investors express greater negativity, such as in provincial efforts to combat pollution and punish polluting companies. Foreign investors demonstrate greater satisfaction with provincial guidance and incentive efforts.
- o Despite the differences between foreign and domestic investors, there are strong associations between foreign and domestic evaluations of the provinces where they operate, especially in regard to combatting pollution and effective regulation.
- o There is no statistical sectoral difference in evaluation of green policies among Vietnamese firms. Domestic investors in all three broad sectors rank their home provinces similarly on the cumulative index and individual subindices.
- o Green perceptions of foreign investors differ widely by broad sector. Foreign

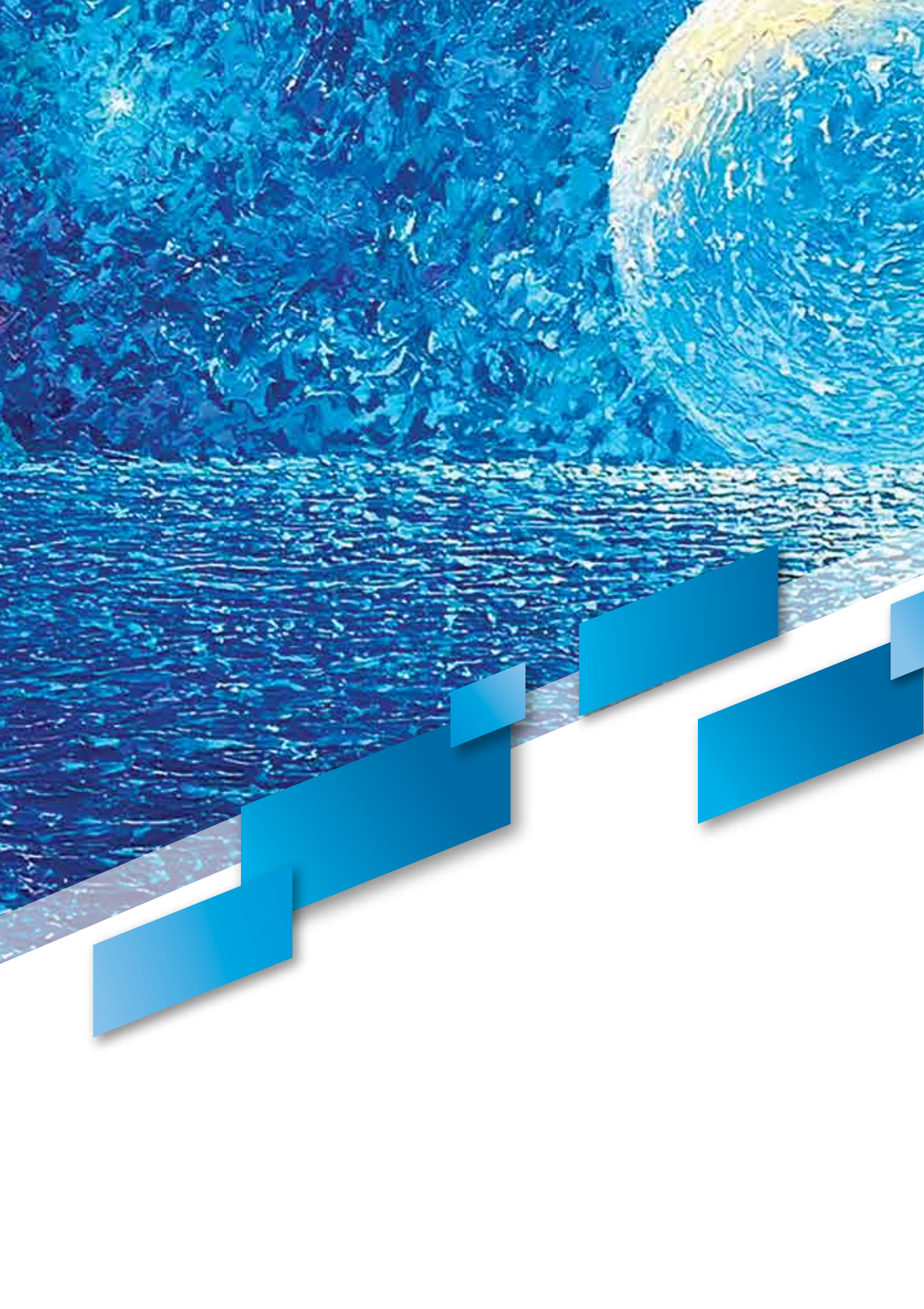


manufacturing firms are far more likely to evaluate provincial green standards as positive. They are the least likely to see pollution as a problem, the most satisfied with provincial regulation, and report the highest level of access to guidance and incentive programs.

- o As this is a baseline measure of green policies, we do not yet find a strong association between the overall PGI and any of the measures, no significant correlations between outcomes and regulatory quality (subindex 2) or provincial incentive programs (subindex 4), and no relationship between any subindex and NO<sub>2</sub> and SO<sub>2</sub> pollutants. However, we strongly believe that the measure will be able to be associated with changes in pollution over time. Adherence to policy now will bring great benefits later.
- o Improvements on subindex 1 are associated with reductions in environmental disasters. Changes in subindex 3 are strongly correlated with reductions in PM 2.5.

With the pilot PGI now completed, we hope to begin a large-scale expert evaluation of its methodology, scientific rigor, and policy implications. As with the PCI, we will form an advisory board to critically evaluate the questionnaire and measurement choices, asking them to advise on ways to tighten measurement. At the same time, we plan to engage with provincial leaders, to better understand the policy innovations they are trying and the trade-offs they face between policies that enhance economic growth and protect the environment.

Several limitations of the current PGI stand out, which we hope to confront in future iterations and in discussions with environmental experts. Across all provinces, PGI scores tend to be low with relatively low variance. Most provinces have just begun the process of environmental reform. Even where provinces excel, none have been successful at the full suite of efforts necessary to truly combat environmental degradation and climate change. This leads to a great deal of noise in determining the locations that are truly excelling. Finally, on two of the subindices, there is simply too little variation to adequately distinguish high and low performers or to ultimately attribute those differences to reduced pollution. In assessing the implications of improvements on the green index for reducing pollution and environmental catastrophes, final confounder is spillover. While provinces might design and implement sterling policies within their own borders, they can do little about the pollution and environmental harm caused by their neighbors. Pollutants can be carried across borders by wind and water. Environmental disasters may also be precipitated by the failure of neighboring jurisdictions to police regulatory violations in shared mountain ranges, rivers and oceans, or common pool resources.





# Chapter 01

The Domestic Survey  
and the Provincial  
Competitiveness Index



## 1.1. INTRODUCTION

The year 2022 presented tremendous challenges for work on local economic governance. The ailing global economy led to a decrease in demand for goods in key export markets for Vietnamese firms, while enterprises had to cope with increasing cost pressures as prices of goods, services, and interest rates were rising, especially in the last three months of the year. Domestic firms, already facing numerous difficulties withstanding the COVID-19 pandemic, were negatively affected. In such unfavorable conditions, the role of local governments will be critically important for creating an enabling business environment for firms to overcome the challenges and eventually recover.

Vietnamese policy-makers are aware of the struggles and have taken a number of steps to assist the struggling private sector as the country enters its third year of implementing its 2021-2025 socio-economic development plan. The Vietnamese government has identified maintaining “solidarity, proactive adaptation, effective safety, recovery and development” as the core task. The government issued Resolution 11/NQ-CP on January 30, 2022 on the socio-economic recovery and development program, and implemented the National Assembly’s Resolution 43/2022/QH15 regarding the fiscal and monetary policies to support the program. 2022 also marked the second year of the new government term at all levels for the period of 2021-2026. Many local governments developed action programs aimed at economic development, promoting innovative growth models, and improving the business environment in their localities. Provinces and cities throughout the country have been carrying out tasks assigned by the government in Resolution 02/NQ-CP on January 10, 2022, which details the main tasks and solutions to improve the business environment and national competitiveness in 2022.

In this context, the Vietnam Chamber of Commerce and Industry (VCCI) conducted the 2022 Provincial Competitiveness Index (PCI) survey to capture the latest developments in the business community as well as presently timely reflection of changes in the business environment in Vietnam. The information from the PCI survey continues the mission of conveying the collective voice and expectations of the business community to all levels of government, creating an enabling business environment. In 2022, the PCI survey received responses from 11,872 firms (including 10,590 domestic firms and 1,282 foreign-invested enterprises), with a response rate of 20.47 percent. In total, a stunning 176,496 unique businesses have participated since the beginning of the PCI survey in 2005, showing that the PCI survey remains an effective and trustworthy channel for businesses to express their opinions on the business environment.





Consistent with the objectives set in 2005, the 2022 PCI continues to evaluate the quality of economic governance and administrative reform efforts to create a favorable business environment for the provinces and centrally run cities in Vietnam, promoting the development of the domestic private sector. Last re-calibrated in 2021, the PCI is composed of 10 subindices and 142 indicators, reflecting the areas of economic governance that impact the development of enterprises in the private economic sector. Specifically, a province or city that has good economic governance quality offers: 1) low market entry costs; 2) easy access to land and secure tenure; 3) transparency and effortless access to information; 4) low informal charges; 5) quick inspection, examination and administrative procedures; 6) an unbiased competitive environment; 7) dynamic and creative provincial government in solving problems for businesses; 8) accessible and suitable business support policies and services; 9) good labor training policies; and 10) effective and fair dispute resolution procedures while maintaining security and order to ensure the operation of businesses.

The construction of the 2022 PCI index follows the same 3-step process employed since its inception in 2005. These steps include: (i) collect information from businesses through questions in the annual PCI and PCI-FDI surveys and published data sources; (ii) calculate ten subindices and standardize them on a 10-point scale; and (iii) calibrate the composite PCI as the weighted mean of the ten subindices with a maximum score of 100 points. As mentioned in last year's PCI report, in the 2022 PCI, we generated new subindex weights to reflect the importance of individual subindices in generating new businesses and investment over the past ten years, including the two years of economic recovery from the COVID-19 pandemic. This weight adjustment helps provincial officials identify the subindices and individual policies that are most critical to enhance the business environment and assist the growth of the private sector. Each subindex was given one of the following weights: 5 percent, 10 percent and 15 percent. The subindices that received the highest weight are "Proactivity of provincial leadership", "Informal charges" and "Business support policies". We provide a detailed explanation of the weight adjustment in section 1.4.

Chapter 1 of the 2022 PCI report consists of five main sections. Section 1.2 describes the characteristics of the surveyed firms in terms of scale, business performance, and business plans for the next two years. Section 1.3 identifies some of the main challenges that businesses are currently facing, delving into the obstacles to accessing credit, a critical issue for businesses in the past year. Section 1.4 presents the 2022 PCI results and some of the main trends in the quality of provincial economic governance in recent years. Section 1.5 explores firms' evaluation of some changes mentioned in the central government's Resolution 02 on improving the business environment and enhancing national competitiveness.

## 1.2. VIETNAMESE BUSINESSES' PERFORMANCE AND BUSINESS THERMOMETER

### ***1.2.1. Business performance***

The 2022 PCI survey results indicate that there has been no substantial improvement in firms' size, growth rate, or business performance since the outbreak of COVID-19. The average capital and employment size of a domestic firm were 15.6 billion VND (\$678,260) and 21 employees, respectively. This is a significant decline from 2019 when the average capital size and number of employees were 22.3 billion VND (\$969,565) and 23 employees. Only 5.1 percent of firms increased their investment, and only 4.9 percent increased their employment last year, a sharp decline from 2019 when 8.3 percent of firms expanded their investment and 11.5 percent recruited new labor. Additionally, the survey results showed that business performance has been severely impacted, with only 42.6 percent of firms reporting profits in 2022, a slide from the 63 percent in 2019. In contrast, the proportion of loss-making businesses in 2022 was 35.3 percent, up from 23.4 percent in 2019. These figures demonstrate the hardship that domestic firms have experienced over the past three years.

**Table 1.1. Performance of Domestic Invested Enterprises Over Time**

Year	Capital size (billion VND)	Employment size (number of employees)	Firms increasing investment (%)	Firms adding employees (%)	Firms reporting profits (%)	Firms reporting losses (%)
2006	6.20	29.95	26.13	21.58	77.06	10.99
2007	7.39	30.48	27.05	20.77	82.41	8.79
2008	8.97	37.17	28.73	21.64	83.85	7.82
2009	10.37	43.26	14.40	11.39	69.12	19.70
2010	11.91	46.06	21.88	16.42	75.86	15.00
2011	10.86	43.70	14.93	11.04	73.56	13.75
2012	10.08	24.68	6.17	5.93	59.55	20.77
2013	14.05	25.40	6.12	6.25	65.00	19.83
2014	13.80	25.47	10.53	11.11	62.50	24.27
2015	15.05	25.73	10.99	12.24	63.39	23.30
2016	16.40	23.47	10.64	13.59	66.35	21.88
2017	17.52	23.08	9.57	11.21	63.89	23.08
2018	16.12	20.26	9.38	11.67	64.96	21.17
2019	22.29	23.39	8.26	11.49	63.01	23.36
2020	21.19	22.52	9.09	7.84	54.90	29.82
2021	15.80	20.11	4.27	4.84	47.86	34.62
2022	15.59	20.71	5.11	4.90	42.55	35.29

Source: 2022 PCI Survey. Question A6 “What was the total employment size of your firm?”. Question A7 “What was the total equity capital of your firm?” Question A9 “Which statement best characterizes your firm’s overall performance?” The table presents the data by survey year.

The hardship faced by domestic private firms can be observed through the decreasing share of businesses having their main customers in both the domestic and foreign markets since the COVID-19 pandemic. Furthermore, the share of firms mostly supplying the foreign sector in Vietnam has also declined. In 2019, 17.2 percent of firms had FDI companies as their key clients, and 9.6 percent had foreign individuals account for the largest share of their sales. The 2022 figures fell to 7.4 percent and 3.7 percent, respectively. Notably, the proportion of businesses whose main customers are companies located outside Vietnam also shrank in 2022 compared to the pre-pandemic period. Specifically, in 2019, 10.9 percent of firms reported having direct export activities and 8.7 percent reported indirect exports through third parties. These numbers gradually decreased in the following years. In 2022, only 3.9 percent of firms reported direct export transactions while 2.6 percent had indirect exports.

There are indications of a similar trend with regard to the share of firms whose primary clients were from the domestic private sector. In 2019, 68 percent of firms stated that their main customers were private companies. By 2022, this number fell to 57.1 percent. The percentage of firms whose main customers are domestic individuals also declined

from 65.3 percent in 2019 to 55.1 percent in 2022. Finally, in 2019, the proportions of firms having state-owned enterprises as primary customers and those with state agencies as main customers were 25 percent and 29.4 percent, respectively. However, in 2022, only 14.3 percent of firms supplied products or services to state-owned enterprises; nearly 15 percent had state agencies as their main customers.

The market-related challenges encountered by domestic private firms, as captured by the 2022 PCI survey, are quite consistent with the recently published data by the General Statistics Office.<sup>4</sup> In particular, among manufacturing businesses, in the fourth quarter of 2022, almost half (49.7 percent) indicated a low demand in the domestic market, compared to 49.3 percent in 2021. The percentage of enterprises reporting low demand from the international market also increased sharply from 22.4 percent in 2021 to 32.6 percent by the end of 2022. According to the fourth quarter 2022 Socio-economic Situation Report by the General Statistics Office, “The total retail sales of goods and revenues from customer services in 2022 reached only 82.5 percent of their targets when estimated under a zero-COVID condition from 2020 till now.”<sup>5</sup> Obviously, Vietnamese private businesses have been struggling to find markets for their products and services in the past three years, especially in 2022.

**Table 1.2. Main Customers of Domestic Invested Enterprises Over Time**

Year	Sales to Vietnamese State		Sales to private Vietnamese		Sales to foreigners in Vietnam		Exports		Number of valid observations
	SOE (%)	Agency (%)	Enterprise (%)	Individual (%)	Enterprise (%)	Individual (%)	Direct (%)	Indirect (%)	
2016	24.91	29.21	62.17	62.70	14.20	7.85	9.87	7.54	7915
2017	23.24	28.42	65.18	61.74	14.21	7.12	8.59	6.91	8076
2018	24.10	28.23	66.60	64.67	14.81	7.82	8.54	7.52	8559
2019	25.03	29.36	68.05	65.25	17.20	9.63	10.86	8.69	8668
2020	20.22	24.18	63.82	65.08	12.75	6.99	8.34	7.01	8487
2021	19.85	22.88	61.26	65.42	12.59	7.58	6.27	2.68	6765
2022	14.31	14.98	57.11	55.14	7.35	3.71	3.90	2.58	5074

Source: 2022 PCI Survey. Question A11 “Please choose the main customers of your firm.” The table presents the percentage of firms selecting each group of customers by survey year.

4 General Statistics Office, 2022. “Báo cáo Tình hình kinh tế - xã hội Quý IV và năm 2022” [Report on the Socio-economic Situation in the 4th Quarter and in 2022], < <https://www.gso.gov.vn/bai-top/2022/12/bao-cau-tinh-hinh-kinh-te-xa-hoi-quy-iv-va-nam-2022/>>. 2021 data is referenced in the Report on the Socio-economic Situation in the 4th Quarter and in 2021, < <https://www.gso.gov.vn/du-lieu-va-so-lieu-thong-ke/2021/12/bao-cau-tinh-hinh-kinh-te-xa-hoi-quy-iv-va-nam-2021/>>

5 General Statistics Office, 2022. “Báo cáo Tình hình kinh tế - xã hội Quý IV và năm 2022” [Report on the Socio-economic Situation in the 4th Quarter and in 2022]

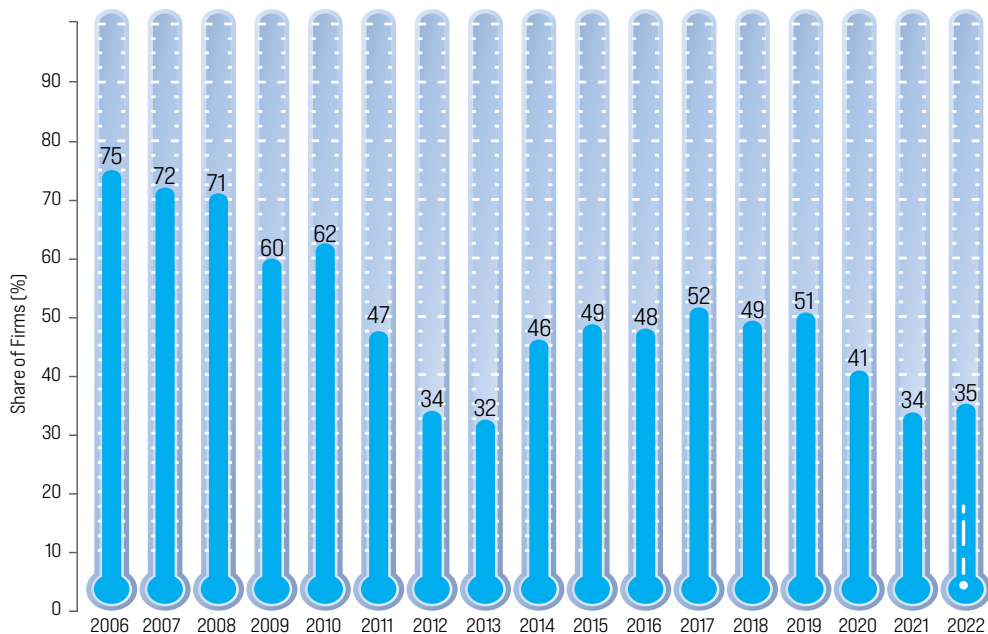


## 1.2.2. Business Thermometer

The 2022 PCI survey asked firms about their investment plans over the next two years, whether they would increase, maintain, or reduce the size of operations, or even close their business.<sup>6</sup> Having conducted the survey since 2006, every year we would update the data on the share of firms planning to expand their operations in the PCI report, which is presented as the “Business Thermometer.” This is an important indicator that reflects the level of optimism of private businesses towards economic growth prospects and has proven to be a leading gauge of future investment and income growth.

The 2022 PCI survey findings indicate that only 35 percent of domestic firms were optimistic about expanding the size of their operations over the next two years. This is a slight increase from 34 percent in 2021. However, the proportion of firms planning to expand their operations in 2022 remains low compared to the prior years. There is a silver lining - the share of firms planning to downsize or close their business as recorded by the 2022 survey is only 10.7 percent, significantly lower than the observed figure of 16.6 percent in the 2021 report.

**Figure 1.1. Firms Intending to Increase Operations Within Two Years**



Source: Annual PCI Survey. Question A10 “Which statement best characterizes your firm’s investment plans over the next two years?” The graph presents the percentage of firms that selected “Plan to increase the size of operations” or “Considering increasing the size of operations”.

<sup>6</sup> Respondents could select only one of the following answers: plan to increase the size of operations; consider increasing the size of operations; will continue operations at present size; considering reducing the size of operations; plan to reduce the size of operations; or plan to close the business.

## 1.3. MAIN CHALLENGES FACED BY BUSINESSES

In this section, we will explore major challenges that firms are currently encountering, building upon our initial observations of their business performance and prospects. Once challenges have been identified, provincial governments as well as relevant ministries, departments, and agencies will have useful insights as they formulate and implement pro-business policies to ease the problems affecting the business community.

The survey findings show that access to financing is the biggest challenge that Vietnamese private firms face. Particularly, in 2022, access to credit has become the greatest concern for the majority of businesses with 55.6 percent of them reporting it as a challenge, continuing a steady increase from 34.8 percent in 2019, 40.7 percent in 2020, and 46.9 percent in 2021. We will analyze the specific issues associated with access to credit in this sub-section.

Finding customers is the second biggest challenge for private enterprises in Vietnam in 2022, with 55.1 percent of firms reporting it as an issue. This corresponds with our earlier observations in section 1.2.1, which highlighted that the proportion of all customer groups for domestic private firms in 2022 has significantly decreased, compared to that of 2019, before the COVID-19 pandemic.

A positive sign is that the share of businesses encountering difficulties due to the pandemic impact decreased in 2022, compared to the prior year. In 2021, 67.4 percent of firms reported this issue, making it the second most reported challenge. In 2022, only 34.1 percent of firms considered it one of their main challenges. Nevertheless, COVID-19 remains the third most recognized challenge. This indicates that the adverse impacts of the pandemic persist for domestic enterprises in Vietnam.

In addition to the problems mentioned above, domestic private firms face several other challenges. These include market fluctuations and searching for business partners, which were mentioned by 23.8 percent and 21.4 percent of respondents, respectively, in the 2022 survey. The proportion of businesses having to handle these two issues decreased, compared to 2021. Another noteworthy point is that only 10.8 percent of firms faced difficulties in finding suitable personnel in 2022, a sharp decrease from 27.2 percent in 2021. On one hand, this is positive news for many businesses, as there is a larger supply of labor on the market, making it easier to hire suitable employees. On the other hand, it reflects the reality that many firms had to reduce their employment size due to a lack of orders,<sup>7</sup> putting additional pressure on job seekers to find occupational opportunities. Other challenges reported by

<sup>7</sup> VNExpress. (2022). "Nhiều nhà máy cắt giảm lao động" ["Many factories reduce their workforce"], November 23, 2022. <<https://vnexpress.net/nhieu-nha-may-cat-giam-lao-dong-4535087.html>>



a significant share of businesses in 2022 included finding suppliers (10.2 percent), abrupt regulatory changes (9.5 percent), and climate change and natural disasters (9.3 percent).

**Table 1.3. Major Challenges Faced by Firms Over Time**

Year	2017	2018	2019	2020	2021	2022
Access to financing (%)	37.67	37.46	34.81	40.73	46.9	55.6
Finding customers (%)	58.17	60.19	63.39	63.56	68.95	55.1
Finding suitable premises (%)	14.01	15.67	13.54	11.47	12.89	5.05
Finding suppliers (%)	15.6	17.59	17.43	18.78	22.86	10.21
Finding suitable personnel (%)	24.57	27.64	33.79	28.02	27.17	10.77
Dealing with administrative procedures (%)	15.62	16.77	14.69	15.08	12.79	6.75
Inadequate infrastructure (%)	8.64	8.97	5.17	5.44	8.45	4.49
Dealing with market fluctuations (%)	30.93	31.74	26.6	33.11	31.73	23.77
Finding business partners (%)	24.29	27.2	27.58	25.34	23.89	21.42
Dealing with changes in relevant policies and regulations (%)	21.24	23.14	17.8	17.68	15.76	9.45
Intellectual property infringement (%)			5.06	4.93	2.91	1.48
Security of land and other property rights (%)				4.11	3.38	4.51
Enforcement of contracts with customers and vendors (%)				5.98	7.62	3.99
Climate changes and natural disasters (%)				20.34	17.09	9.27
Epidemic (COVID-19) (%)					67.41	34.14
Other (%)	1.04	1.53	1.97	6.59	4.17	2.79

Source: 2022 PCI Survey. Question E1 “Do you face any difficulties in the following activities and services when running your business?” (Please check those that apply)”

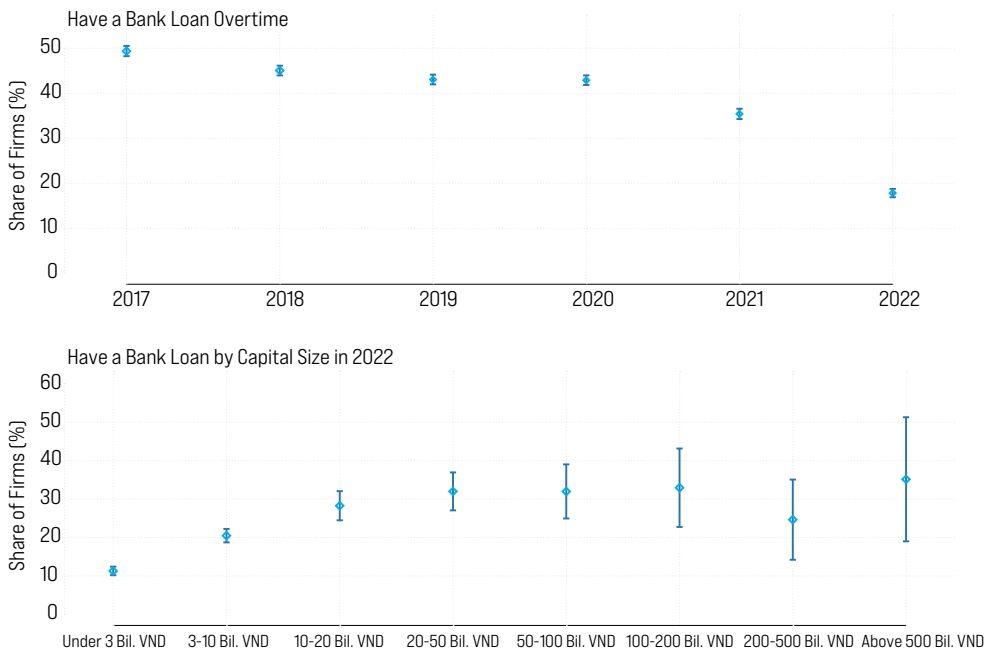
### **Access to finance**

Access to financing was the top challenge faced by firms in 2022 (Table 1.3). This year, we provide an in-depth analysis of this issue by updating and enhancing data from the 2021 report.<sup>8</sup> Figure 1.2 shows that the share of enterprises having access to credit has declined

<sup>8</sup> VCCI and USAID, 2022. “The 2021 Provincial Competitiveness Index Report”, p. 79-80.

in recent years. Specifically, in 2017, 49.4 percent of surveyed firms had loans from banks or credit institutions. This figure dropped to 45 percent in 2018, and further decreased to 43 percent in 2019. Despite the outbreak of COVID-19 in 2020, 42.9 percent of businesses still managed to obtain loans from banks or credit institutions. However, the share of firms obtaining official loans decreased drastically to only 35.4 percent in 2021 and reached a low of 17.8 percent in 2022. Credit access is a common issue faced by Vietnamese private firms. Micro- and small-sized enterprises experienced the most difficulty with financing in 2022. Figure 1.2 reveals that only 11.3 percent of businesses, whose capital size is below VND 3 billion, had access to credit, which is much lower than other groups. For slightly larger firms, 20.5 percent of businesses with capital size from VND 3-10 billion received bank loans. Approximately 28.3 percent of firms with capital size between VND 10-20 billion reported having bank loans. For other groups, the proportion of enterprises that had access to financing fluctuated between 25 and 35 percent.

**Figure 1.2. Firms’ Access to Financing**



Source: 2022 PCI Survey. Question E4.17 “Do you presently have a loan from banks and/or credit institutions?”

Whether a business has a loan from credit organizations first depends on whether they have a need for such loans. If they need money but cannot access it, the underlying causes must be uncovered to apply appropriate solutions. Table 1.4 outlines the specific challenges encountered by domestic firms in Vietnam in recent years when trying to obtain credit. The 2022 PCI survey results show that the major obstacle is firms’ inability to secure loans





without collateral or mortgaging assets (79.4 percent). This obstacle has been reported less by firms over time, which is a positive sign. Nevertheless, it is worth noting that other obstacles increased in 2022. These include banks and credit institutions imposing unfavorable credit conditions (58.7 percent in 2022, a remarkable increase from 41.8 percent in 2021), troublesome loan procedures (58.6 percent in 2022, 46.2 percent in 2021), firms needing to “give bribes” to credit staff to get loans (55.8 percent in 2022, 37.3 percent in 2021), and bank staff looking for errors in application, leading to extended application time (49.8 percent in 2022, 27.4 percent in 2021).

**Table 1.4. Key Features of Credit Access in Vietnam Over Time**

*Unit: Share of firms agreeing with the statement (percent)*

Year	Banks impose unfavorable credit conditions (%)	Businesses cannot get loans without collateral (%)	Bank staff commonly seek bribes (%)	Lending procedures are very complicated and troublesome (%)	Bank staff look for errors in application, leading to extended application time (%)
2017	44.96	87.39	41.17	48.92	
2018	40.42	86.07	39.07	44.13	
2019	38.89	86.29	31.02	39.27	17.45
2020	39.03	82.55	37.89	46.39	26.10
2021	41.80	81.37	37.28	46.15	27.35
2022	58.72	79.44	55.79	58.63	49.83

Source: Annual PCI Survey. Question E4.19 “How would you rate access to capital in your province?”

Given the high proportion of firms reporting troublesome lending procedures, we analyze the data provided by firms about commercial banks and credit institutions to figure out if there is any difference in assessments between businesses that borrowed capital from state-owned banks and those borrowing from private banks. Surprisingly, on average, 61 percent of firms that indicated “lending procedures are very complicated and troublesome” had a credit connection with private banks in 2022. Meanwhile, only 36 percent of firms borrowing from state-owned banks agreed with the statement. A possible reason is that state-owned banks had more room to issue credit; therefore, it was easier for firms to access credit at state-owned banks.<sup>9</sup> Further research is needed to uncover the underlying causes and work out viable solutions that would enable businesses to access bank credit going forward.

In order to assist businesses to overcome the challenges brought about by the COVID-19 pandemic, the government developed a variety of solutions, among which was the relief package of a two-percent interest rate subsidized by the state budget via commercial

<sup>9</sup> *The Communist Party of Vietnam's e-newspaper. (2022). Nói hạn mức tín dụng để tăng nguồn lực cho doanh nghiệp [Raising bank credit limits to enrich resources for private sector]. <<https://dangcongsan.vn/kinh-te/loi-han-muc-tin-dung-de-tang-nguon-luc-cho-doanh-nghiep-626912.html>>*

banks. Specifically, on January 30, 2022, the government issued Resolution 11 regarding the socio-economic recovery and development program and implemented Resolution 43/2022/QH15 of the National Assembly on financial and monetary policies that aims to support the socio-economic recovery and development program. The program included a relief package featuring a two-percent interest rate that was worth VND 40 trillion (\$1.7 billion) over the period of 2022-2023 via the commercial banking system, which was applicable for commercial loans to firms, cooperatives, and business households capable of repaying debt and recovering in specific industries and sectors.<sup>10</sup> On May 20, 2022, the government issued Decree No. 31/2022/ND-CP regarding the interest rate support package subsidized by the state budget, applicable for loans to enterprises, cooperatives, and business households; at the same time, the State Bank of Vietnam issued Circular No. 03/2022/TT-NHNN, guiding commercial banks about how to implement the program. Many businesses expected to access this interest rate incentive, which could possibly enable them to revive their operations and overcome the challenges presented by the pandemic.<sup>11</sup>

We incorporated a set of questions in the 2022 PCI survey to assess the ease of access to the two-percent interest rate relief package. These questions were specifically designed to ascertain whether businesses knew about the relief package and if they had received a loan under this program. Furthermore, regardless of whether firms received the loan, we asked them to evaluate the ease of procedures for accessing the loan and to identify any obstacles they might have faced during the process. Figure 1.3 illustrates firms' assessment of this relief package. According to the survey, 29.5 percent of firms were aware of the support program. However, only two percent of firms reported receiving a loan through the two-percent interest rate relief package, a tiny percentage consistent with what has been reported in the media. By the end of December 2022, the total amount disbursed was around VND 135 billion (\$5.9 million) for more than 1,700 clients.<sup>12</sup> Notably, 56.7 percent of firms encountered difficulties accessing loans under this relief package.

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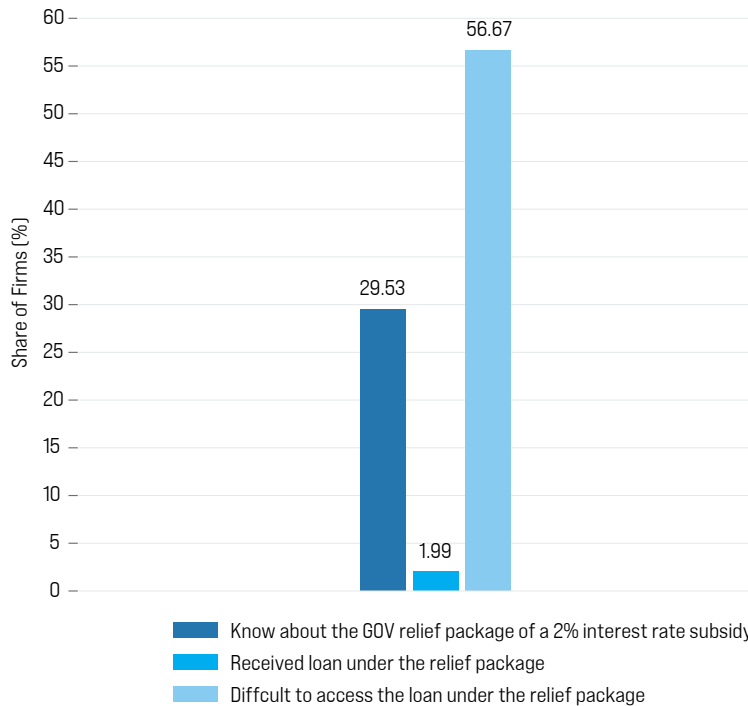
10 These include aviation, warehousing, and transportation; tourism, accommodation, and food and beverage services, education and training; agriculture, forestry, and fisheries, processing and manufacturing industries; software publishing, computer programming and related activities; information services; and renovating old apartment buildings, constructing social houses, and providing housing options for workers to buy, rent, or rent-to-own.

11 *Tuoi tre*, 2022. "Kỳ vọng ở gói hỗ trợ lãi suất 40.000 tỉ đồng" [Expectations in the interest rate support package worth VND 40,000 billion], February 13, 2022, < <https://tuoitre.vn/ky-vong-o-goi-ho-tro-lai-suat-40-000-ti-dong-20220212213543933.htm> >

12 *Kinh te do thi*, 2023. "Gỡ vướng, thúc đẩy giải ngân gói hỗ trợ lãi suất 2%" [Removing obstacles, facilitating disbursement of the two-percent interest rate support package], February 14, 2023, < <https://kinhtedothi.vn/go-vuong-thuc-day-giai-ngan-goi-ho-tro-lai-suat-2.html> >



**Figure 1.3. Businesses Knowledge of and Access to Special Relief Financing**



Source: 2022 PCI Survey. Question E4.20 “Have you heard about the government relief package of a 2 percent interest rate that is subsidized by the State budget via commercial banks and applicable for firms negatively affected by COVID-19?”.

Question E20.1 “Did your firm receive any loan under this package?”

Question E20.2 “If Yes or No, please rate the ease of procedures for accessing the loan”

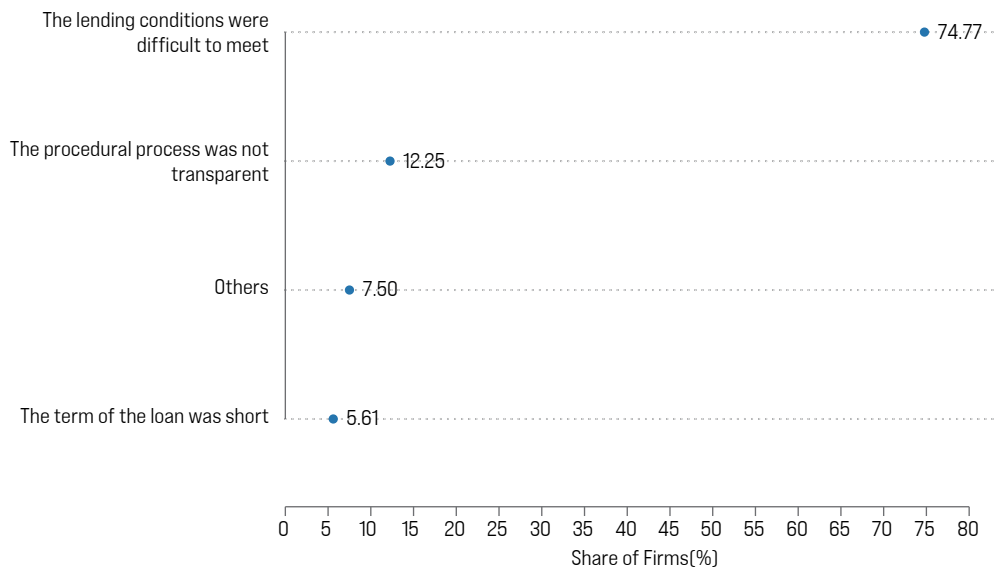
Difficulty meeting loan requirements was the main barrier that prevented the disbursement of the two-percent interest rate relief package from meeting expectations. According to commercial banks and firms that needed to access credit, there was no specific guidance on the eligibility criterion “firm’s capability to recover” stipulated in Clause 4, Article 3 of Decree No. 31/2022/ND-CP. In a report (Report no. 151/TTr-NHNN dated December 20, 2022) to the Prime Minister, the State Bank of Vietnam acknowledged that although many firms were able to pay off debt, they were unsure whether they met the “recovery capability” criterion to apply for the relief package. To satisfy this criterion, they had to demonstrate good business performance in terms of revenue, production, profits, and market prospects. However, given the global economic instabilities and the rising production costs and inflation rates, it was challenging to measure these indicators and prove that the eligibility criterion was fulfilled.<sup>13</sup> Many firms were also concerned about the regulatory burden for

<sup>13</sup> *The State Bank of Vietnam (2023). “Removing obstacles to accessing the two-percent interest rate relief package”. January 1, 2023. <[https://sbv.gov.vn/webcenter/portal/vi/menu/trangchu/ttsk/ttsk\\_chitiet?dDocName=SBV557641&p=4&\\_afrLoop=16481407523752828](https://sbv.gov.vn/webcenter/portal/vi/menu/trangchu/ttsk/ttsk_chitiet?dDocName=SBV557641&p=4&_afrLoop=16481407523752828)>*

relief recipients such as examinations, inspections, and audits.<sup>14</sup>

The 2022 PCI survey confirmed this obstacle, with 74.8 percent of firms stating that demanding loan requirements were the biggest problem when trying to access the two percent interest rate relief package. In addition, 12.3 percent of firms reported a lack of transparency in the procedures; 5.6 percent reported a short loan term; and 7.5 percent encountered other difficulties with the process of accessing the relief package.

**Figure 1.4. Challenges Accessing the Two-percent Interest Rate Relief Package**



Source: 2022 PCI Survey. Question E4.20.3 “If the procedure was difficult, please specify what exactly the difficulties were.”

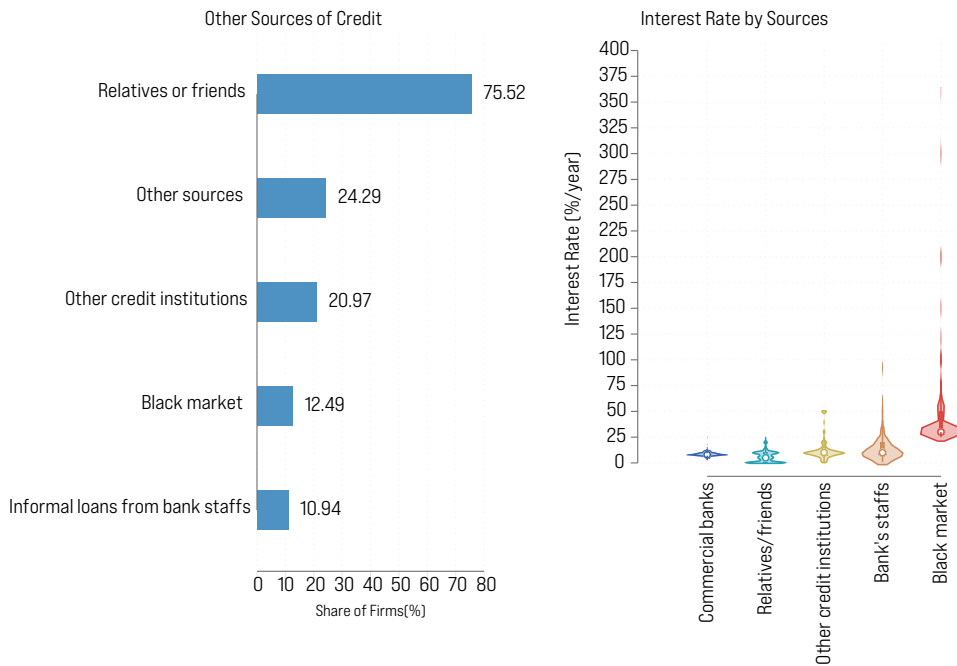
When bank loans are not accessible, businesses have recourse to other sources of capital to sustain their operations. In 2022, 75.5 percent of firms borrowed from their family and friends, a significant increase from the 51 percent observed in the 2021 PCI report. Additionally, 24.3 percent of firms turned to other sources, such as raising capital from shareholders, borrowing from other businesses, or pledging or selling their assets. Meanwhile, 21 percent of businesses accessed capital from other credit institutions, such as leasing companies or People’s credit funds. Approximately 10.9 percent of firms borrowed from bank staff or credit institutions without following formal procedures. It is concerning that 12.5 percent of firms turned to the “black market” (a sharp increase from 4 percent in 2021), where the interest rates are tremendously high. The survey findings

<sup>14</sup> Bao Dau tu, 2023. “Vi sao gói hỗ trợ lãi suất 2% giải ngân chậm?” [Why is the 2 percent interest rate support package being disbursed slowly?], February 07, 2023, < <https://baodautu.vn/vi-sao-goi-ho-tro-lai-suat-2-giai-ngan-cham-d183244.html> >



showed that the average interest rate for black credit loans was around 46.5 percent per year, which is about 5.5 times as high as the average annual bank interest rate.

**Figure 1.5. Alternative Sources of Capital**



Source: 2022 PCI Survey. Question E4.21 "Where bank loans are not accessible, which of the following does your firm recourse to as a source of capital? and average interest rate per annum?"

## 1.4.

# PROVINCIAL COMPETITIVENESS INDEX 2022 AND KEY FEATURES IN PROVINCIAL ECONOMIC GOVERNANCE QUALITY OVER TIME

This section reveals the 2022 PCI results and key features in provincial economic governance quality in recent years. First, we present the 2022 PCI scores and rankings of the provinces and cities. We also analyze changes in the aggregate PCI scores and the Core Index scores over time. Next, we compare the results of the ten sub-indices in 2022 to those in 2021 and disclose the top performers in each sub-index. Finally, we analyze key features in provincial economic governance quality over time based on the PCI data.

### **1.4.1. Provincial Competitiveness Index 2022**

The composite PCI is calculated from 142 indicators that constitute the ten subindices reflecting economic governance quality at the provincial level. The data used to construct each indicator was collected through the annual PCI survey in 63 provinces and cities and the published statistics by ministries and departments. A higher PCI score implies better economic governance that promotes a more enabling business environment.

This year, we updated the weights to ensure that the subindices with the greatest weights were those that had the largest impact on business growth and performance over time. To accomplish this task, we employed an econometric approach known as an error correction model (ECM), which permits the calculation of both the long and short-term impact of key variables. Using this technique, we studied fifteen years of PCI provincial-level data (2006-2021), regressing the number of active private enterprises (transformed with a natural log [ln]) and the capital investment size of those enterprises (ln) on each subindex, after controlling for structural factors such as region, distance from major cities, population size, and GDP.<sup>15</sup>

We then estimated the short and long-term effects of changes in each subindex on growth in private businesses and investment size over time. Finally, following the econometric procedures in the literature, we calculated the long-term multiplier,<sup>16</sup> which is the accumulated impact of private sector firm and investment growth caused by each subindex. For example,

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<sup>15</sup> De Boef, S., & Keele, L. (2008). *Taking time seriously*. *American journal of political science*, 52(1), 184-200; Box-Steffensmeier, J., & Helgason, A. F. (2016). *Introduction to symposium on time series error correction methods in political science*. *Political Analysis*, 24(1), 1-2; Kraft, P. W., Key, E. M., & Lebo, M. J. (2022). *Hypothesis testing with error correction models*. *Political Science Research and Methods*, 10(4), 870-878.

<sup>16</sup> Webb, C., Linn, S., & Lebo, M. (2019). *A bounds approach to inference using the long run multiplier*. *Political Analysis*, 27(3), 281-301.



holding the structural factors constant, a one standard deviation improvement in the informal charges (reducing corruption) is related to about a 5.7 percent annual increase in private businesses activity, whereas as one standard deviation improvement in land access is only associated with a 1.5 percent annual increase in private business activity.

This allowed us to determine the relative role that each subindex had played in determining private sector expansion over time. Finally, we basketed the subindices into three groups of those that had the largest impact and received a 15 percent weight, those that had a medium impact and were weighted at 10 percent, and those that had the smallest impact and were therefore limited to 5 percent weights. Importantly, the three largest contributors to provincial private sector performance and correspondingly those that received the highest weight in the index were reducing informal charges (subindex 5), increasing proactivity of provincial leaders and decision-making (subindex 7), and improving business support services (subindex 8). Table 1.5 provides estimates of the long-range multipliers for number of enterprises, investment, the raw estimated weight, and the final basketed weighting categories.

**Table 1.5. Informal Charges, Proactivity, and Business Support Policies Are The Highest Weighted Sub-Indices**

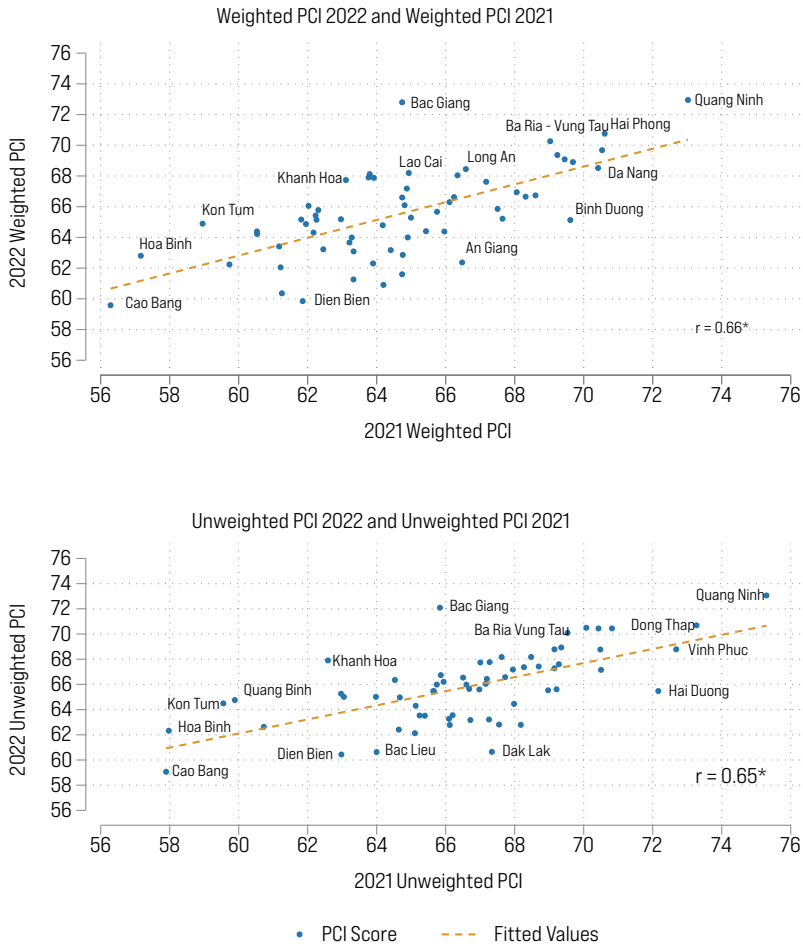
Sub-Index	Active Private Enterprises (ln)		Average Capital Investment per firm (ln)		Average Weight (%)	Basketed Weight (%)
	Multiplier	Weight (%)	Multiplier (%)	Weight (%)		
Entry Costs	0.0001	0.1	0.00	0.0	0.0	5
Land Access	0.015	7.7	0.71	18.0	12.8	10
Transparency	0.0001	0.1	0.00	0.0	0.0	5
Time Costs	0.0001	0.1	0.00	0.0	0.0	5
Informal Charges	0.057	30.4	1.39	35.0	32.7	15
Policy Bias	0.016	8.4	0.27	6.8	7.6	10
Proactivity	0.023	12.3	0.74	18.6	15.4	15
Business Support Policies[*]	0.06	32.3	0.21	5.3	18.8	15
Labor & Training	0.009	5.0	0.35	8.8	6.9	10
Law & Order	0.007	3.7	0.30	7.6	5.6	10

[\*] The subindex "Business Support Services" has been renamed "Business Support Policies" since PCI 2021.

Although the subindices received adjusted weights which are quite different from 2021, the 2022 PCI score still has a high correlation with the 2021 PCI score (Figure 1.6). Specifically, the correlation coefficient between the weighted PCI in 2022 and 2021 is 0.66; the correlation coefficient between the unweighted scores in 2022 and 2021 is 0.65. The relationship is

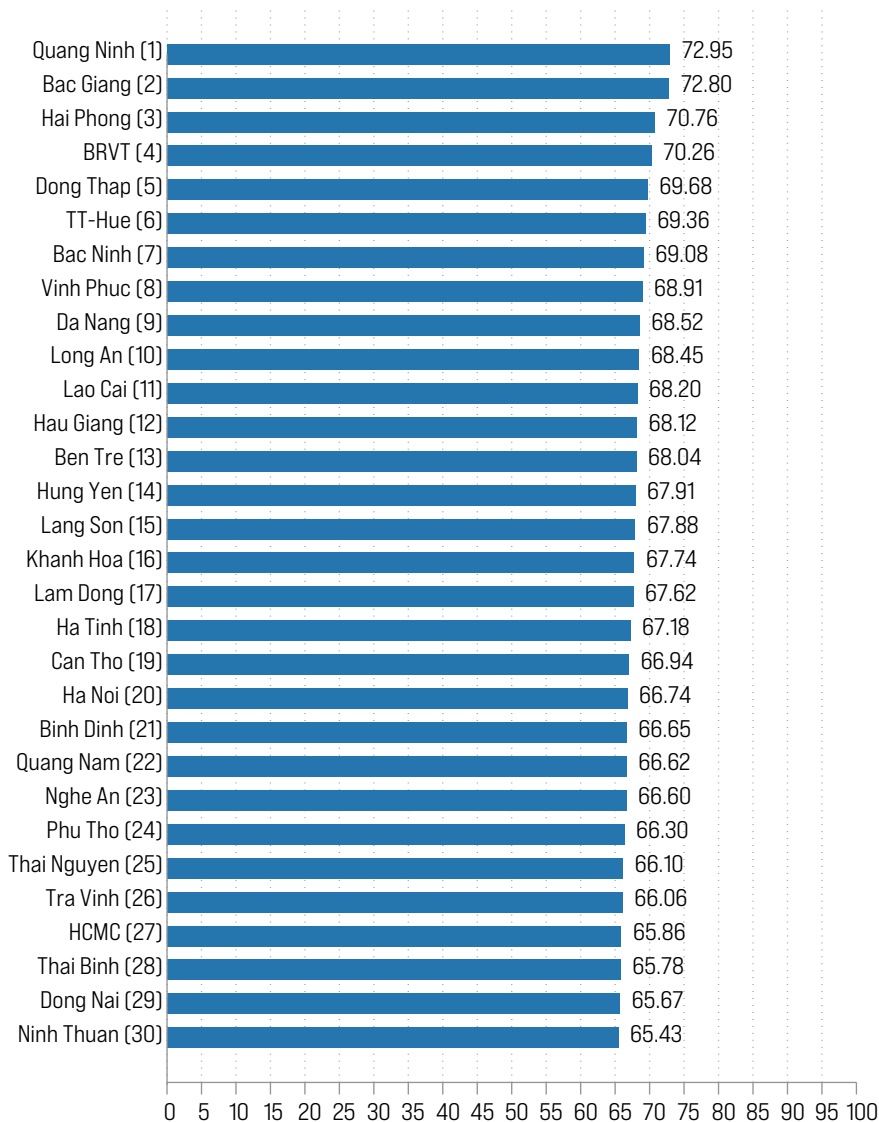
statistically significant at the 5 percent level [ $p$ -value  $< 0.05$ ] (Figure 1.6). This demonstrates that the 2022 PCI results are consistent with prior years even though the subindices were adjusted.

**Figure 1.6. Correlation Between 2021 and 2022 PCI Scores**



The 2022 PCI report introduces a major change: only 30 provinces and cities that have the highest PCI scores are ranked (Figure 1.7). This change is expected to encourage provinces and cities to put in more effort to foster an enabling environment for the private sector and become a top-ranking locality. The detailed results, including the scores of the composite index, subindices, and indicators, are still available on the PCI website (<https://pcivietnam.vn/>) and presented in the short PCI report of all 63 provinces and cities, which comes with the annual PCI report and provides information on specific areas of the provincial business environment.



**Figure 1.7. Top 30 Performers in PCI 2022**

Quang Ninh continued to lead the PCI with a score of 72.95 (on a 100-point scale). From 2017 to 2022, Quang Ninh has been the province with the best economic governance quality. This achievement stems from a variety of initiatives to bring about administrative reform and attract investment. Quang Ninh is one of the provinces that mobilize resources through public-private partnerships (PPP), in which “public investments lead the way for private investments.” In recent years, Quang Ninh’s Investment Promotion Agency successfully promoted investment into the province. The task force calls for investment, provides support and consultation for enterprises, and tackles difficulties facing investment projects. Quang Ninh is exemplary in establishing and operating public service centers from

provincial to district levels, and modernizing centers for document receipt and return at the commune level. Quang Ninh applied the “five-on-spot” principle, which means all the steps of document receipt, appraisal, approval, stamping, and return are carried out at the public service center. The innovative province is taking steps to move these administrative procedures entirely online. The province’s efficiency was recognized by firms participating in the PCI survey, evidenced by 93 percent of respondents that agreed with the statement “Government officials are effective in processing paperwork” and 91 percent agreeing “Administrative procedures in my provinces are usually completed by officials before the official deadline for completion.” Quang Ninh has become a bright spot in labor training in recent years as well. It has a young and skilled labor force, of which 51 percent are between 15 and 39 years of age and 85 percent are trained workers. Quang Ninh is also among the top provinces in terms of productivity (GRDP per employee). The province pays great attention to human resource development.<sup>17</sup> In the 2022 PCI survey, approximately 78 percent of firms rated the quality of the province’s general education as “good” with 69 percent saying that the quality of vocational training was “good” – the best results for these two indicators in 63 provinces. The proportion of labor in the province who have graduated from vocational schools and the percentage of trained workers from the age of 15 and above are also the second and the third highest in the country, respectively. These are remarkable achievements that indicate the effectiveness of the local labor training policies.

Bac Giang comes in the second position with an impressive score of 72.80 points, an increase of 8.06 points and 29 places over the prior year, demonstrating strong improvements in the province’s economic governance. Firms in Bac Giang rated the provincial government’s proactivity in “accompanying businesses” positively. In recent years, Bac Giang strengthened its efforts to diversify dialogue channels to listen to and address firms’ obstacles. The province implemented activities to draw administrative attention to improving the business environment and facilitating private sector development, most notably a contest called “understand and initiate solutions to improve business landscape” that was digitally organized in 2021 and 2022.<sup>18</sup> Efforts to provide legal consultancy to business operations by provincial agencies also received high firm approval. Among these efforts was the digitalization of all legal normative documents issued by the provincial People’s Council and Committee that are kept up-to-date on the National Database of Legal Documents. The provincial website maintained a Q&A column to promptly answer firms’ legal queries. These efforts plausibly led to the province’s significant improvements in the subindices of transparency and legal institutions. The province is ranked 7th among 63 provinces in the

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17 Resolution No. 35/2021/NQ-HDND dated August 27, 2021 of the People’s Council of Quang Ninh province on regulations on policies to attract and train high-quality labor at Ha Long University, Viet - Han Quang Ninh College, and Quang Ninh Medical College for the period of 2021 – 2025. In addition, the province has also formulated a project to produce high-quality labor for the period of 2021 - 2025, with a vision toward 2030.

18 Bac Giang’s Portal [2022], “Trao giải cuộc thi tìm hiểu và sáng kiến về cải thiện môi trường đầu tư kinh doanh tỉnh Bắc Giang” [Presenting awards to winners in the “Understand and initiate solutions to improve business landscape” contest in Bac Giang]. Truy cập tại: [https://bacgiang.gov.vn/chi-tiet-tin-tuc/-/asset\\_publisher/St1DaeZNsp94/content/trao-giai-cuoc-thi-tim-hieu-va-sang-kien-ve-cai-thien-moi-truong-au-tu-kinh-doanh-tinh-bac-giang-nam-2022](https://bacgiang.gov.vn/chi-tiet-tin-tuc/-/asset_publisher/St1DaeZNsp94/content/trao-giai-cuoc-thi-tim-hieu-va-sang-kien-ve-cai-thien-moi-truong-au-tu-kinh-doanh-tinh-bac-giang-nam-2022)



indicator measuring accessibility to legal documents, moving up 28 notches from the prior year. Ninety-two percent of firms reported having access to legal aid services provided by provincial agencies during their legal proceedings to bring disputes to court; 76 percent were willing to use the courts to resolve disputes, the highest levels in these indicators.

Third in line is Hai Phong with 70.76 points, thanks to the high firm approval of the municipality's trade and investment promotion efforts to increase Vietnamese firms' connectivity beyond domestic markets. Hai Phong has put in place two task forces, one charged with addressing bottlenecks for key projects and the other responsible for settling problems for tourism development projects, ensuring expedited and cross-sectoral settlement of administrative obstacles for investors. This year, 89 percent of firms agreed that the municipality was proactive and innovative in addressing arising problems and 92 percent of firms reported their obstacles were addressed through meetings and dialogues in a timely manner – among the highest scores in the country. The city entered 2023 by initiating a model called “connecting conditional business licensing procedures.” This model is expected to further facilitate firms and investors completing these procedures at department, agency, and district levels.

Ba Ria-Vung Tau became a top-5 province for the first time this year, coming in at fourth place (70.26 points). Before this year, the province's highest rank was the 6th position in PCI 2011. In 2022, the provincial government facilitated business operations with a focus on attracting high quality investment projects. Several remarkable reform efforts of the province included “Thursday No Wait,” “Saturday Listen to the People,” and “E-sign large scale maps” enacted by the provincial government for use by all agencies, sectors, and government levels within the province.<sup>19</sup> With “Thursday No Wait,” the provincial authorities select simple administrative procedures to process within the day, which is shorter than the regulated time, reducing the number of visits for firms and citizens. The province built a PCI information webpage and a social media PCI fan page to disseminate feeds on the latest developments in the investment and business landscape. Thanks to these initiatives, the province improved performance in five out of ten PCI subindices, gaining high rankings in Proactivity (12/63), Policy Bias (7/63), Land Access and Tenure (4/63) and Informal Charges (4/63).

The last province in the top 5 is a familiar name: Dong Thap (69.68 points). The province has frequented the top 5 rankings for 16 consecutive years. With a vision to become “a province for start-ups,” Dong Thap has focused on building a friendly, serving government. The provincial government's proactivity has always been highly rated. Provincial authorities developed and adopted good public service practices such as “Saturday 4.0 Certification with Home Delivery Results” and “Settling Judicial Administrative Procedures at Home.”<sup>20</sup>

<sup>19</sup> Ba Ria – Vung Tau News (2022), “Nhân rộng các mô hình cải cách hành chính” [Replicating administrative reform models]. <<https://www.baobariavungtau.com.vn/chinh-tri/202212/nhan-rong-cac-mo-hinh-cai-cach-hanh-chinh-966446/>>

<sup>20</sup> PLO (2023), “Đồng Tháp có nhiều mô hình tốt về cải cách hành chính” [Dong Thap has many good administrative reform models]. <https://plo.vn/dong-thap-co-nhieu-mo-hinh-tot-ve-cai-cach-hanh-chinh-post689424.html>

Recently, the province implemented a model titled “Serving administrative space”<sup>21</sup> to build a friendly government that serves firms and citizens along the way. This space is designed to create a warm feeling for business and the people that resembles the very successful “Coffee with Entrepreneurs” interactive model initiated by the provinces. These efforts were recognized in the 2022 PCI results, which ranks Dong Thap (7.7 points) and Lao Cai as the two highest scored provinces in the Proactivity subindex. Dong Thap was also highly rewarded by firms for its efforts to improve transparency and access to information, including a digital public consultation channel that collects opinions and feedback on the process of handling investment procedures, and an effectively run channel that conveys attitudes about the e-Dong Thap application to the provincial operating center.<sup>22</sup> These actions can be attributed to Dong Thap’s high rankings in some indicators of transparency, such as access to legal documents (ranked 2nd among 63), access to planning documents (7th out of 63), or quality of the provincial website (7th of 63).

Rounding out the PCI 2022 top 10 are Thua Thien Hue at sixth place, Bac Ninh at seventh position, Vinh Phuc (8th), Da Nang and Long An at ninth and tenth position, respectively. These provinces were all in the top 10 rankings in the prior year, except for Long An which rose six places from the 16th rank last year.

Collected annually from firms in all provinces and cities since 2005 to date, our data identifies trends in local economic governance over time using two key measures, the PCI and the Core Index.<sup>23</sup>

We use box plots to demonstrate the PCI and the Core Index scores (Figure 1.8). Dark blue boxes indicate the aggregate PCI and light blue boxes present core PCI scores. The horizontal lines in the middle of each box present the median scores (equal to the score of the provinces ranked 32nd) of a specific year, representing the quality of economic governance of the whole country. The lower and upper edges of each box provide the scores at the 25th percentile (the 16th-ranked province) and the 75th percentile (the 48th-ranked province). The ends of the range bar provide the lowest and highest PCI values. Dots outside the range bars are outliers – provinces that scored extraordinarily low or high that year.

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21 *The Vietnamese Communist Party’s e-newspaper (2022), “Đông Tháp triển khai mô hình không gian hành chính phục vụ.” [Dong Thap implement serving administrative model].* <<https://dangcongsan.vn/xa-hoi/dong-thap-trien-khai-mo-hinh-khong-gian-hanh-chinh-phuc-vu-630670.html>>

22 *Dong Thap News (2023), Tổng đài 1022 mang đến sự hài lòng cho tổ chức, công dân [Call center 1022 brings satisfaction to organizations and citizens].* <<https://baodongthap.vn/cai-cach-hanh-chinh/tong-dai-1022-mang-den-su-hai-long-cho-to-chuc-cong-dan-110991.aspx>>

23 *The PCI report uses the annual aggregate PCI and the Core Index to capture developments in economic governance over time. The annual PCI is calculated from all existing indicators (there are 142 indicators in 2022). The indicators are recalibrated and updated every four years to embrace changes in the legal and regulatory environment affecting the business climate in Vietnam. Meanwhile, the Core Index is aggregated from a limited set of 42 indicators that have been employed since 2006 to date, through which observations are made on the trends in economic governance over the past 17 years.*



**Figure 1.8. Box Plots of the PCI and Core Index over Time**

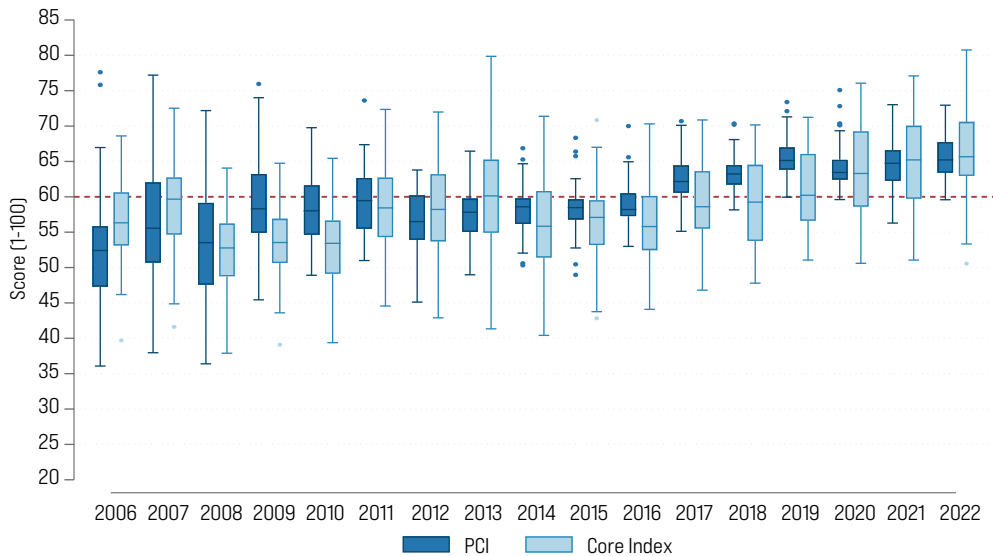


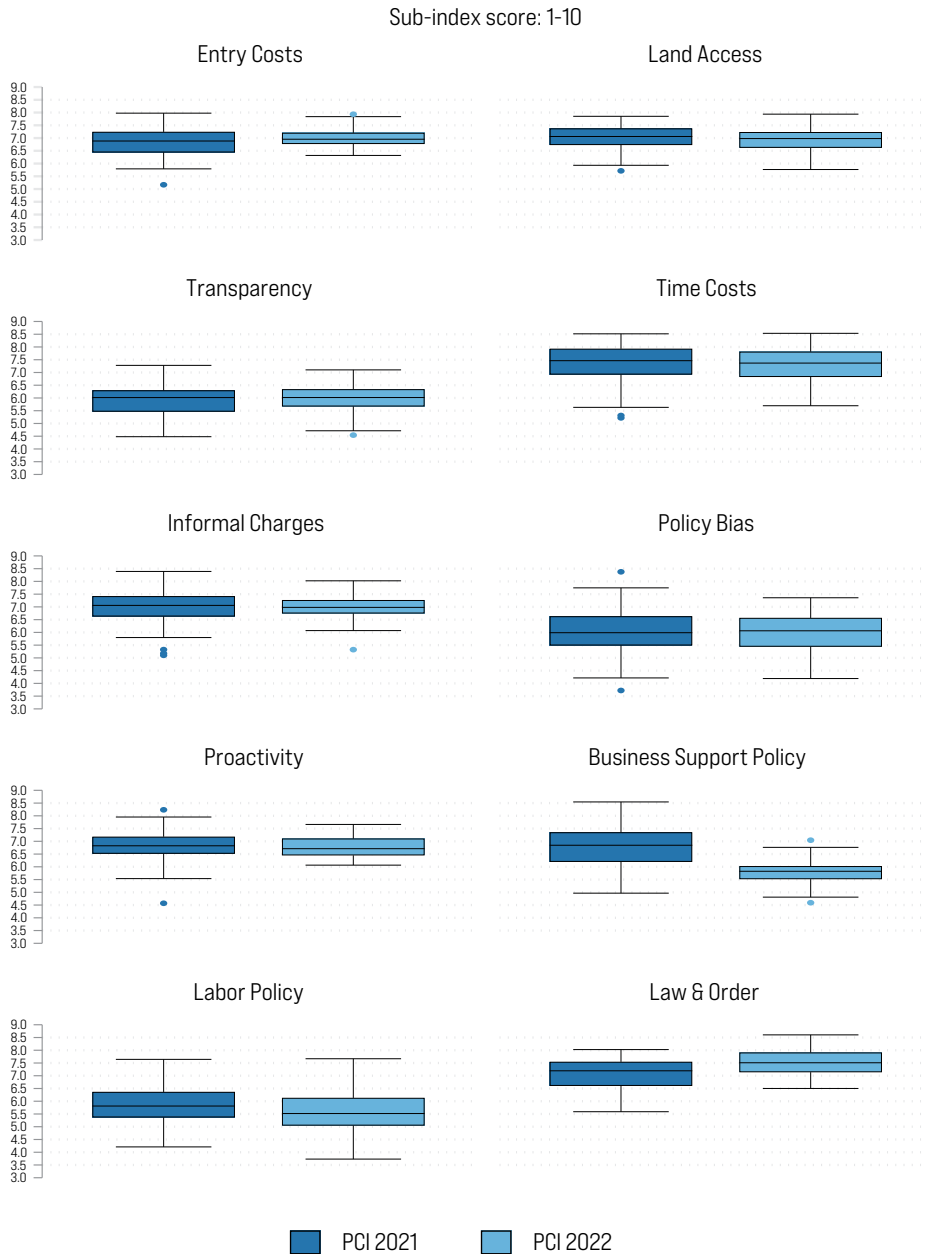
Figure 1.8 shows a positive trend in the aggregate PCI and the Core Index over time. The 2022 weighted PCI score of the median province reached 65.22 points, increasing 0.48 points from 2021, and reaching the prior peak of 2019 when the median province scored 65.13 points. The Core Index has maintained its upward trend since 2016 and reached 65.67 points in 2022, the highest value ever.<sup>24</sup>

The increase in the Core Index score implies reform efforts are on the right track in the long term and reflects improvements in basic areas of provincial economic governance over the past years. Meanwhile, the annual aggregate PCI scores (that include new indicators) being lower than the Core Index scores indicates that not only do the traditional aspects of economic governance need to be reformed, but the other aspects also require strong reform efforts by provincial governments.

While the overall PCI adjusted the weights of each subindex, the subindex construction remained exactly the same. This facilitates a direct comparison of scores between 2021 and 2022 on these measures, allowing us to track reform progress. Using the same set of 142 indicators for both years, we note several differences in values of some subindices over the period (Figure 1.9).

<sup>24</sup> It should be noted that the differences in the 2021 and 2022 PCI scores may be attributed to not only actual developments of economic governance on the ground, but also to the recalibration of the PCI methodology in 2021 and the adjusted weights of the subindices in 2022. Therefore, besides using the aggregate PCI and the Core Index, we need to consider the adjustments of the indicators in order to have a comprehensive assessment. Data from the indicators is provided in the Annex to the electronic 2022 PCI report posted at [pcivietnam.vn](http://pcivietnam.vn).

**Figure 1.9. Differences Between 2021 and 2022 Subindices**

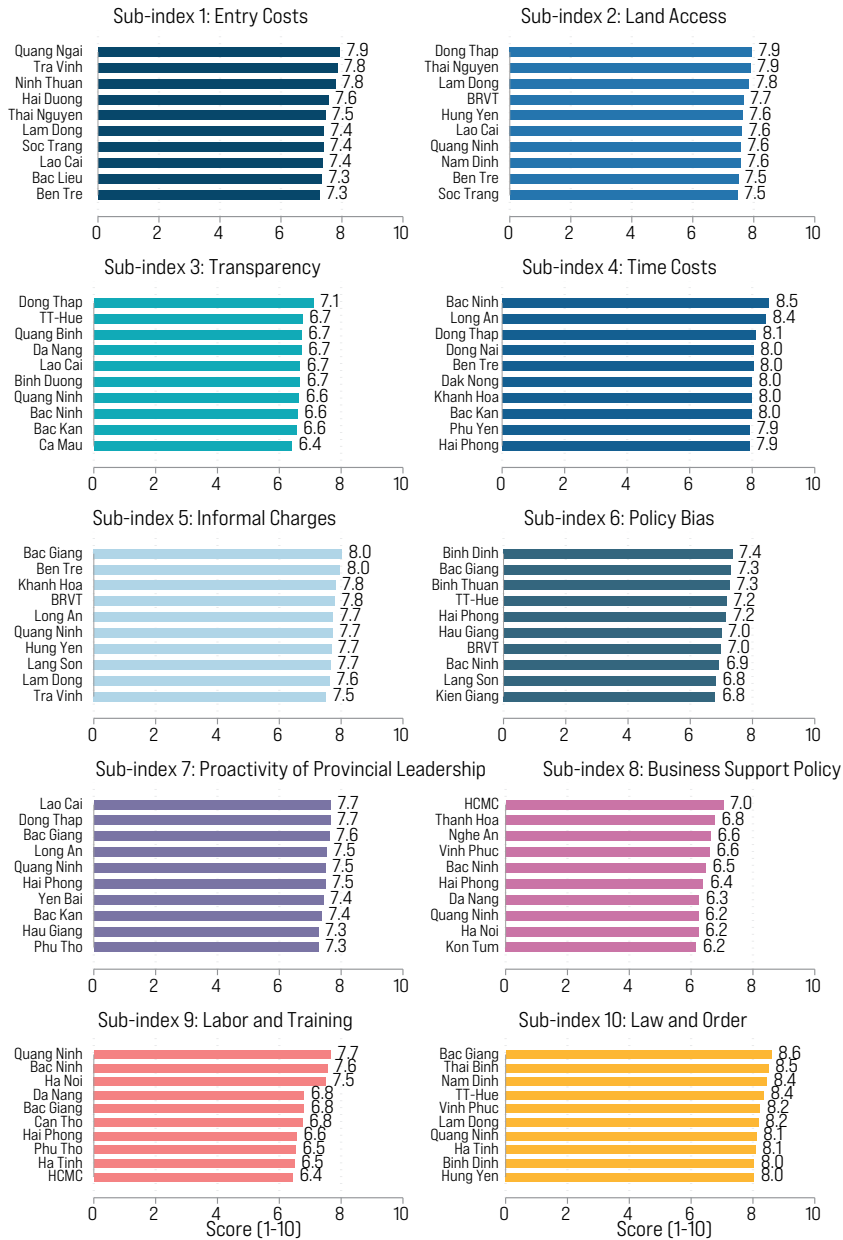


Note: The horizontal lines in the middle of each box present the median scores. The lower and upper edges of each box provide the scores at the 25th percentile and the 75th percentile. The ends of the range bar provide the lowest and highest PCI values. Dots outside the range bars are outliers – provinces that scored exceptionally low or high.



The median score for the subindex “Law and Order” shows improvement with an increase of 0.3 points from 2021. Meanwhile, the median scores for the subindices of “Business Support Policy” and “Labor Policy” declined respectively by 1 and 0.3 points. The decrease in the business support subindex may reflect businesses’ unmet expectations about post-pandemic assistance and recovery support. Firms were in dire need of help and the promulgated policies appeared generous. However, the actual implementation of such policies was rather limited. Take, for example, the slow disbursement of the two-percent interest rate relief package analyzed in section 1.3. For the other seven subindices, there is little difference between each year’s median score. Notably, the difference between the highest and lowest scores seems to narrow in 2022, particularly in the subindices of “Entry Costs,” “Transparency,” and “Informal Charges.” We can see this by the shrinking box length and range bars, indicating less variation in the 2022 measures.

The results are quite mixed when we disaggregate provincial performance in individual subindices. Figure 1.10 presents the top 10 performers in each subindex of the 2022 PCI. Although Quang Ngai is not ranked in the top 30 of the 2022 PCI, the province received the most optimistic assessment in the subindex “Entry Costs.” Dong Thap is ranked fifth on the PCI ranking, first in the subindex “Land Access,” first in “Transparency” and second in “Proactivity of Provincial Leadership” (nearly as high as Lao Cai). Bac Ninh was the number one performer in “Time Costs,” reflecting the province’s sizable efforts to simplify administrative procedures and reduce administrative compliance costs for businesses. Bac Giang, with an outstanding second-ranked performance in the overall PCI 2022 has the best score in the highly weighted “Informal Charges” subindex (together with Ben Tre) and “Law and Order.” Binh Dinh tops the “Policy Bias” ranking. Ho Chi Minh City, the largest economic hub of the country, has the best result in “Business Support Policy.” Finally, Quang Ninh, the 2022 PCI’s best performer, is ranked first for “Labor Policy,” the subindex with the largest variation in provincial scores. Quang Ninh also ranked in the top 10 provinces in six out of ten subindices.

**Figure 1.10. Top 10 Performers in Each PCI Subindex**






### **1.4.2. Key features of economic governance over time**

As we note in the introduction, many firms continued to struggle with post-2022 recovery and growth. However, the national and provincial governments have been proactive about creating a legislative and policy framework that is conducive to the business environment. Thus, it is a good time to take stock of these competing influences on specific features of economic governance. From the perspective of the business community, what are their assessments of local economic governance in the past year? How has the quality of provincial and municipal management evolved over time?

In this section, we analyze five main trends in the quality of local economic governance in recent years based on the PCI survey results:

- Continued improvement in the handling of administrative procedures over time; however, surveyed firms still reported troubles in certain key areas.
- There is still room for improvement in policy enforcement at the departmental and district levels.
- There has been a measurable decline in the payment of informal charges; however, illicit payments and harassment during public service implementation remain common practice.
- Access to land continues to be a bottleneck and requires more steadfast reform efforts in 2023.
- More types of information and documents are available, but businesses expect easier access to them in the future.

There has been continuous improvement in handling of administrative procedures over time; however, issues were still reported in certain key areas. Administrative procedures reform is one of the six core duties in the Master Program on State Administrative Reform for the 2021-2030 period,<sup>25</sup> alongside institutional reform, administrative agency reform, public service administration reform, public finance reform, and e-government development. Regarding administrative procedures reform, the government has paid great attention to “reviewing, reducing, and simplifying business conditions and administrative procedures,” “promoting the application of information technology and digital technologies to standardize and simplify the process,” and “promoting decentralization in handling administrative procedures.”<sup>26</sup>

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<sup>25</sup> Resolution No. 76/NQ-CP on the master program on State Administrative Reform for the 2021-2030 period was published by the Government on July 15, 2021.

<sup>26</sup> Excerpt from Directive No. 23/CT-TTg dated September 2, 2021, by the Prime Minister on promoting the implementation of the master program on State Administrative Reform for the 2021-2030 period

The summary report by the government's Administrative Reform Steering Committee<sup>27</sup> indicated that 1,041 regulations for businesses across 101 documents were either omitted or simplified in 2022. Since 2020, 2,142 regulations and 171 legal normative documents were modified based on the implementation results of Resolution No. 68/NQ-CP, dated May 12, 2020.<sup>28</sup> In information technology, by the end of 2022, 4,400 out of 6,502 administrative procedures (approximately 67 percent) are available as online public services. Additionally, by the end of 2022, the National Public Service Portal successfully incorporated all 25 critical public services outlined in Project 06.<sup>29</sup> Enterprises now can learn about all regulations concerning their operations at a centralized platform, the Business-Related Regulation Consultation and Search Portal (<https://quydingkinhdoanh.gov.vn>). At the sub-national level, 56 out of 63 localities have established provincial-level public service centers, and all provinces and cities are currently operating online public service portals and digital single-window information systems. As for the decentralization of administrative procedures, on August 30, 2022, the Prime Minister approved a plan to devolve the responsibilities of handling 699 administrative procedures in 100 areas under the management scope of ministries and ministerial-level agencies.<sup>30</sup> This plan aimed to ensure the implementation of Directive no. 23/CT-TTg (2021) on the objective of “giving powers to the agencies that are closest to the people,” in order to “avoid multi-level, prolonged handling processes, and minimize the negative and troublesome impacts on the people.”<sup>31</sup>

Over the past few years, ongoing administrative procedure reforms have resulted in positive feedback from the business community in regard to the length of administrative procedure implementation. Figure 1.11 illustrates the decreasing trend of the time cost burden associated with understanding and complying with regulations. The gray lines indicate the results recorded in each of the 63 provinces and cities; the blue line depicts the median value (the score of the province ranked 32nd). The 2021 PCI survey results revealed that, in the median province, 26 percent of firms spent more than 10 percent of their time on understanding and completing administrative procedures (a slight increase from 22 percent in 2020). However, this number decreased to 20 percent in 2022, the lowest since

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27 *Government News (2023). Thủ tướng Phạm Minh Chính chủ trì Phiên họp thứ 3 Ban Chỉ đạo Cải cách hành chính của Chính phủ [Prime Minister Phạm Minh Chính chaired the third meeting of the Government's Administrative Reform Steering Committee]. <<https://baochinhphu.vn/thu-tuong-pham-minh-chinh-chu-tri-phien-hop-thu-3-ban-chi-dao-cai-cach-hanh-chinh-cua-chinh-phu-102230204110705887.htm>>*

28 *Resolution No. 68/NQ-CP (2020) established the program for reduction and simplification of regulations related to business activities for the period of 2020-2025. Results of the process of reducing and simplifying business-related regulations can be found on the Business-related Regulation Consultation and Search Portal at <https://quydingkinhdoanh.gov.vn/p/home/tmv-ban-do-the-che.html>*

29 *The project to develop a national population database, electronic identification, and authentication to serve the national digital transformation for the period of 2022-2025, with a vision toward 2030.*

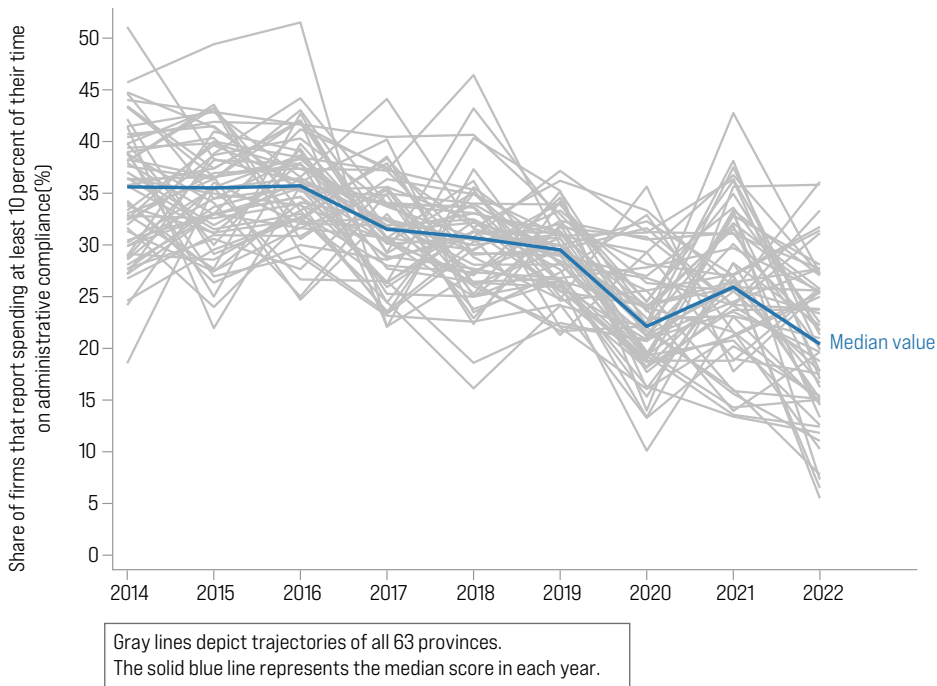
30 *Decision No. 1015/QĐ-TTg by the Prime Minister, dated August 30, 2022, approving the decentralization plan in handling administrative procedures under the management scope of ministries and ministerial-level agencies*

31 *Excerpt from Directive No. 23/CT-TTg by the Prime Minister dated September 2, 2021*



2014. In the 2021 report, the research team speculated that the increase from 2020 to 2021 was attributable to the implementation of the government’s pandemic response strategies. However, these issues appear to have subsided. With COVID-19 under control and the government adopting more flexible and adaptive solutions, the time required to understand and comply with administrative procedures has returned to the decreasing trend in 2014.

**Figure 1.11. Burden of Regulatory Compliance**

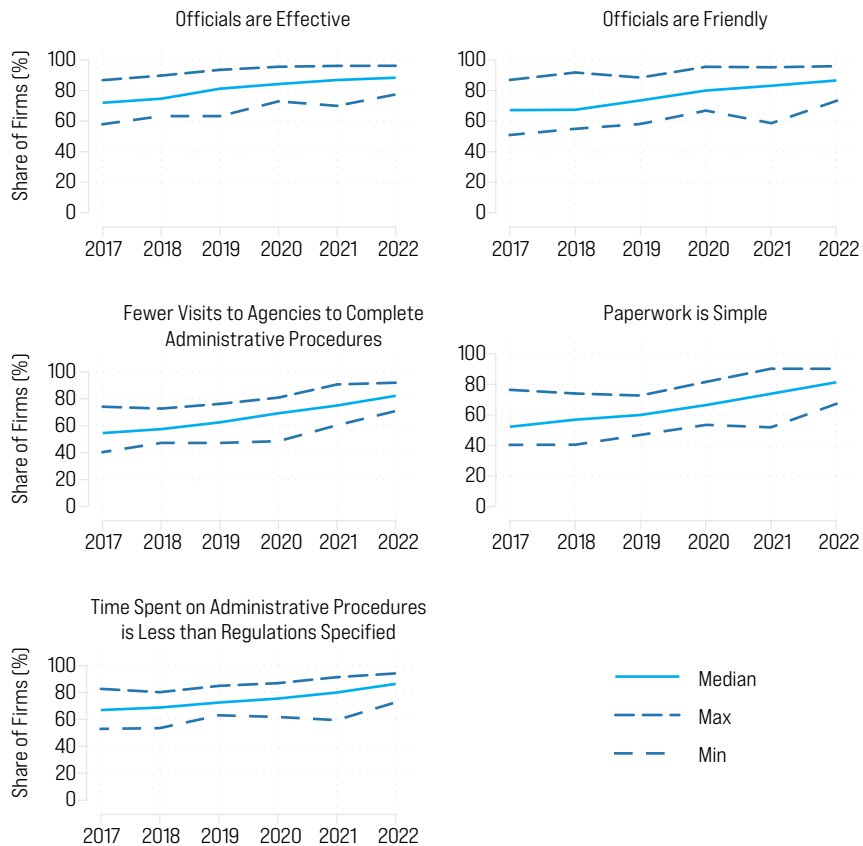


Source: 2022 PCI Survey. Question D1.1 “What percentage of senior management’s time was spent to understand and comply with administrative procedures over the past year?” Answer options given include: (1) Less than 1 percent; (2) From 1 - 5 percent; (3) From over 5 to 10 percent; (4) From over 10 to 15 percent; (5) From over 15% to 50%; and (6) Over 50 percent.

Data analysis shows encouraging signals in the quality of administrative procedures handling over time. Figure 1.17 presents firms’ agreement level with general statements related to complying with administrative procedures: (1) government officials process paperwork effectively; (2) government officials are friendly; (3) businesses do not have to make multiple trips to complete procedures; (4) paperwork procedures are simple; and (5) administrative procedures are addressed faster than legally required. In the 2021 PCI, the proportion of firms agreeing with each of these statements increased compared to that of prior years, and this upward trend was maintained in the 2022 PCI, achieving the best results since 2017. Specifically, 89 percent of businesses indicated “Government officials

are effective in processing paperwork;” 87 percent of businesses concurred “Government officials are friendly;” and 82 percent agreed “Our firm doesn’t have to make many trips to complete procedures.” For the statements “Paperwork and procedures are simple” and “Administrative procedures in my provinces are usually completed by officials before the official deadline for completion,” the proportion of firms in agreement was 81 percent and 86 percent, respectively. These results reflect the business community’s recognition of the progress made by local state agencies to improve the quality of handling administrative procedures.

**Figure 1.12. Some Indicators Measuring Administrative Procedures Handling**



Source: 2022 PCI Survey. Question D1.3 “To what extent do you agree with the following statements?”

Given statements include: (1) Government officials are effective in processing paperwork; (2) Government officials are friendly; (3) Our firm doesn’t have to make many trips to obtain stamps and signatures from state agencies to complete the procedures; (4) Our firms did not have to contact many departments or districts to comply with provincial business procedures; (5) Paperwork and procedures are simple; (6) Fee rates are listed publicly at state agencies; (7) Informal charges are at acceptable rate; and (8) Administrative procedures in my provinces are usually completed by officials before the official deadline for completion. Answer options given include: (i) Strongly agree; (ii) Agree; (iii) Disagree; and (iv) Strongly disagree.



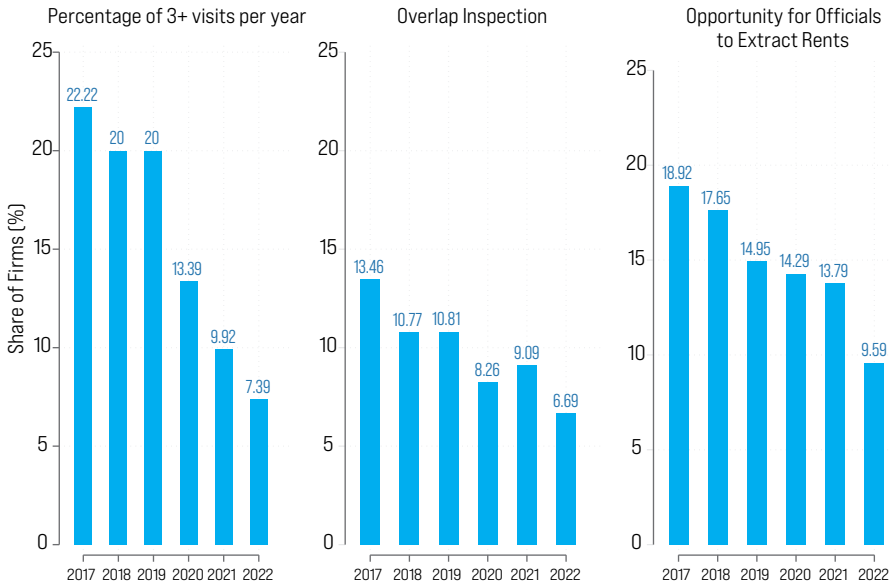
Over time, complying with inspection and examination procedures has become less burdensome. Inspections and examinations are carried out by state management agencies to evaluate firms' compliance with laws and to address violations. However, excessive inspections and examinations, combined with the fact that some state officials might take advantage of inspection activities to harass businesses and benefit themselves, can increase compliance costs for firms. To address this situation, in 2017, the Prime Minister issued Directive No. 20/CT-TTg<sup>32</sup> on improving the quality of inspections and examinations of businesses. The Directive set out principles for inspection and examination activities, such as the frequency of inspections and examinations being once a year at most; relevant agencies having to coordinate to develop inspection plans and use each other's results; and additional inspections being conducted only when there are signs of violations. In recent years, leaders promoted using risk management principles for selecting cases to be inspected and examined, especially in the areas of taxes and customs. The objective is to detect high-risk cases of legal violations and reduce the number and frequency of inspections and examinations.

These changes could have contributed to the positive changes in firms' perceptions of inspections and examinations in recent years. Figure 1.13 presents the results of some indicators on inspection and examination in the PCI survey. A positive trend is seen in all three indicators. The proportion of businesses that underwent three or more inspections in 2022 decreased to 7.39 percent (the value in the median province). This is a notable improvement considering this ratio was over 22 percent in 2017. Similarly, the percentage of firms reporting duplication of inspection content in 2022 decreased to 6.69 percent (value in the median province), a notable slide from 13.46 percent in 2017. While almost 19 percent of firms in 2017 reported that inspections and examinations created opportunities for officials to harass businesses, by 2022, this proportion dropped to under 10 percent.

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<sup>32</sup> Directive 20/CT-TTg issued by the Prime Minister on May 17, 2017, on improving the activities of inspecting and examining businesses.

**Figure 1.13. Burden of Complying with Inspection Procedures. 2017-2022**



Note: The values shown here are calculated values at the median province.

Source: 2022 PCI Survey. Question D2.6 “How many total times was your business inspected and examined in the last year? \_\_\_ times.”

Question D2.6.1 “Was there any overlap and duplication during these inspections? In other words, did different agencies inspect the same activities and processes?”

Question D2.7.1 “What do you think were the most common purposes of the inspections you experienced? (Please check all that apply).” Answer options given include: (1) To help business comply better with regulations; (2) To ensure rights of citizens and society; (3) To generate harassment opportunities for inspectors; and (4) Others (Please specify).

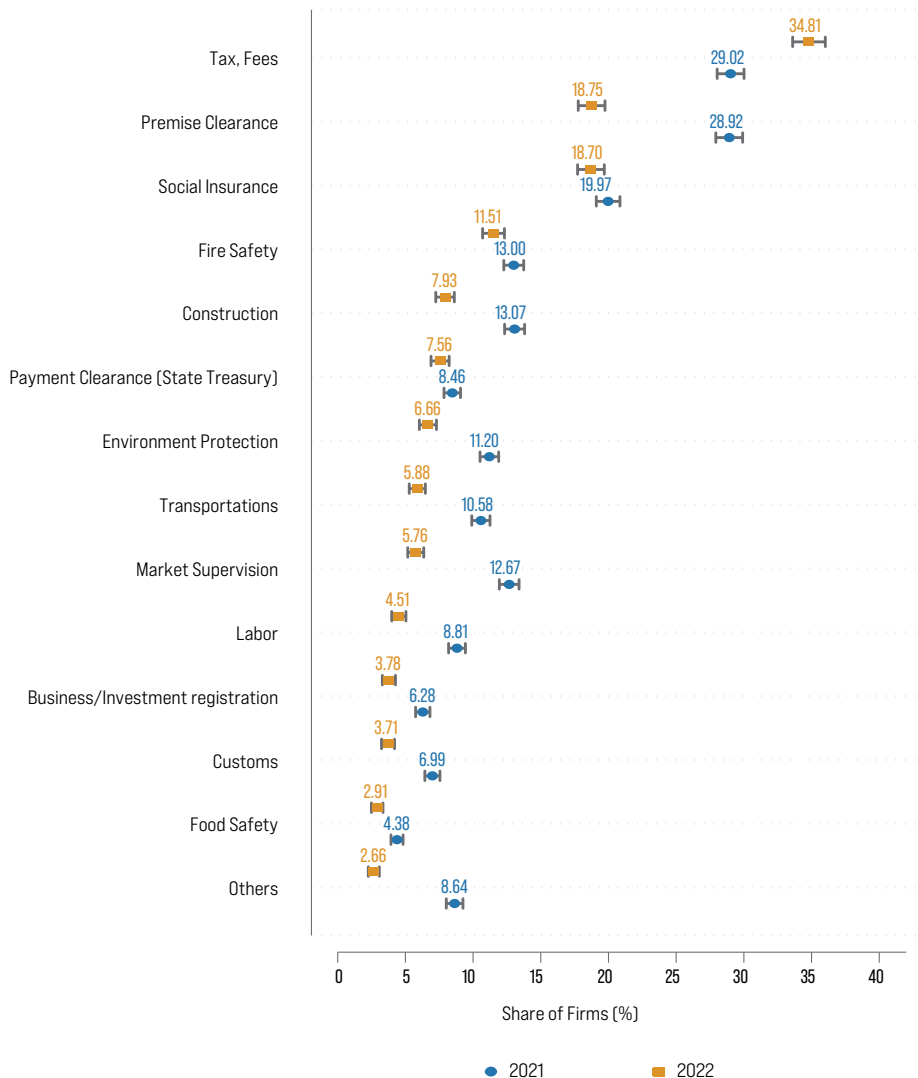
Despite remarkable successes in improving the efficiency of administrative procedures, there is plenty of room for further improvement in administrative procedure reforms. According to the Administrative Reform Steering Committee’s assessment, “delays in processing documents and returning handling results still occurs at different administrative levels” and the people and businesses “still have to go to the one-stop department to meet government officials to be guided and scan documents on the spot” even though the procedures could be conducted online.<sup>33</sup> The 2022 PCI survey recognizes that administrative procedures became less troublesome in general but finds that the trend was not the same across different regulatory areas. Figure 1.14 shows the share of firms reporting specific types of administrative procedures that were troublesome for businesses in 2021 and 2022. Taxes, fees, land clearance, and social insurance were the most burdensome areas.

<sup>33</sup> The Government’s Administrative Reform Steering Committee, 2023, “Summary report on administrative reforms in 2022 and orientation and tasks for 2023.” <<http://caicachanhchinh.gov.vn/tin-noi-bat/tai-lieu-phuc-vu-phien-hop-thu-ba-cua-ban-chi-dao-cai-cach-hanh-chinh-cua-chinh-phu-9696.html>>



There was a sharp decrease in 2022 in the share of firms reporting difficulties following administrative procedures in all sectors, except for taxes and fees which increased by nearly six percentage points compared to 2021, and the value difference between the two years has statistical significance. We will analyze the indicators related to tax administrative procedures to explain this development.

**Figure 1.14. Administrative Procedure Burden on Businesses in 2022**

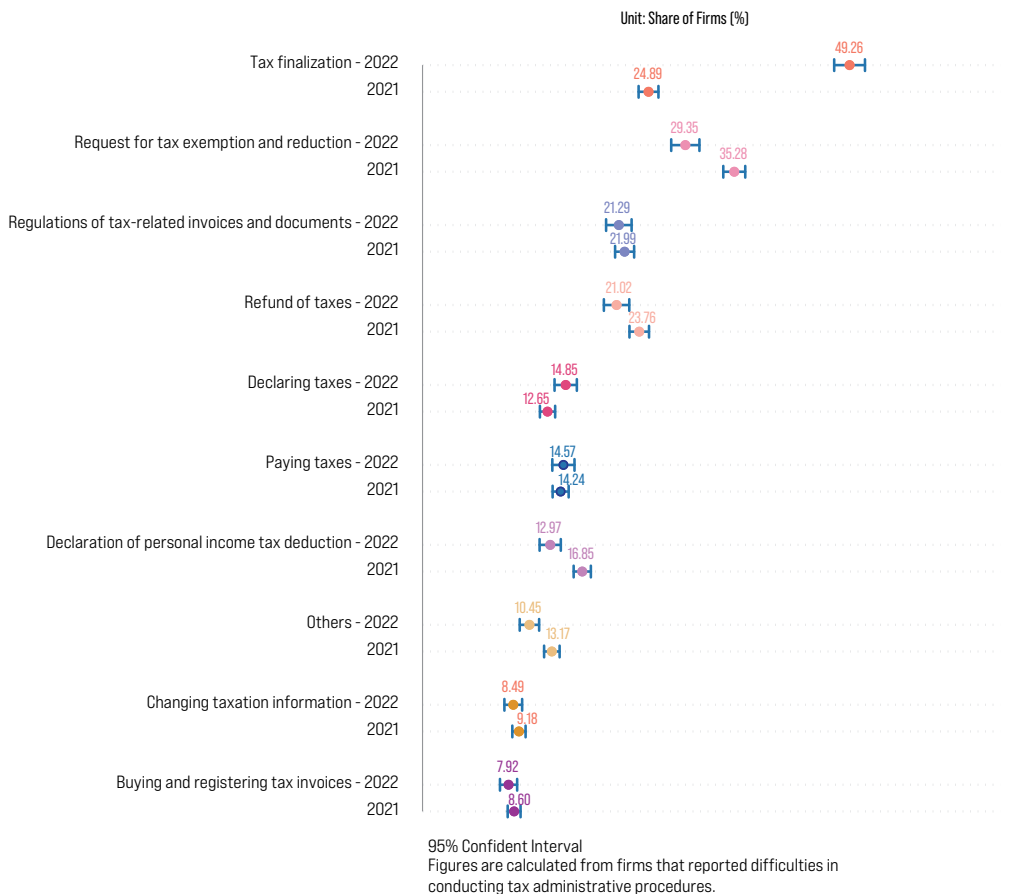


Note: Each grid line represents an administrative procedure. The share of firms saying a type of administrative procedure was troublesome in 2022 is shown above that procedure area's grid line (yellow square). Meanwhile, the value below the gridline (green circle) represents the value in 2021.

Source: 2022 PCI Survey. Question D1.2 "From your experience in the province, please indicate the most troublesome administrative procedures (Please check all that apply)"

Among firms encountering difficulties in complying with tax administrative procedures, the largest proportion (about 49 percent) reported issues with tax finalization, followed by tax exemption and reduction (29 percent) and tax refund (21 percent). The rate of businesses facing difficulties in 2022 was higher than 2021 in three procedures: tax declaration; tax finalization; and tax payment. It is worth noting that while the difference in values between 2021 and 2022 in tax refund and tax payment is rather small, the figure for tax finalization rose significantly from approximately 25 percent in 2021 to roughly 49 percent in 2022. Such large differences usually result from changes in policies or regulations. It will be worth probing regulations that took effect in 2022 that could have greatly affected businesses' experience in tax finalization.

**Figure 1.15. Types of Tax Difficulties Faced by Firms in 2022**



Source: 2022 PCI Survey. Question D1.4 “From your experience in doing tax administrative procedures, please indicate the issues you found troublesome? You can choose more than one choice.” Answer options given include: (i) Paying taxes; (ii) Buying and registering tax invoices; (iii) Declaring taxes; (iv) Tax finalization; (v) Changing taxation information; (vi) Regulations of tax-related invoices and documents; (vii) Declaration of personal income tax deduction; (viii) Request for tax exemption and reduction; and (ix) Refund of taxes.





Responses to open-ended questions in the 2022 PCI survey showed that many problematic cases of tax finalization arose following the nationwide mandatory transition to e-invoices on July 1, 2022,<sup>34</sup> making it possibly the most significant tax-related change of the year. The forced shift is an inevitable requirement of the modern-day tax management system, which will help promote information transparency and save time and costs for both businesses and administrators. The application of e-invoices will help tax authorities build a database of invoices, facilitating the efficiency of tax inspections, tax examinations, tax refunds and risk analysis of businesses.

However, the implementation of e-invoices in 2022 still causes trouble for businesses, especially micro- and small-scale firms.<sup>35</sup> Mandating e-invoices requires adequate technical infrastructure, but some businesses are currently unable to meet the requirements of information technology and telecommunications infrastructure in their small operations. Many small firms which used to operate as household businesses are most familiar with paper invoices and have not been able to adapt to more complex forms of accounting management using electronic invoices. Such businesses have not acquired the necessary computing literacy to manage invoices and do tax finalization work electronically. In-depth analyses presented in Table 1.6 show that businesses with employment size of 50 people or below were more likely to face difficulties when conducting tax finalization than bigger firms.

**Table 1.6. Challenges with Tax Finalization Procedures by Firm Size**

*Unit: Share of firms facing difficulties with tax finalization (percent)*

Firm's employment size (*)	Number of observations (**)	Mean	Std. Deviation	95% confidence interval	
				Lower bound	Upper bound
<= 50 people	2.229	45.85	49.84	43.78	47.92
> 50 people	274	37.22	48.43	31.46	42.98
Total	2.503	44.90	49.75	42.96	46.86

(\*) The p-value = 0.007 < 0.05 indicates that the difference between the two groups of firms was statistically significant at the 0.05 level.

(\*\*) The results were calculated among firms that assessed the level of difficulty in tax finalization and responded to questions about their employment size (i.e. excluding firms that did not provide sufficient data).

<sup>34</sup> On September 17, 2021, the Minister of Finance issued Circular 78/2021/TT-BTC implementing a number of articles of the Law on Tax Administration dated June 13, 2019, and Decree No. 123/2020/ND-CP dated October 19, 2020, on invoices and vouchers. Circular 78 took effect July 1, 2022 encouraging agencies, organizations and individuals to meet the conditions of information technology infrastructure regarding electronic invoices and vouchers according to the Circular and Decree No. 123/2020/ND-CP before July 1, 2022.

<sup>35</sup> Proceedings of workshop "E-invoices in accordance with Decree 123/2020 and Circular No. 78/2021 – notes for businesses" co-organized by VCCI and Mobifone Limited Liability Company on May 27, 2022.

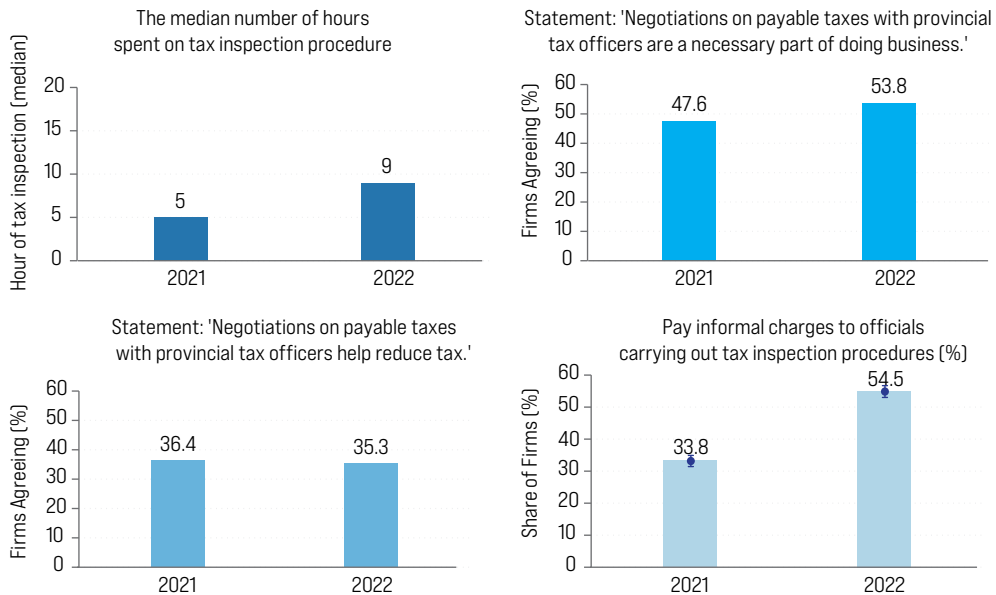
The above results do not deny the encouraging progress made by the tax authorities in recent years, especially in the digital transition. Rather, they emphasize that relevant agencies need to take into account the effectiveness of information dissemination and complaint handling. Enterprises, especially micro- and small-size firms, clearly need vital resources, guidance, and training to better prepare for amendments of legal regulations.

The challenge is not limited to firms' difficulty understanding of and compliance with new regulations. Figure 1.16 reveals other problems faced by firms in adhering to tax procedures in 2022.

While the frequency and overlapping of inspections and examinations tended to decrease in general (as shown in Figure 1.13), the survey results show that the median time spent on a tax inspection in 2022 reached nine hours, an increase of four hours compared to 2021. This is also one hour longer than 2020. Even more noticeably, 53.8 percent of firms agreed that negotiating payable taxes with provincial tax officers was a necessary part of doing business, higher than in 2021 (47.6 percent). Firms reporting payment of informal charges to tax officials in the past year also rose significantly, jumping to 54.5 percent in 2022 from 33.8 percent in 2021.



**Figure 1.16. Tax Burden Indicators. 2021-2022**



Note: The share of firms that pay informal charges is estimated with 95% confidence interval and is calculated among firms being inspected by tax authorities.

Source: 2022 PCI Survey. Question D2.9 "If you were inspected/examined by the Tax Authority over the past year (Please exclude the cases where tax officers come to your firm to provide guidance on tax procedures compliance), please estimate how long the inspection lasted on average? hour(s)."

Question D2.10 "Please rate your level of agreement with this statement: "Negotiations on payable taxes with provincial tax officers are a necessary part of doing business." Answer options given include: (i) Strongly agree; (ii) Agree; (iii) Disagree; and (iv) Strongly disagree.

Question D2.11 "Please rate your level of agreement with this statement: "Negotiations on payable taxes with provincial tax officers help reduce tax payments." Answer options given include: (i) Strongly agree; (ii) Agree; (iii) Disagree; (iv) Strongly disagree.

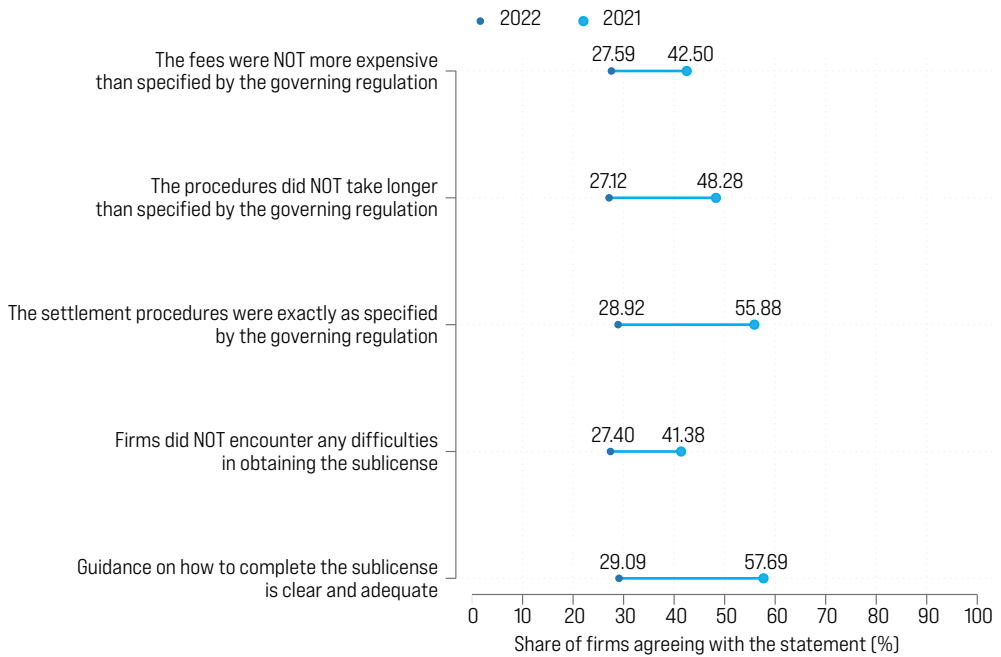
Question D3.16 "Please select all local agencies to whom you paid an informal charge in the last year."

Besides the troubles with tax procedures, applying for a sublicense for a conditional business line has been a great barrier. Although business conditions have continuously been simplified over the years, agencies still retain many types of conditional business licenses for different reasons, such as ensuring security and social safety, social ethics, or public health.

Figure 1.17 shows firms' assessment of procedures related to obtaining the sublicense for a conditional business line between 2022 and 2021. The share of firms agreeing with each of the five statements given was below 30 percent in 2022 and lower than 2021. There is a very large drop in the proportion of firms agreeing with the statements "guidance on how to complete the sublicense was clear and adequate" (decreasing by roughly 29 percent)

and “The settlement procedures applied to my application for a conditional line sublicense were exactly as specified by the governing regulation” (decreasing by approximately 27 percent). Overall, these results show that firms’ experiences complying with conditional business licensing procedures has not significantly improved in the past year. There is still room for reforms in this area, which requires more sustained effort by ministries and local governments.

**Figure 1.17. Compliance Burden of Conditional Business Sublicensing Procedures. 2022**



Source: 2022 PCI Survey. Question B4.2 “Please rate your agreement with the following statements about the process for obtaining a sublicense for your conditional business line? (1) Guidance on how to complete the sublicense was clear and adequate; (2) I did NOT encounter any difficulties in obtaining the sublicense; (3) The settlement procedures applied to my application for conditional line sublicense were exactly as specified by the governing regulation; (4) The procedures for obtaining the sublicense did NOT take longer than specified by the governing regulation; (5) The fees for obtaining the sublicense were NOT more expensive than specified by the governing regulation; (6) I was NOT asked to pay an informal fee to obtain the sublicense.” Answer options given include: (i) Strongly agree; (ii) Agree; (iii) Do not know; (iv) Disagree; and (v) Strongly disagree.

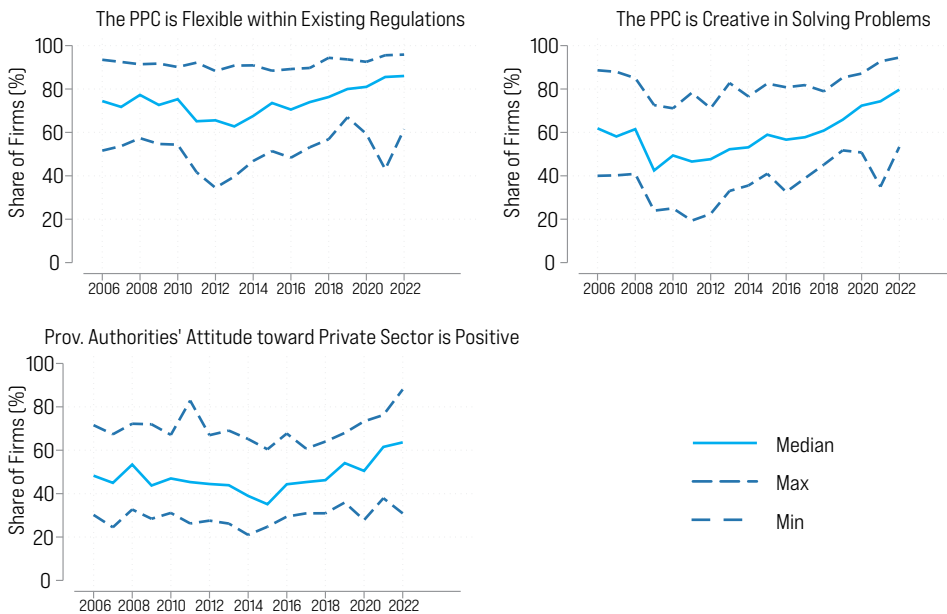
There is also room for improvement in policy enforcement at departmental and district levels. The subindex “Proactivity of Provincial Leadership” presents the private sector’s assessment of local governments’ abilities to implement policies and tackle issues in the provincial economic development process. Following the trend since 2015, firms’ assessment in the 2022 PCI survey showed positive results in several indicators, reflecting



the dynamism, pioneering innovations, and efficiency of the provincial and municipal authorities.

In 2022, 86 percent of the surveyed enterprises agreed that their provincial People’s Committee was very flexible, within the scope of laws, to create a favorable business environment,” compared to 85.6 percent in 2021 and 81 percent in 2020. Similarly, 79.7 percent of respondents agreed that “Even when central regulations are unclear, my provincial People’s Committee is creative and clever in solving newly arising problems,” 5.3 percentage points higher than 2021. At the same time, 63.6 percent of firms found the provincial government had a positive attitude towards production and business activities of the private sector, higher than the 61.5 percent recorded in 2021. In 2022, all three indicators reached the highest level over the course of PCI’s 18-year history.

**Figure 1.18. Firms’ Views of Provincial Government Effectiveness and Attitudes. 2006-2022**



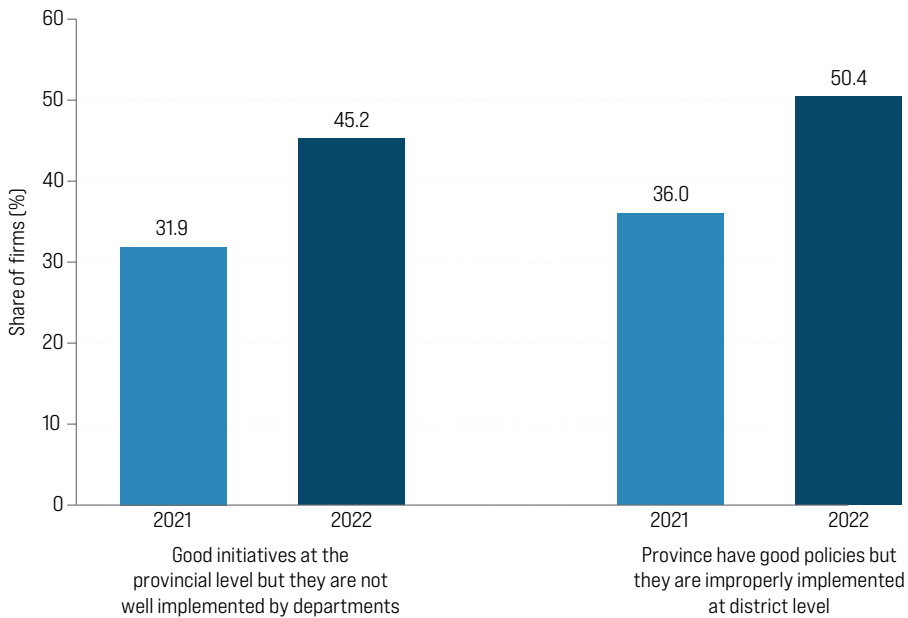
Note: The yellow line represents the median values; The blue dashed lines indicate the maximum and minimum values.

Source: 2022 PCI Survey. Question H1 “What do you perceive as the attitude of provincial government officials towards private business?” Answer options given include: 1) Negative; 2) Somewhat negative; 3) Neutral; 4) Somewhat positive; and 5) Positive.

Question H2 “Do you agree with the following statements? [2] My provincial People’s Committee is very flexible, within the scope of laws, to create a favorable business environment; [3] Even when central regulations are unclear, my provincial People’s Committee is creative and clever in solving newly arising problems.” Answer options given include: (i) Agree; (ii) Strongly agree; (iii) Strongly disagree; and (iv) Disagree.

While provincial governments have shown steady progress in their positive attitude towards the private sector, there is still significant room for improvement in policy implementation at departmental and district levels. While 31.9 percent of firms claimed that “The provincial policies are not properly implemented by provincial departments” in 2021, the 2022 figure increased to 45.2 percent. Similarly, 50.4 percent of respondents in the 2022 PCI survey agreed that “The provincial policies are improperly implemented at [the] district level,” considerably higher than that of 2021 (36 percent).

**Figure 1.19. Department and District Policy Implementation Quality 2021-2022**

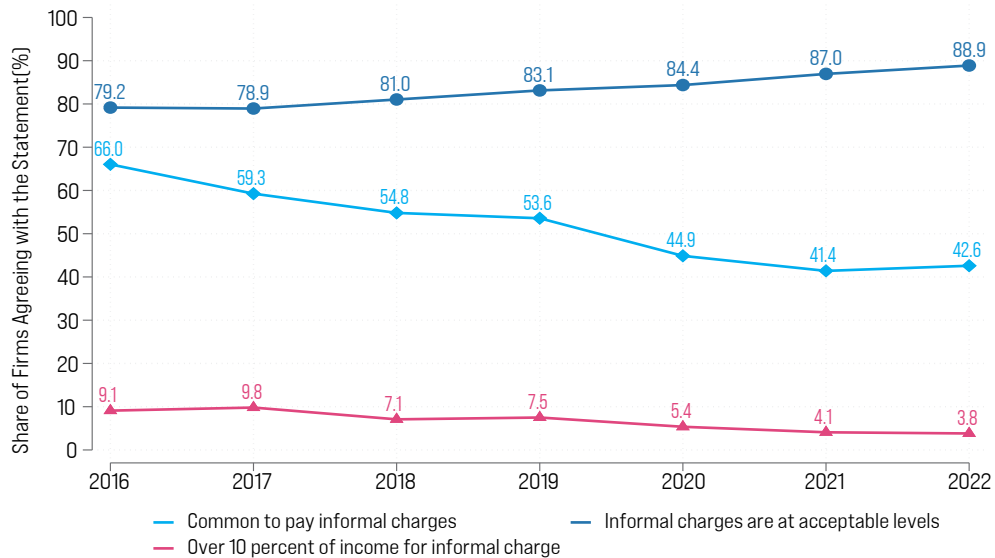


Source: 2022 PCI Survey. Question H2 “Do you agree with the following statements?” Statements given include: (1) The provincial policies are not properly implemented by provincial departments; and (4) The provincial policies are improperly implemented at district level. Answer options given include: (i) Strongly Agree; (ii) Agree; (iii) Disagree; (iv) Strongly disagree.

There has been a decline in the share of firms reporting payment of informal charges. However, informal fees and corruption remain common in some public services. Combating corruption has been one of the priorities of the Party and authorities at all levels in recent years. In general, the period 2016–2022 witnessed a sharp decrease in payment of informal charges. The survey results show that while 66 percent of firms reported that they paid informal charges in 2016, the respective rate dropped to 42.6 percent in 2022, a decrease of over 23 percentage points. The amount of these informal charges also reduced considerably during the same period. The proportion of firms that spent more than 10 percent of their income on informal charges was 9.1 percent in 2016 but only 3.8 percent in 2022. Nearly 89 percent of firms agreed that “Informal charges are at an acceptable rate,” the highest level since 2013.



**Figure 1.20. Payment of Informal Charges. 2016-2022**



Source: 2022 PCI Survey. Question D1.3 “To what extent, do you agree with the following statements? (7) Informal charges are at acceptable rate” Answer options given include: (i) Strongly agree; (ii) Agree; (iii) Disagree; and (iv) Strongly disagree.

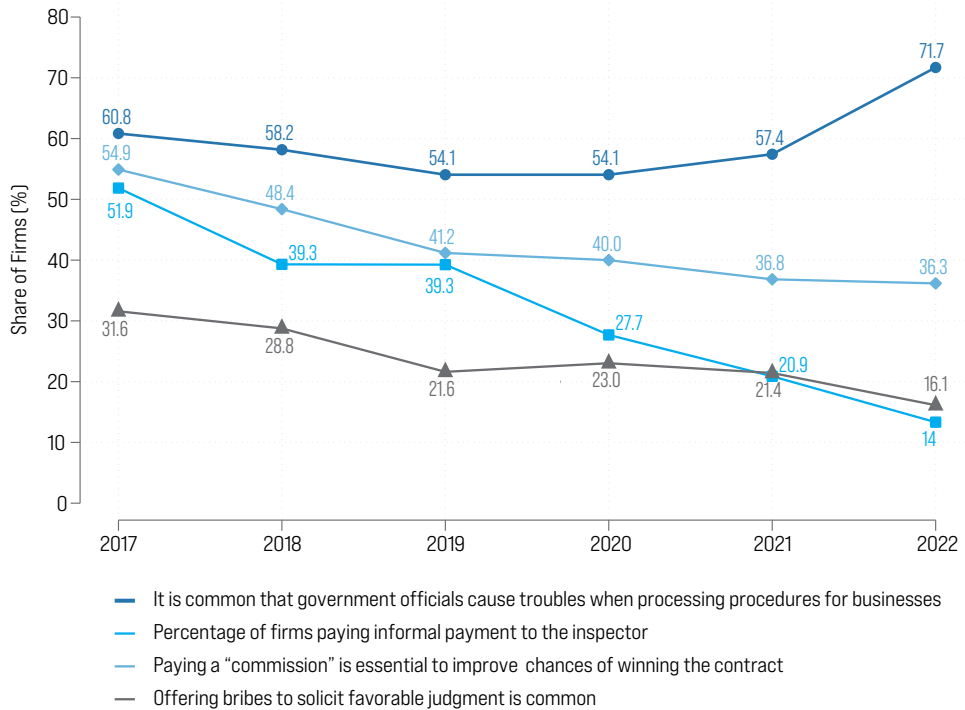
Question D3.12 “Do you agree with this statement: Firms in my line of business usually have to pay extra ‘informal payments?’” Answer options given include: (i) Strongly agree; (ii) Agree; (iii) Disagree; and (iv) Strongly disagree.

Question D3.13 “On average, what percentage of income do firms in your line of business typically pay per year for informal charges to public officials?” Answer options given include: 1) 0 percent; 2) Less than 1 percent; 3) From 1 to under 2 percent; 4) From 2 to under 5 percent; 5) From 5 to under 10 percent; 6) From 10 to under 20 percent; 7) From 20 to 30 percent; and 8) Above 30 percent.

Firms reporting payment of informal charges for inspection and examination officials decreased significantly from 20.9 percent in 2021 to 14 percent in 2022. The percentage of firms agreeing that paying a “commission” is essential to improving chances of winning government contracts slightly decreased from 36.8 percent in 2021 to 36.3 percent in 2022. Sixteen percent of respondents claimed that “offering bribes to solicit favorable judgment is common,” lower than 2021 [21.4 percent].

Surprisingly, the share of firms agreeing that government officials commonly cause troubles when processing procedures for businesses increased dramatically to 71.7 percent in 2022 [compared to 57.4 percent in 2021]. Therefore, although the prevalence of informal charges has generally decreased over time and the burden of inspections and examinations is less heavy than in prior years, the situation where government officials cause difficulties for businesses trying to carry out procedures remains very common. Does this lead to discrimination against firms who refuse to pay informal charges? Further research needs to be conducted to answer this question.

**Figure 1.21. Payment of Informal Charges by Type, 2017-2022**



Source: 2022 PCI Survey. Question D1.3 "To what extent, do you agree with the following statements? (10) It is common that government officials cause troubles when processing procedures for businesses."

Question D2.8 "During any of the inspections, did you provide a gift or informal payment to the examiner?"

Question D4.19 "Do you agree with the following statement: "Paying a "commission" is essential to improve chances of winning the contract"?" Question G3.1 "If you don't appeal to the court, what are the reasons? (Please select appropriate choices) (4) Offering bribes to solicit favorable judgment is common."

In-depth analysis of firms' level of agreement with the statement "It is common that government officials cause troubles when processing procedures for businesses" shows that firms that are smaller, beginning, or do not have export activities show higher level of agreement than the rest (Table 1.7). Meanwhile, no significant difference was recorded when comparing the responses by employment size.



**Table 1.7. Harassment of Firms by Size Age and Exporter Status**

Firm characteristics	Statement: "It is common that government officials cause troubles when processing procedures for businesses"			Number of Observations <sup>(iv)</sup>
	Strongly Disagree or Disagree (%)	Strongly Agree or Agree (%)	Total	
<b>Employment size</b>				
<= 50 people	29.46	70.54	100.00	7,037
> 50 people	28.62	71.38	100.00	856
<b>Capital size <sup>(i)</sup></b>				
<= VND 10 billion	28.57	71.43	100.00	6,311
> VND 10 billion	32.31	67.69	100.00	1,535
<b>Years of operation <sup>(ii)</sup></b>				
<= 2 years	27.57	72.43	100.00	1,806
3-5 years	28.28	71.72	100.00	2,058
6-10 years	28.90	71.10	100.00	1,730
11-15 years	30.63	69.37	100.00	1,159
> 15 years	32.24	67.76	100.00	1,284
<b>Export <sup>(iii)</sup></b>				
No	28.43	71.57	100.00	7,492
Yes	38.55	61.45	100.00	607

(i) Statistically significant difference at the 0.05 level ( $p = 0.004$ )

(ii) Statistically significant difference at the 0.05 level ( $p = 0.04$ )

(iii) Statistically significant difference at the 0.01 level ( $p = 0.0000$ )

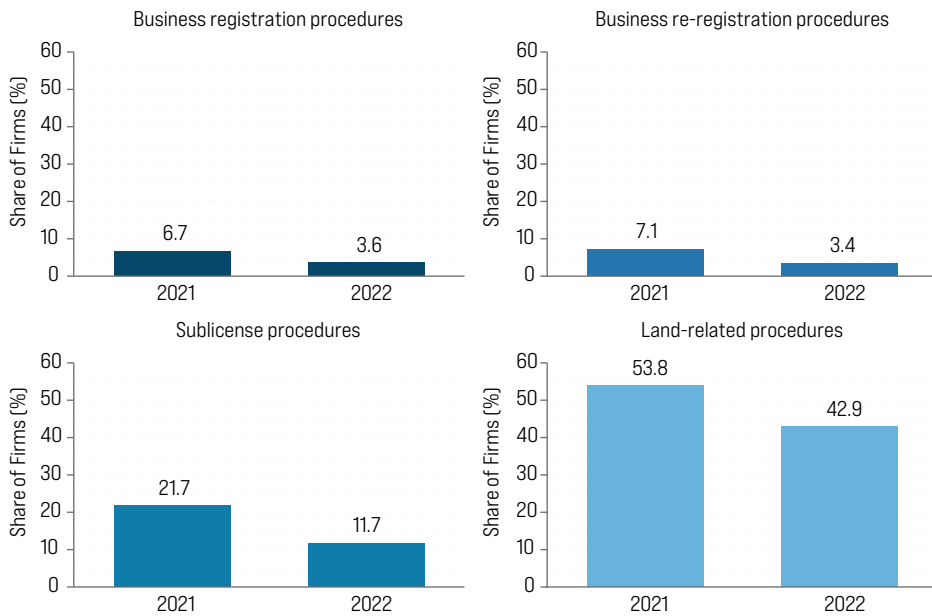
(iv) The total number of observations by groups (employment size, capital size, number of years of operation and export) are not the same due to lack of data as firms refuse to provide answers.

Land access continues to be a major bottleneck and requires more drastic reforms in 2023. Secure premises are an essential element of many business operations. As land is a "scarce" resource, the provincial governments' mandate is to allocate and promote the efficient use of property in order to maximize the shared community interest. Governments enable firms' access to land through a variety of policies and interventions, including: developing reasonable land planning strategies; preparing a ready-to-use source of land for investors; transparently and proactively providing planning information to firms; facilitating land lease and rental procedures; expediting land use right certificates; actively supporting land clearance; and addressing obstacles in related procedures, such as efficiently granting construction permits.

Given the importance siting for business operation and the required coordination across agencies and levels, land issues are among the most complicated policy challenges for

many provinces. In the 2021 PCI report, we analyzed core indicators relating to land access and security of tenure over time and found that land management work did not seem to make progress between 2013 and 2021. The 2022 PCI results continue to show no significant improvements. Problems associated land-related procedures remain common. About 42.9 percent of firms experiencing difficulties while implementing land-related administrative procedures said that the experience caused them to delay or cancel their business plans (Figure 1.22). Although this result is better than that of 2021 (53.8 percent), the negative impact caused by land-related administrative procedures far outweighs the impact caused by other common procedures, such as business registration (which made 3.6 percent of firms delay or cancel their business plans), revision of business registration (3.4 percent), and conditional sublicenses (11.7 percent).

**Figure 1.22. Effect of Administrative Procedures on Business Plans. 2021-2022**



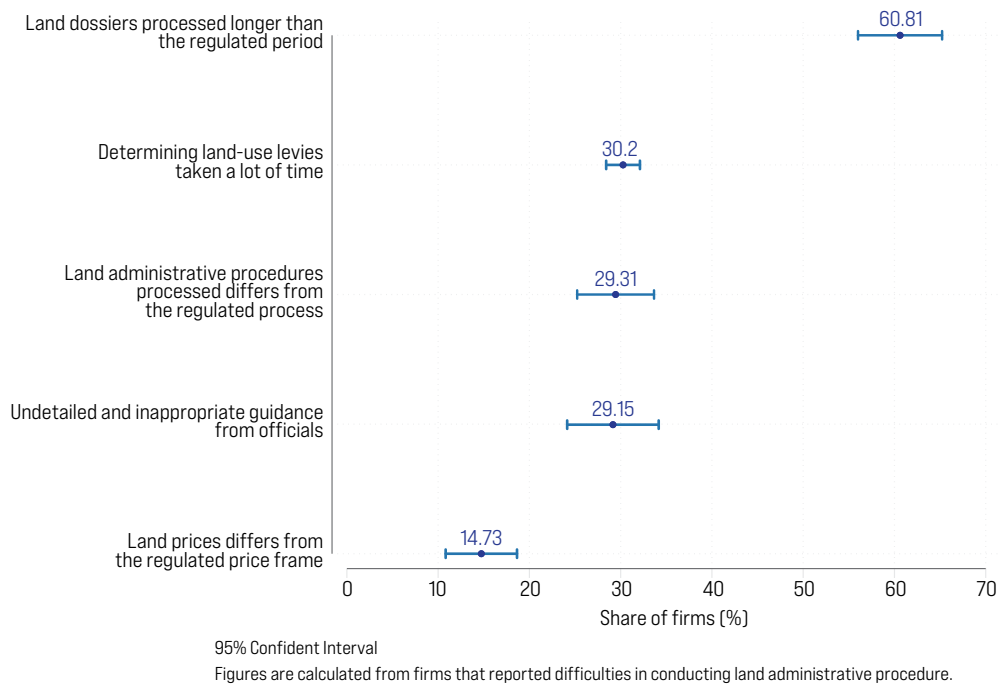
Source: 2022 PCI Survey. Question B5 “In general, did your experience with the following procedures to start your business have any unexpected impact on your business plan? (1) The registration procedures; (2) The re-registration procedures; (3) The sublicense procedures.” Answer options given include: (i) Had to cancel business plans; (ii) Had to delay business plans; and (iii) No unexpected impact on business plan.

Question C7.3 “Did this experience [of implementing land-related administrative procedures] have any unexpected impact on your business plans?” Answer options given include: (i) Had to cancel business plans; (ii) Had to delay business plans; and (iii) No unexpected impact on business plan.



The 2022 PCI survey, as in prior years, asked firms about key challenges encountered in implementing administrative procedures related to land. The results shown in Figure 1.23 reveal the biggest challenge was that land dossiers took longer to process than the officially listed or regulated period (60.81 percent). Next, procedures for determining land-use levies took a lot of time (30.02 percent) and land dossier processing procedures were different from the listed or regulated procedures (29.31 percent). More than a quarter of firms (29.15 percent) complained about undetailed and inappropriate guidance from officials, and 14.73 percent of firms reported that actual land prices were different from the listed or regulated price.

**Figure 1.23. Land-related Obstacles for Vietnamese Firms**



Source: 2022 PCI Survey. Question C7 “Over the last 2 years, has your firm implemented land-related administrative procedures (e.g. procedures for land purchase, transfer or rent from the State)?” Answer options include: (i) Yes; (ii) No.

Question C7.1 “If yes, has your firm encountered any difficulties when implementing these procedures with provincial State agencies?” Answer options given include: (i) Yes; (ii) No.

Question C7.2 “If yes, please specify those difficulties: (Check all that apply): (i) Land dossiers were processed longer than the listed or regulated period; (ii) Land dossier processing procedures were different from the listed or regulated procedures; (iii) Land prices were different from the listed or regulated price frame; (iv) The procedures for determining land-use levies takes a lot of time; (v) Officials receiving dossiers and settling administrative procedures did not provide full and detailed instructions; and (vi) Paid informal charges to have the dossiers processed faster.”

Land is an important type of collateral in credit agreements. Therefore, easier land access leads to easier credit access, giving firms more opportunities to expand their business. If the situation persists as it is now, firms' long-term potential will likely remain locked. Governments at both the national and provincial levels need to intensify their efforts to improve the quality of public land governance. The revised Land Law, which is halfway to finalization, is expected to remove many institutional bottlenecks and streamline legal frameworks to promote a favorable environment for business development.

More types of information and documents are available, but firms expect greater ease of access. "Transparency and information accessibility" has historically been one of the most important subindices of the PCI. This subindex assesses whether firms have adequate access to government information and documents that are useful for their business, whether the access is fair, the stability and consistency of policy making and enforcement, and the effectiveness of disseminating information through the provincial portal and local websites.

When information is accessible, firms face fewer risks and less instability,<sup>36</sup> minimizing the time and effort that will be spent on learning and adapting to new regulations.<sup>37</sup> As a result, firms can reduce costs and be more confident in formulating their long-term business plans. Transparency and private investment are two closely linked facets of public governance. A province with improved transparency can significantly boost private investment. The public availability and transparency of documents related to government master plans have a strong connection to private investment attraction.<sup>38</sup>

Planning documents include reports on revenues and expenditures of the province's budget, budget allocation plans, socio-economic development plans, new infrastructure project documents, public investment plans, land use allocation plans and maps, and planning for the development of local industries, sectors and material areas. Easy access to planning documents enables businesses to gain better understanding about the local business environment and have the necessary information to align their future business plans with the provincial master plans. This helps to minimize the uncertainties and risks caused by major changes in a master plan that a business may be confronted with.

Legal documents include central laws, ordinances, and decrees; guiding documents of ministries; provincial-level legal normative documents; provincial investment supporting policies; and forms related to administrative procedures. With easy access to these

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36 Drabek, Z. and Payne, W. (2002). *The impact of transparency on foreign direct investment*. *Journal of Economic Integration*, 17(4), pp. 777–810.

37 Broz, J. L. (2002). *Political system transparency and monetary commitment regimes*. *International Organization*, 56(4), pp. 861–887

38 Malesky E. McCulloch N. & Nhat N. D. (2015). *The impact of governance and transparency on firm investment in Vietnam*. *Economics of Transition* 677–715. <https://doi.org/10.1111/ecot.12068>



documents, firms can assess how updates or changes in policies and laws will directly affect their operations, such as tax regulations, land, and import/export or business eligibility requirements).

Every year, the PCI survey asks firms to assess the level of ease of access to these documents on a scale of 1-5 (1: impossible, 2: possible but difficult, 3: possible, 4: easy, and 5: very easy). We calculate the average score to evaluate how easy it was to access either type of document based on firms' responses. Table 1.8 presents the highest, lowest and median average scores for each type in every year between 2013 and 2022. The color band of the column represents the level of ease over time. Warmer colors indicate lower scores and cooler colors demonstrate higher values.

An encouraging observation is that ease of access to planning documents is trending upward. In 2022, the median average score surpassed 3 points. For legal documents, the median average values do not suggest a trend; however, the 2022 average is also the highest ever (3.15 points).

A closer look at the trend of these scores reveals that improvements have been made since 2018, when the Law on Access to Information<sup>39</sup> came into effect and provinces were obliged to publish planning documents as stated in Article 17 of the Law. Some other important portals include the National Procurement Network (<https://muasamcong.mpi.gov.vn>), online since 2016, and the State Budget Portal (<https://ckns.mof.gov.vn>) which became available in 2019. These are the systems through which local governments can provide detailed information on public procurement and annual budget plans.

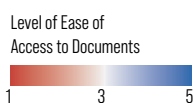
Nevertheless, the results shown in Table 1.8 also indicate that most firms have never found it particularly easy to gain access to either planning documents or legal ones. The highest average for each type is 3.35 and 3.54, which are far below 4 – the desired level of “easy.”

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<sup>39</sup> *The Law on Access to Information was promulgated by the National Assembly on April 6, 2016 and took effect from July 1, 2018. The Law includes five Chapters, 37 Articles, providing regulations on exercising citizens' right to access information; principles, orders and procedures for exercising the right to access information; responsibilities and obligations of state agencies in ensuring citizens' right to access information.*

**Table 1.8. Ease of Access to Planning and Legal Documents. 2013-2012**

	Planning Documents			Legal Documents		
	Min	Median	Max	Min	Median	Max
2013	2.17	2.61	3.31	2.57	3.14	3.59
2014	1.9	2.25	2.51	2.86	3.1	3.31
2015	2.14	2.38	2.65	2.79	3.03	3.29
2016	2.13	2.39	2.71	2.83	3.1	3.3
2017	2.23	2.44	2.67	2.83	3.06	3.29
2018	2.12	2.38	2.6	2.57	3	3.21
2019	2.24	2.5	2.81	2.8	3.08	3.37
2020	2.03	2.54	2.88	2.53	3.03	3.33
2021	2.22	2.68	3.02	2.79	3.06	3.35
<b>2022</b>	<b>2.68</b>	<b>3.04</b>	<b>3.35</b>	<b>2.84</b>	<b>3.15</b>	<b>3.54</b>



Source: 2022 PCI Survey. Question F1 “1. Please rate your accessibility to these provincial documents and information: (1) Provincial budgets: allocation, revenue, expenditure; (2) Provincial socio-economic development plans and programs; (3) Central Laws, Ordinances, Decrees, Decisions; (4) Guiding documents of ministries; (5) Legal normative documents at provincial level; (6) New infrastructure projects; (7) Public investment plans; (8) Land use allocation plans and maps; (9) Planning for the development of local industries, sectors and material areas; (10) Provincial investment supporting policies; (11) Administrative procedures forms; (12) Periodic inspection plans.” Answer options given include: (i) Very easy; (ii) Easy; (iii) Possible; (iv) Possible, but difficult; and (v) Impossible.

Figure 1.24 shows how easily businesses can access common documents in 2022. The presented values are the country average percentage. Central government documents such as laws, ordinances, decrees, decisions, guiding documents of ministries, and administrative procedure forms were considered more accessible than the provincial-level documents. In general, firms can find centrally issued documents on a lot of websites at both national and provincial levels. If well organized and presented, this online system could become a user-friendly and effective tool for businesses to look up, access, and understand critical information.

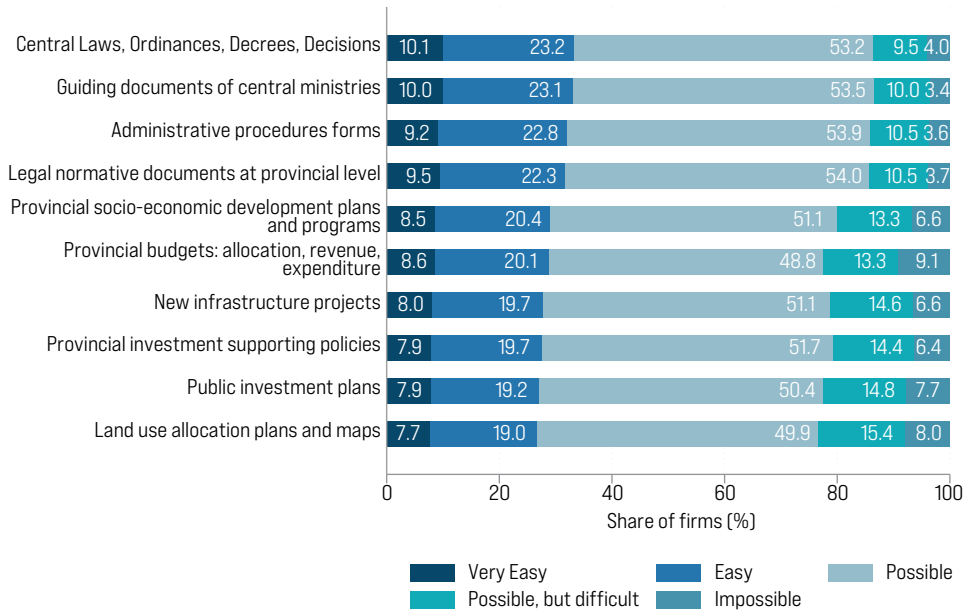
Meanwhile, the least accessible documents are land use allocation plans and maps, public investment plans, provincial investment supporting policies, and new infrastructure projects. These documents must be made publicly available according to the government’s regulations. However, they are barely provided in a proper way by provinces.

Of all ten document types, not a single one was rated as “easy” or “very easy” to access by more than one third of respondents in the median provinces. This signifies that more



reform efforts are needed to make information accessible for businesses and people in accordance with applicable laws. Additionally, the act of publishing information should be complemented by a reasonable arrangement and presentation of the information system, so that firms and investors could leverage what is already available.

**Figure 1.24. Ease of Access to Compulsory Public Information in 2022. by Type**



Source: 2022 PCI Survey. Questions used are the same as in the notes for Table 1.7.

## 1.5. FIRMS' ASSESSMENT OF CHANGES IN LOCAL BUSINESS ENVIRONMENT AFTER THE CENTRAL GOVERNMENT'S RESOLUTION 02

Improving the national business environment and competitiveness has been one of the key government duties, as stated in a series of iterations of Resolution 19 from 2014 to 2018 and a series of iterations of Resolution 02 between 2019 and 2022.<sup>40</sup> To evaluate the realization of these resolutions at the provincial level, and to carry out the task assigned by the government to VCCI as prescribed in Resolution 02,<sup>41</sup> we developed a special questionnaire for firms, asking them to assess changes in areas including: business establishment; construction permits; access to electricity; property registration; access to loans/credit; investor rights protection; taxes, social insurance, and import-export (international trade - customs) related administrative procedures; and contract enforcement and dealing with insolvent businesses (bankruptcy). In the first place is access to electricity, with 62.5 percent of firms giving positive feedback. Business establishment and social insurance came second and third, respectively, with 60.9 percent and 53.4 percent, respectively, of firms observing positive changes. Property registration closely followed social insurance, coming in at 53.1 percent. Reforms in the areas of contract enforcement, construction permits and taxes were believed to bring positive changes by 51.6 percent, 51 percent and 50 percent of surveyed firms, respectively. For import/export, 49.6 percent of respondents reported positive changes; investor rights protection was viewed somewhat less favorably with 46.7 percent of firms deeming the changes to be positive. Dealing with insolvent businesses and access to loans/credit were evaluated worst by firms (46 percent each).

Reform efforts by provincial governments in 2022, as seen by firms, has declined compared to prior years. This might be attributed to the fact that “there is a small fraction of governmental officials and public employees, including leaders and managers, who fear making mistakes so much that they dare not perform their tasks,” which provoked an intense discussion at the 4th meeting of the 15th National Assembly in October 2022.<sup>42</sup> An expert frankly pointed out: “There does exist the situation where public officials do not want or dare to assume their responsibilities and duties for fear of making mistakes and being held accountable. This greatly affects and causes delays in the decision-making process

40 The central government's Resolution No. 02/NQ-CP dated January 10, 2022 regarding key tasks and solutions to improve the business environment and national competitiveness in 2022, <<https://vanban.chinhphu.vn/?pageid=27160&docid=205075&classid=509>>

41 The Government, 2019, Resolution No. 02/NQ-CP regarding key tasks and solutions to improve the business environment and national competitiveness in 2019, with orientation toward 2021, <<https://vanban.chinhphu.vn/default.aspx?pageid=27160&docid=195714>>

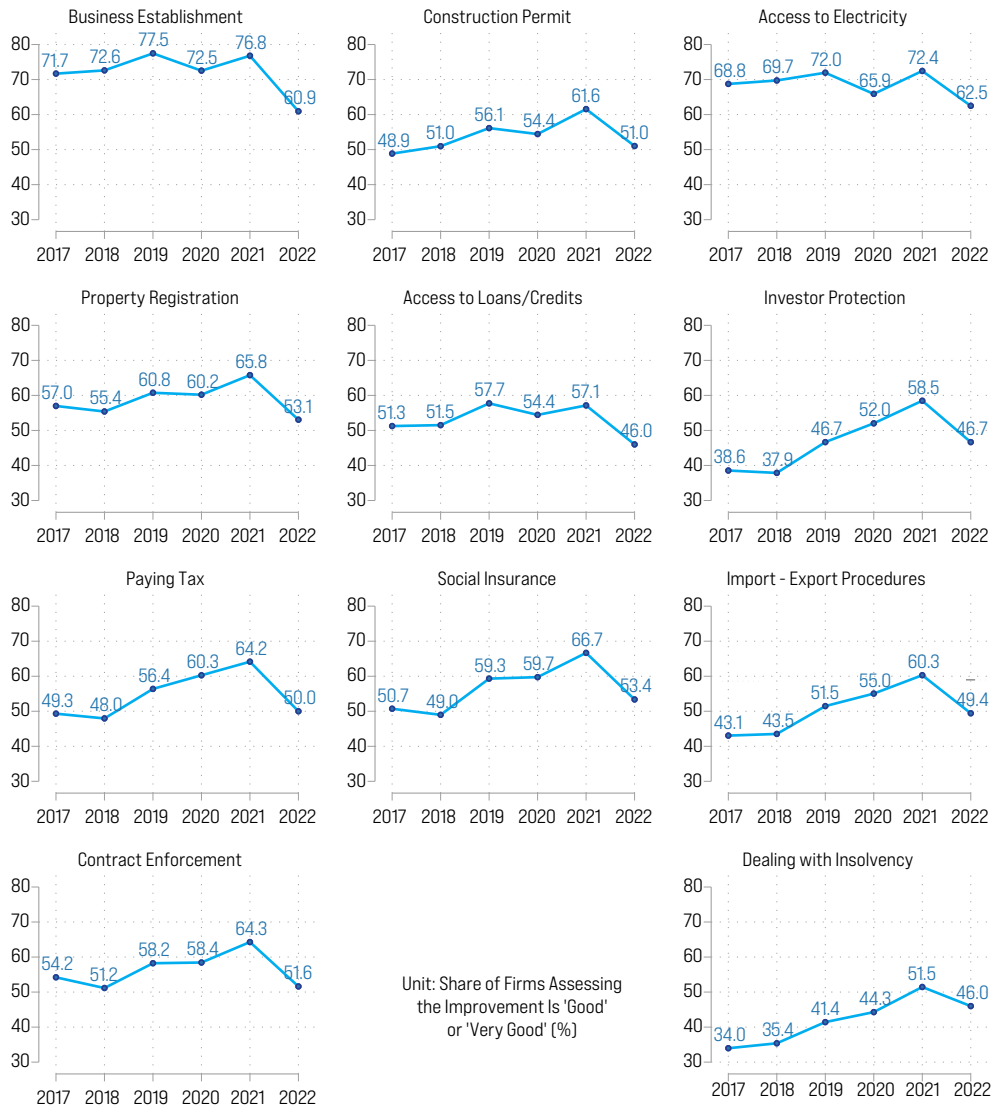
42 The Communist Party's e-newspaper (2022). *Cởi bỏ tâm lý “sợ sai” cho cán bộ [Remove public officials' “fear of making mistakes”]*, December 31, 2022, <<https://dangcongsan.vn/loi-hay-dung/loi-bo-tam-ly-so-sai-cho-can-bo-623193.html>>





to respond to the demand of people and businesses.”<sup>43</sup> This situation needs continued attention and should be more carefully studied in the future.

**Figure 1.25. Firms’ Perspective of Business Environment**



Source: 2022 PCI Survey. Question I3 “From your firm’s observation and experience, how do you rate the changes in the following areas in your province over the past year as compared the previous years?” Answer options given include: (i) Positive; (ii) Mostly positive; (iii) Acceptable; (iv) Somewhat negative; and (v) Negative. Results shown in the figure present the share of firms that chose “Positive” or “Mostly positive.”

43 Nhan Dan (2023). *Đẩy mạnh tự do kinh doanh để tạo động lực cho tăng trưởng [Promoting business freedom to boost economic growth]*. January 02. <[https://special.nhandan.vn/2023\\_PV-tien-si-Nguyen-Dinh-Cung/index.html](https://special.nhandan.vn/2023_PV-tien-si-Nguyen-Dinh-Cung/index.html)>

## 1.6. CONCLUSION

The 2022 PCI results continue to show improvements in provincial economic governance quality. Notable developments include improved administrative procedure handling, reduced time requirements for bureaucratic procedures and inspections, and improved access to policy information.

However, responses from businesses also indicate that provincial governments need to make further efforts to create an enabling investment and business environment. Areas in need of reform include taxation, land, social insurance, fire prevention and fighting, and conditional business licensing procedures. Improving the quality of policy implementation at the departmental and district levels is essential to ensure the effectiveness of the local administrative system. In addition, it is important to continue facilitating access to information and reducing informal charges for businesses in the coming years.

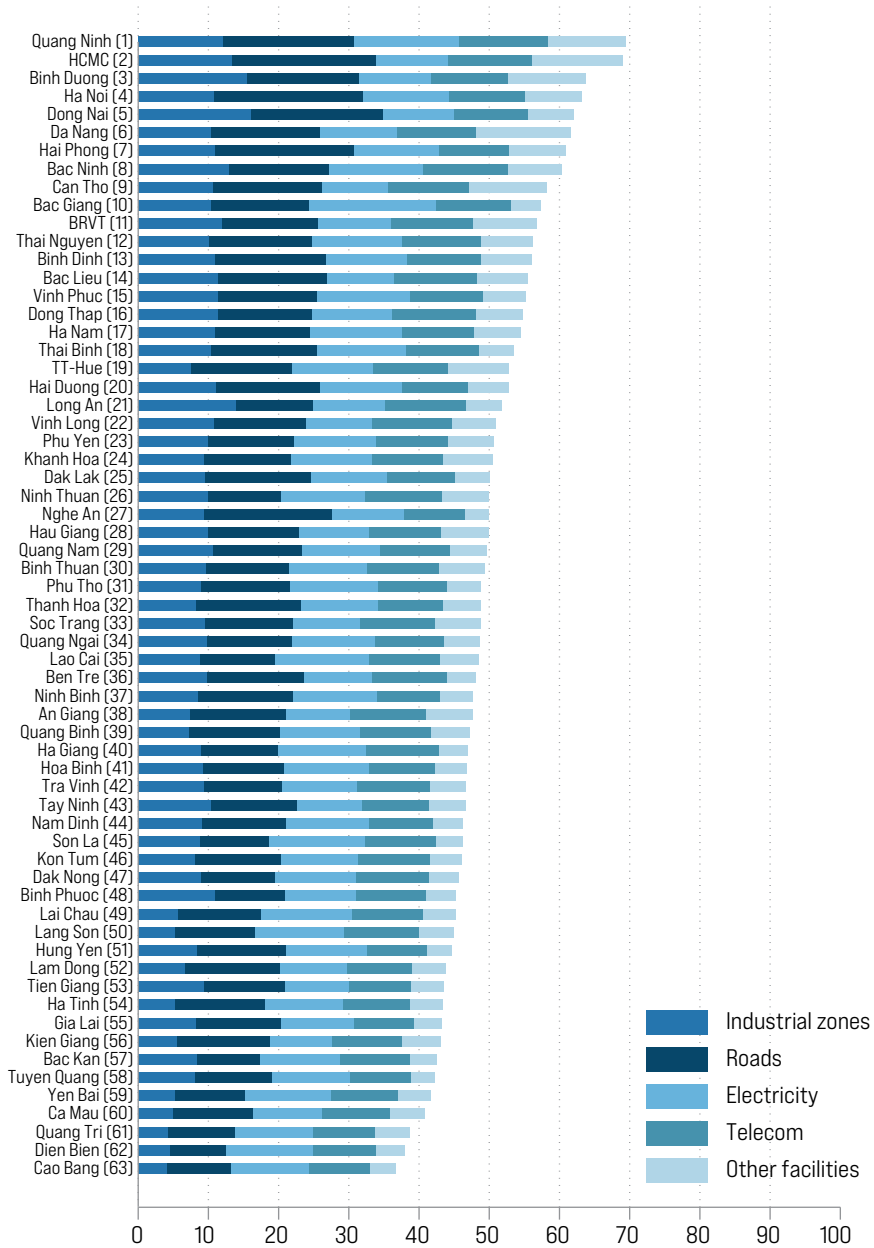
2023 will be a tough year for the Vietnamese business community. Globally, serious military conflicts, strategic competition between major countries, trade tensions, financial and currency instability, and energy- and food-security challenges persist. Natural disasters, climate change, and pandemics have unpredictable impacts. Domestically, Vietnamese businesses face declining demand from export markets, rising costs, and difficulties accessing capital and ensuring liquidity. In this context, improving the investment and business environment in Vietnam is crucial to supporting the business community's ability to overcome these challenges and contribute to Vietnam's economic recovery and future development.



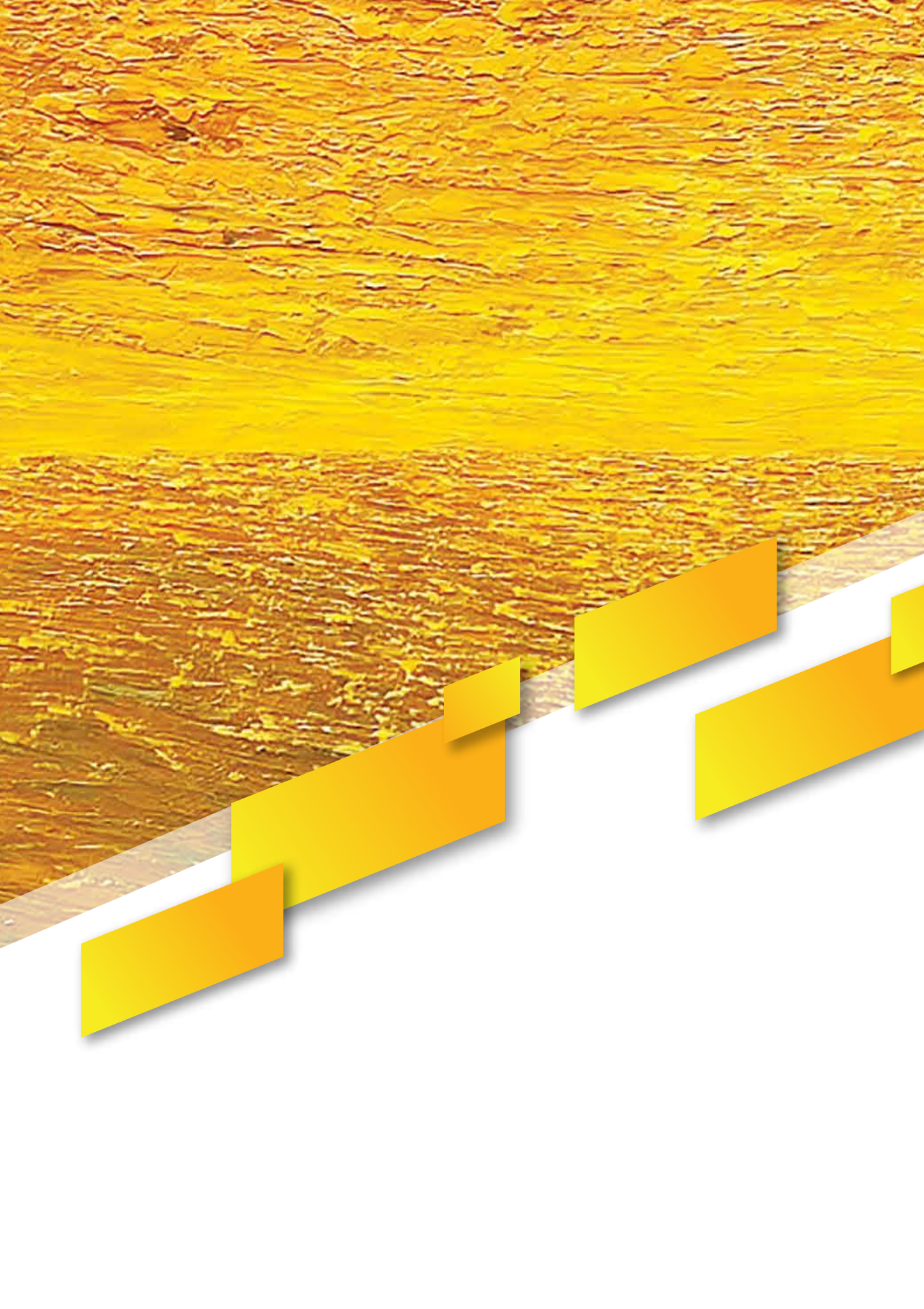
## 1.7. ANNEX: THE INFRASTRUCTURE INDEX 2022

Despite being separate from the Provincial Competitiveness Index, the Infrastructure Index adopts the same approach as PCI, combining the survey data on firms' perception of the quality of infrastructure with the published statistics by ministries and departments. Since the 2021 PCI, the Infrastructure Index has measured the quality of four fundamental business-related infrastructure areas: (1) industrial parks/clusters; (2) roads and transportation; (3) basic utilities; and (4) telecommunication. It also asks firms to rate other infrastructure. This year's ranking is presented in the graph below. Quang Ninh, Ho Chi Minh City, Binh Duong, Hanoi and Dong Nai are the best performers. Cao Bang, Dien Bien, Quang Tri, Ca Mau and Yen Bai are the lowest performers.

Quality of Infrastructure Index







# Chapter 02

The Foreign Investment  
Survey and the Provincial  
Competitiveness Index

## 2.1. INTRODUCTION

In 2022, the ramifications of COVID-19, especially in China, combined with international political insecurity and supply chain disruptions, resulted in a general slowdown in the global economy. This overall bearish atmosphere dampened foreign investment activity worldwide, including foreign investors in Vietnam. According to the Foreign Investment Agency in the Ministry of Planning and Investment, total registered foreign capital in 2022 reached \$27.72 billion which is 11 percent lower than the previous year. Newly registered capital accounted for \$12.45 billion, a reduction of 18.4 percent compared to 2021.

While investors were reluctant to commit to new projects, they increased spending on existing endeavors that proved viable. Adjustment capital reached \$10.2 billion in 2022 which represents an increase of 12.2 percent from the prior year. This indicates investors' continued confidence in the prospects of their established ventures in Vietnam, which makes sense in light of FIEs' healthy profit and revenue figures as shown in the next section.

Much of the additional capital poured into high-tech electronics projects, thanks to Vietnam's advantage in cost effectiveness in this sector compared to traditional markets such as Singapore and China.<sup>44</sup> For example, the Samsung Electro-mechanics saw two injections of funds in the amounts of \$920 million and \$267 million. Samsung Electronics HCMC CE Limited Liability Company also added \$841 million in foreign capital. Factories specializing in electronic and multimedia products in Bac Ninh, Nghe An, and Hai Phong provinces received \$306 million, \$260 million, and \$127 million, respectively. More importantly, despite the decline in newly registered capital, realized capital rose by 13.5 percent in 2022, reaching \$22.4 billion.<sup>45</sup> In 2022, Singapore led all foreign investors in Vietnam in terms of new investments, followed by South Korea and Japan.

The 2022 foreign investment PCI survey (PCI-FDI) was conducted in 51 provinces and municipalities across Vietnam, with a main focus on the 19 provinces with high concentration of FIEs. The sample size was representative of all firm categories in individual provinces. Firms were randomly selected using stratification at the individual province level by years in operation, legal form, and sector. This year's PCI-FDI respondents consist of 1,282 foreign investors from 42 countries and territories.

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44 MỘC LAM. (2022). Việt Nam là thị trường hấp dẫn vốn FDI đổ vào lĩnh vực điện tử, công nghệ cao [FDI inflows into Vietnam's electronics and high-tech sectors]. Mekong ASEAN. August 16. <<https://mekongasean.vn/viet-nam-la-thi-truong-hap-dan-von-fdi-do-vao-linh-vuc-dien-tu-cong-nghe-cao-post9996.html>>

45 NGUYỄN ĐỨC. (2022). Năm 2022, gần 27,72 tỷ USD vốn đầu tư nước ngoài vào Việt Nam [Nearly USD 27.72 billion of foreign investment capital poured into Vietnam in 2022]. Đầu Tư e-newspaper. December 27. <<https://baodautu.vn/nam-2022-gan-2772-ty-usd-von-dau-tu-nuoc-ngoai-vao-viet-nam-d181086.html>>





This chapter comprises six sections. First, we evaluate FIEs' performance and general outlook in Section 2.2. Next, we analyze firm characteristics by size, sector, customers, and suppliers to uncover general trends in the composition of FIEs and the involvement of domestic firms in the supply chain. In Sections 2.4 and 2.5, we dissect recent shifts in the burden of informal charges and regulatory procedures. Section 2.6 discusses FIEs' satisfaction with local infrastructure quality. Finally, in Section 2.7, we take advantage of a battery of new questions to delve deep into FIEs' experience with labor quality and labor retention in light of recent domestic labor market disruptions.

## 2.2. PERFORMANCE

Table 2.1 provides evidence that foreign-invested firms have recovered steadily from the negative impacts of the pandemic. The share of firms hiring new employees increased markedly from 50.56 percent in 2021 to 55.77 percent this year. While 2021 saw an unprecedentedly low rate of firms reporting profits (38.72 percent), FIEs improved in this metric in 2022 (42.77 percent). Foreign investors appear to have adjusted their operations to stabilize income and expenditures. The share of firms reporting losses dropped from a record high of 47.9 percent last year to 44.88 percent this year.

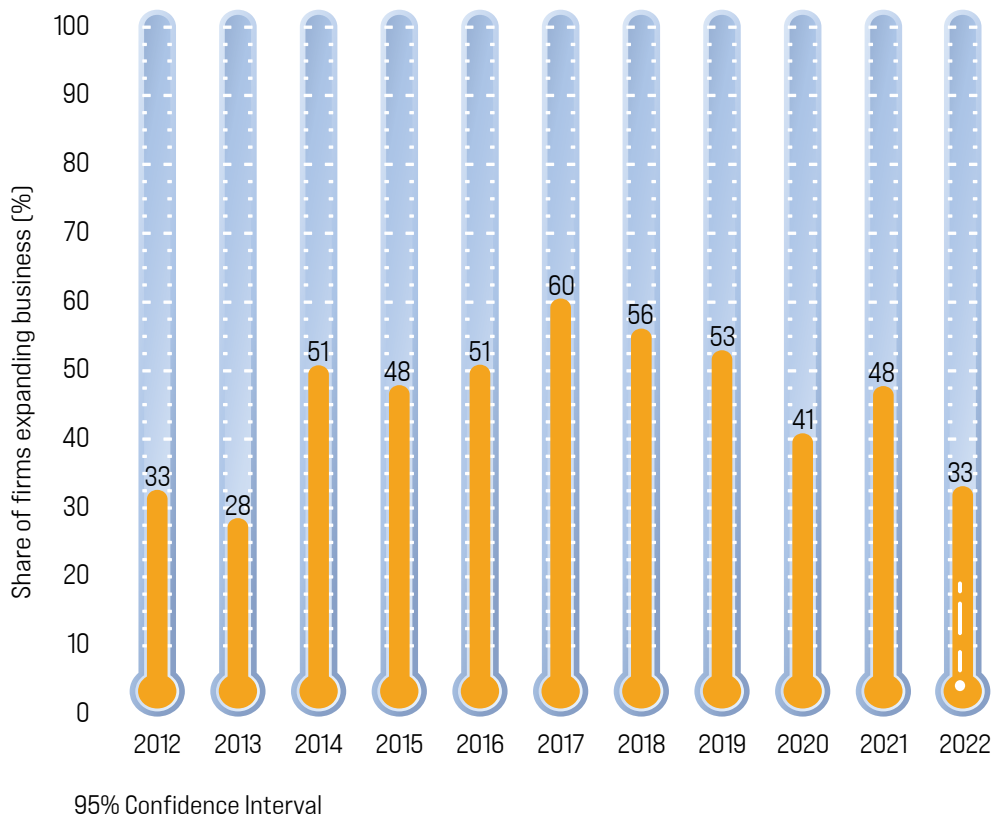
**Table 2.1. Performance of Foreign Firms over Time**

Year	Firms Increasing Investment (%)	Firms Adding Employees (%)	Firms Reporting Profits (%)	Firms Reporting Losses (%)
2012	5.16	30.99	60.44	27.49
2013	5.06	30.03	63.61	24.13
2014	16.15	62.44	57.89	34.22
2015	11.42	62.42	55.11	37.58
2016	10.97	63.33	59.01	33.44
2017	13.22	62.39	54.31	37.91
2018	11.81	58.20	53.10	36.74
2019	10.36	61.55	56.16	34.28
2020	8.38	54.98	42.61	47.08
2021	7.83	50.56	38.72	47.90
2022	6.24	55.77	42.77	44.88

Source: PCI-FDI survey 2022, Question A6 “What was the total employment size of your firm?”, Question A7 “What was the total equity capital of your firm?” and Question A9 “Which statement best characterizes your firm’s overall performance?”

These solid performance numbers are likely attributable to astute management of resources rather than booming economic activity. There are sobering signs regarding the future. Due to global market upheaval, FIEs are being conservative when expanding their businesses. Only 6.24 percent of PCI-FDI respondents increased investment in 2022, the lowest since 2014. Our long-standing measure of business confidence – the PCI-FDI Business Thermometer – provides further evidence. Only 33 percent of FIEs expect to expand business next year. This is a sharp drop from the brief bout of post-pandemic optimism in 2021 (47.7 percent). It is also a far cry from pre-pandemic levels, which never dropped below 45 percent between 2014 and 2019.

**Figure 2.1. PCI-FDI Business Thermometer (2012-2022)**

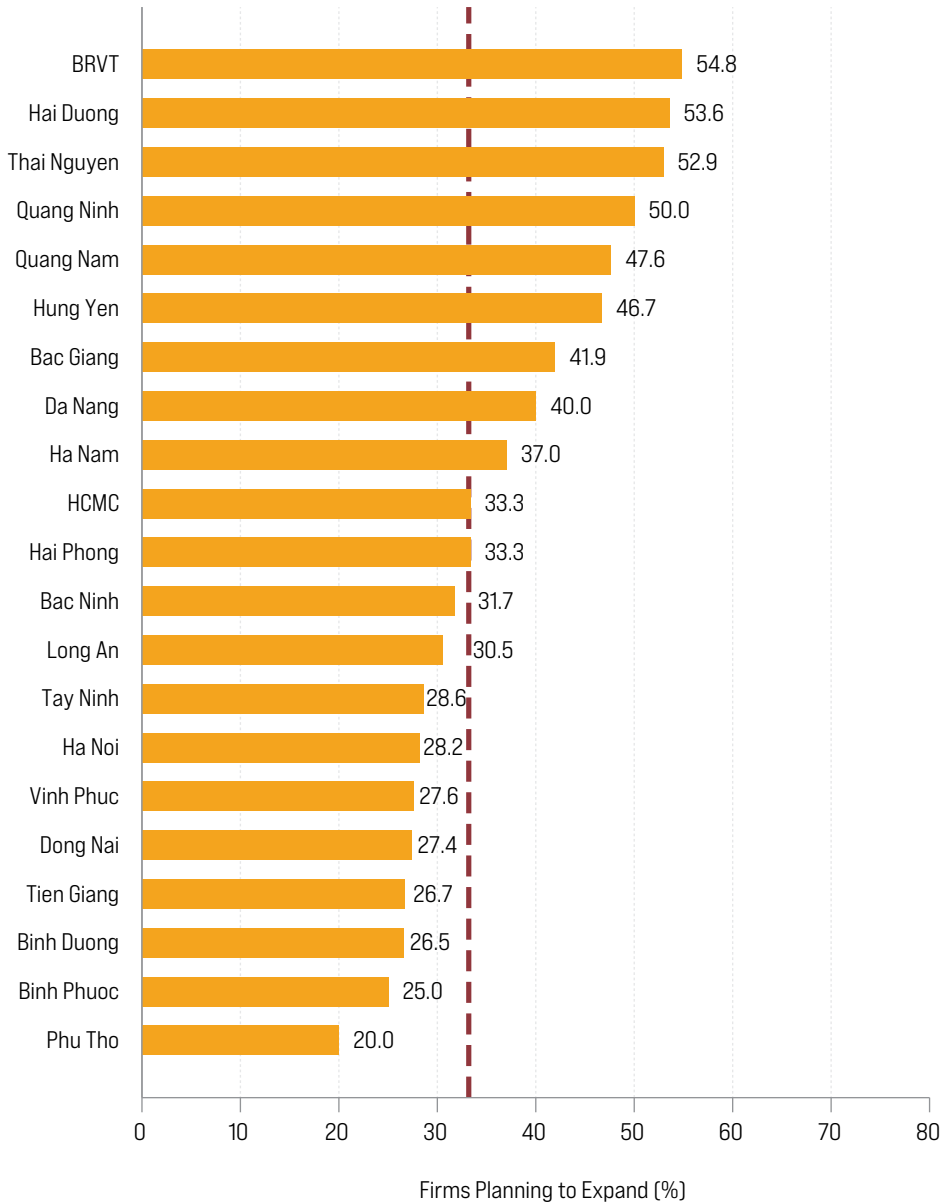


Source: PCI-FDI survey 2022, Question A.10 “Which statement best characterizes your firm’s investment plans over the next 2 years?”

Figure 2.2 breaks down business sentiments by province. Remarkably, foreign investors in traditional industrial hubs in the Southeast such as Binh Duong and Dong Nai are among the most restrained in planning future expansion. In contrast, optimism runs high in Ba Ria – Vung Tau, Hai Duong, Thai Nguyen, Quang Ninh, Quang Nam, Hung Yen, and Bac Giang. This could be attributed to shifting labor distribution across regions and lines of work. FIEs in Binh Duong and Dong Nai need to hire to expand, and recruiting new employees is particularly challenging at the moment.<sup>46</sup> We discuss this in further detail in Section 2.7: Labour. Firms face fierce competition for workers from FIEs in northern, central, and Mekong delta regions, compounded by post-COVID-19 desires among migrant workers to move closer to their hometowns.

<sup>46</sup> Phạm, A. (2023). Nhận diện điểm nghẽn thị trường lao động phía Nam [Identifying bottlenecks in the labor market in the South East]. *Dân Trí*. February 15. <<https://dantri.com.vn/tam-diem/nhan-diem-diem-nghen-thi-truong-lao-dong-phia-nam-20230214174612732.htm>>

**Figure 2.2. PCI-FDI Business Thermometer, By Province**



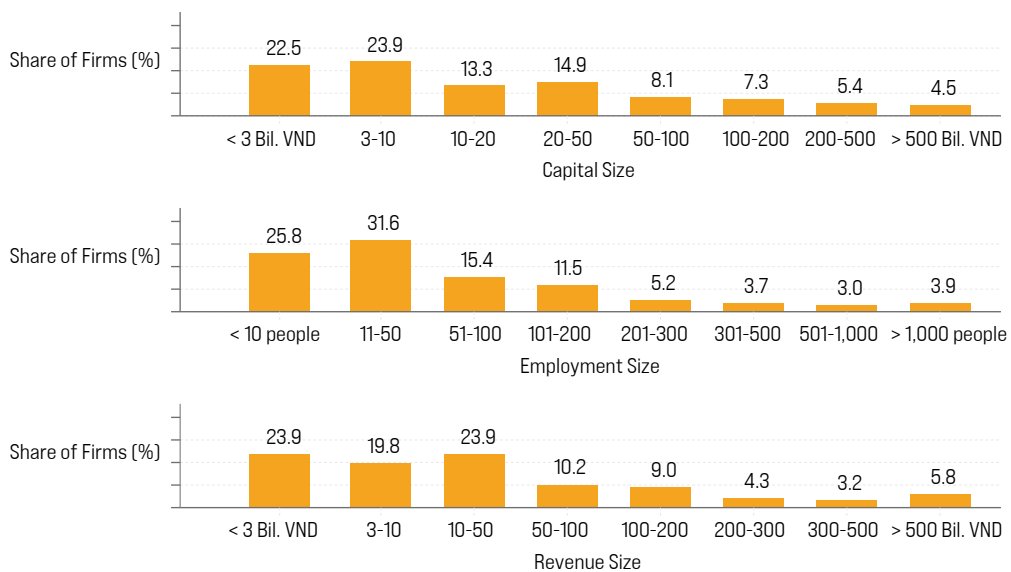
Source: PCI-FDI survey 2022, Question A.10 “Which statement best characterizes your firm’s investment plans over the next 2 years?” The dashed line represents the national average (33 percent).



## 2.3. CHARACTERISTICS

The majority of FIEs in Vietnam can be classified as small- and medium-sized enterprises in terms of capital, employment, and revenue, shown in Figure 2.3. Nearly 83 percent of firms have 100 billion VND or less in capital. One quarter of PCI-FDI respondents employ under 10 people, and 57.4 percent have fewer than 50 workers. In terms of revenue, almost one fourth earned less than 3 billion VND in 2022. The share of FIEs with revenue below 100 billion VND is 77.8 percent.

**Figure 2.3. Size of Foreign Firms**

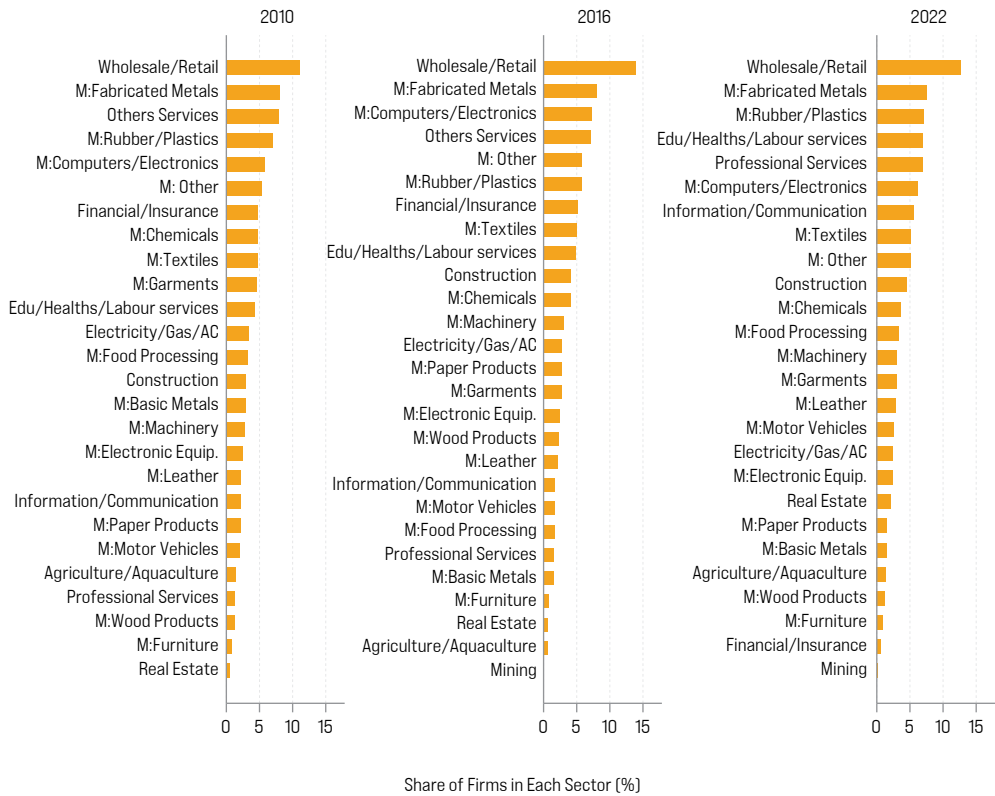


Source: PCI-FDI survey 2022, Question A6 “What was the total employment size of your firm?”, Question A7 “What was the total equity capital of your firm?” and Question A8 “What was the total revenue of your firm?”

Almost half the PCI-FDI respondents are manufacturers (49.5 percent), followed by businesses in the service/commerce sector (39 percent) and construction (7 percent). At the subsector level, the largest category of FIEs in Vietnam operate in wholesale/retail (12.6 percent of the PCI-FDI respondents). Other categories with large numbers of FIEs are manufacturers of fabricated metals, rubber/plastics, and computer/electronics.

Figure 2.4 demonstrates three snapshots of the sub-sectoral composition of responding FIEs in 2010, 2016, and 2022, highlighting a gradual shift in operations. While garments and textiles accounted for a large share of Vietnam’s manufacturing sector in 2010, their role has been significantly reduced by 2022. In contrast, sub-sectors such as computers/electronics and information/communication have taken on a growing share of industrial production.

**Figure 2.4. FIEs by Sub-sectors**



Source: The PCI-FDI sample by Vietnam industrial classification. “M” indicates sub-sectors within the manufacturing sector.

In the 2021 report, we drew attention to significant changes in the composition of FIEs’ customers. The data showed a significant decline in the share of FIEs supplying to customers within Vietnam, both in the state sector as well as foreign and private Vietnamese entities. This year’s results, captured in Table 2.2, show it was not a one-year blip. Only 5.97 percent of FIEs catered to Vietnamese SOEs in 2022, a slight increase from 5.23 percent in 2021 but a large decline from 9.21 percent in 2020. The shares of PCI-FDI respondents selling to foreign individuals and enterprises in Vietnam were 6.98 percent and 45.04 percent, respectively, continuing the drop observed in 2021. The fraction supplying Vietnamese firms plummeted from 42.4 percent in 2020 to 32.8 percent in 2021, remaining low at 33.6 percent in 2022. This observation holds even in the smallest category – suppliers to Vietnamese government agencies – which accounted for only 3.4 percent of FIEs in pre-pandemic times. This group shrank to 1.86 percent in 2021 and further declined to 1.72 percent in 2022.

**Table 2.2. Customers of FIEs (percent with at least one vendor)**

Year	Sales to Vietnamese State		Exports	Sales to Foreigners in Vietnam			Sales to Private Vietnamese		
	SOEs	Agency		Individual	Both	Enterprise	Individual	Both	Enterprise
2010	10.18	4.04	55.96		29.08			29.08	
2011	8.12	7.36	47.11		17.12			41.88	
2012	13.11	5.36	46.36		24.90			41.26	
2013	16.91	6.33	55.26		35.83			48.55	
2014	12.91	5.18	53.00		46.10			39.20	
2015	13.64	4.12	55.41		51.61			40.15	
2016	11.90	4.83	56.15	13.29		53.11	18.25	41.07	
2017	10.65	4.31	47.31	11.56		55.98	18.30	40.96	
2018	5.33	2.54	42.30	7.23		53.46	14.14	33.93	
2019	8.40	3.47	45.36	10.42		57.11	16.93	40.75	
2020	9.21	3.39	44.69	10.17		53.20	21.74	42.39	
2021	5.23	1.86	45.82	7.17		48.44	13.08	32.81	
2022	5.97	1.72	40.89	6.98		45.04	12.15	33.60	

Source: PCI-FDI survey 2022, Question A11 "Please choose the main customers of your firm."

The 2021 report noted encouraging signs of the increasingly important role of Vietnamese businesses in supplying FIEs. This trend, which indicates domestic firms' ability to integrate into global supply chains, extends to 2022 and is shown in Table 2.3. In 2021, 52.4 percent of FIEs took inputs from Vietnamese private businesses; this rose sharply to 63.3 percent in 2022. While the role of SOEs as suppliers seems somewhat diminished, the share of PCI-FDI respondents buying from Vietnamese household businesses increased from 9.9 percent in 2021 to 13.4 percent in 2022.

On the surface, these numbers could be attributed simply to a return to pre-pandemic levels. However, clear long-term evidence of the reduced role of FIEs' home-country businesses and third-party suppliers suggests that the domestic sector has indeed consolidated its role as the main provider of intermediate inputs to FIEs. In 2022, only 30.5 percent of PCI-FDI respondents imported from home-country businesses, an unprecedentedly low level and a dramatic decline from a peak of 58.7 percent in 2016. South Korean, Chinese, and Japanese FIEs are particularly likely to import inputs from their home countries, at 42.4, 38.3, and 32.6 percent, respectively.<sup>47</sup> Similarly, the share of FIEs that turn to third-party upstream suppliers declined from 22.6 percent in 2021 to 16 percent in 2022. The deepening

<sup>47</sup> These figures are consistent with data reported by the General Department of Vietnam Customs (<https://www.customs.gov.vn/index.jsp?pageld=442&tkld=6083>)

role of domestic firms as suppliers, especially in the electronics and logistics sectors, could be attributed to two factors: the EU-Vietnam Free Trade Agreement (EVFTA) which went into effect in August 2020; and investors' diversification away from China into neighboring countries.<sup>48</sup>

**Table 2.3. Suppliers of FIEs (percent with at least one vendor)**

Year	SOEs	Private Firms	Individual/ Household Business	In-House	Home Country Businesses	Third Country	Foreign Buyer	Multinational Corporations
2010	13.5	53.6	12.8	7.4	28.3	34.0		
2011	7.6	30.4	7.4	8.6	15.9	18.6		
2012	5.6	43.1	4.8	6.6	39.7	24.5		
2013	9.5	47.9	10.1	12.8	45.6	34.0		
2014	11.5	62.6	15.9	8.3	55.5	34.8		
2015	11.9	68.9	19.3	8.5	58.0	38.3		
2016	12.1	68.5	18.4	9.9	58.7	39.0		
2017	10.0	62.5	16.1	6.9	49.2	26.6		
2018	6.8	60.2	15.0	5.7	47.1	22.8		
2019	10.1	66.0	17.1	7.3	44.3	24.8		
2020	8.2	62.5	14.8	7.5	41.4	26.8		
2021	6.9	52.4	9.9	4.9	38.3	22.6	5.8*	5.0*
2022	5.7	63.3	13.4	5.5	30.5	16.0	12.5*	6.4*

Source: PCI-FDI survey 2022, Question A13 "Who are your suppliers of intermediate goods and services?"

\* supplier category introduced in 2021

The composition of FIEs' country of origin was relatively stable in recent years. In 2022, South Korea continued to be the largest foreign investor in Vietnam by the number of enterprises (28.8 percent of PCI-FDI respondents). Next in line were Japanese investors who accounted for 23.2 percent of FIEs. The 2020 PCI report suggested that the share of Chinese-invested firms will continue to increase. In 2022, Chinese FIEs accounted for 12.7 percent of PCI-FDI respondents, up from 10.6 percent in 2021 and 6.9 percent in 2020. Among Chinese FIEs that export, 41.9 percent send their products to the United States.<sup>49</sup>

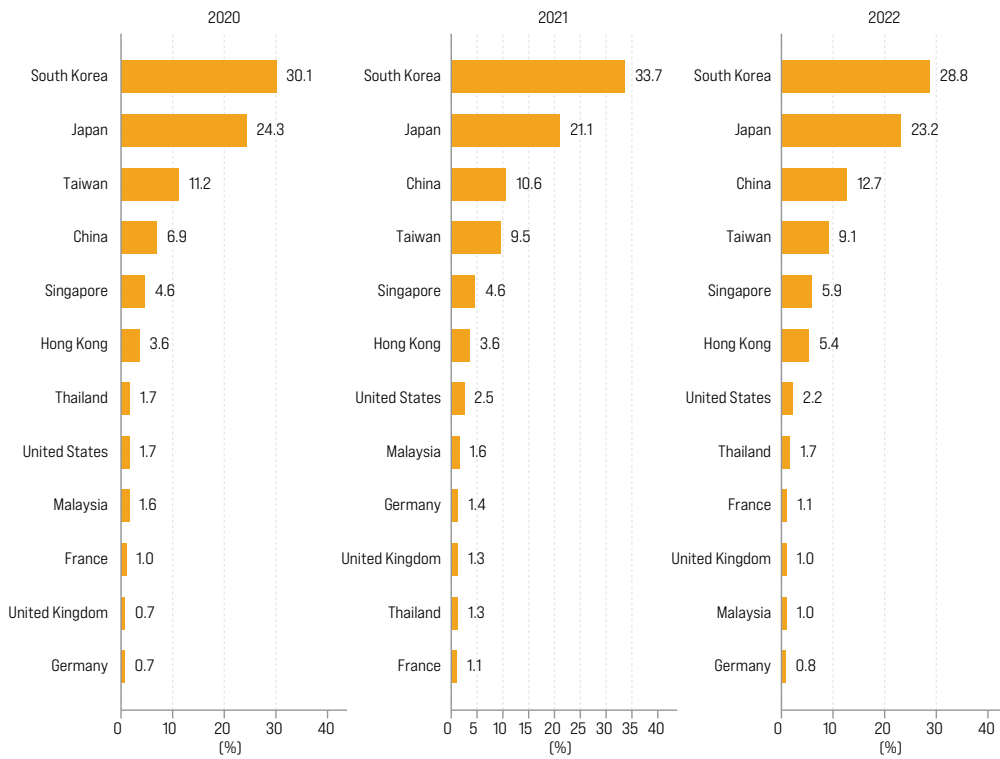
48 Hà Anh. (2022). *Doanh nghiệp Việt từng bước tham gia chuỗi cung ứng toàn cầu [Vietnamese enterprises to gradually integrate into the global supply chain]*. Nhân Dân. September 24. <<https://nhandan.vn/doanh-nghiep-viet-tung-buoc-tham-gia-chuoi-cung-ung-toan-cau-post716618.html>>

49 Including the United States of America and American Samoa.





**Figure 2.5. Country of Origins of FIEs**



Source: PCI-FDI survey 2022, Question A4.1. Background information “ If your firm is operating in the foreign direct investment sector, which country is the headquarter of your firm’s mother company or your largest foreign shareholder is located?”

## 2.4. REGULATORY BURDEN

The 2021 report highlighted the disruptive effects of the pandemic and the subsequent policy responses on firms' regulatory burden. The share of firms spending upward of five percent on bureaucratic procedures rocketed from 32.9 percent in 2020 to an eye-watering 60.6 percent. This somewhat reverted in 2022 when the figure dropped back to 49.3 percent. As reflected in the last column in Table 2.4, the time needed for imports to clear customs also returned to "normal" levels in 2022.

The median number of regulatory inspections, which had dropped to 0 in 2021, picked up slightly this year. There are other positive signs. Only 5.3 percent of PCI-FDI respondents in 2022 reported being harassed, defined as having four or more regulatory inspections in the previous year. This represents a continuation of a downward trend since 2016 when harassment was an astonishing 33.5 percent. We also observe similar patterns in the data reported by domestic Vietnamese firms in the PCI-DDI sample.

**Table 2.4. Post-Entry Regulations for Foreign Firms**

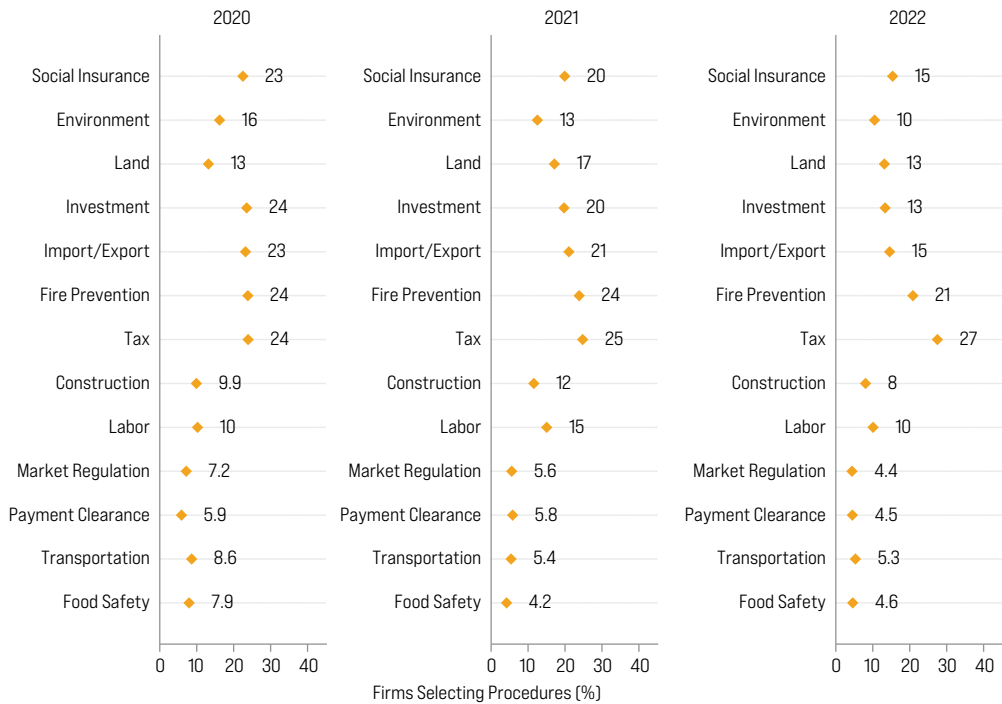
Year	Over 5% of Time Spent on Bureaucratic Procedures (percent)	Inspection (Median)	Harassment (4+ Inspections)(percent)	Days for Exports to Clear Customs (Median)	Days for Imports to Clear Customs (Median)
2010	56.6	2.00	29.5	1.00	2.00
2011	68.1	2.00	17.4	1.50	2.00
2012	79.4	2.00	22.2	2.00	2.00
2013	77.8	2.00	21.9	2.00	2.00
2014	70.2	2.00	25.9	1.00	2.00
2015	69.8	2.00	20.7	1.00	2.00
2016	71.9	2.00	33.5	1.00	2.00
2017	66.2	2.00	24.5	1.00	2.00
2018	42.6	2.00	16.3	2.00	2.00
2019	41.3	2.00	15.7	2.00	2.00
2020	32.9	1.00	11.0	1.00	2.00
2021	60.6	0.00	4.7	2.00	3.00
2022	49.3	1.00	5.3	2.00	2.00

Source: PCI-FDI survey 2022, Question D1.1 “What percentage of senior management’s time was spent to understand and comply with administrative procedures over the past year?”, Question D2.6 “How many total times was your business inspected and examined in the last year?”, Question K5.1 “On average, how long does it take to clear customs for your exported goods?”, and Question K5.2 “If you import goods, on average, how long does it take you to clear customs?”

Due to changes in the questionnaire, in 2022 we redefine harassment as having four or more regulatory inspections per year (instead of five as in previous reports). The figures for years prior to 2022 have also been revised to ensure consistency.

In the 2021 report, we commented on improvements in multiple bureaucratic procedures compared to 2020. These included investment registration, social insurance, import/export, environment, market regulation, and food safety. A striking finding from 2022 data is clear progress across the board in most regulatory areas. For example, only 15 percent of PCI-FDI respondents consider social insurance the most troublesome administrative procedures, down from 23 percent in 2020. Investment/business registration and customs procedures also see similar impressive progress. However, FIEs still face considerable difficulties with tax procedures (27 percent) and fire prevention (21 percent).

**Figure 2.6. Most Burdensome Administrative Procedures**



Source: PCI-FDI survey 2022, Question D1.2 “From your experience in the province, please indicate the most troublesome administrative procedures.”



## 2.5. CORRUPTION

The 2021 report linked the anti-corruption campaign waged by Vietnam's leaders to experiences with bribery at the firm level. The general decreasing trend in petty corruption faced by FIEs reflects the government's efforts to combat wrongdoing. Data from 2022 provides further evidence of the alleviation of the burden that corruption puts on firms. As shown in Table 2.5, a declining fraction of FIEs face substantial costs from informal fees. The share of firms paying between five and ten percent of annual income in informal charges fell from 5 percent to 3.2 percent. We observe similar declines in the 1-2% and 2-5% brackets. In the last two brackets, reversed declines were found, with a growing share of firms paying less than one percent of annual income in informal charges versus a slightly declining share of firms paying no informal charges at all, compared to the prior year. However, the results show that for most firms, the amount has been decreasing

**Table 2.5. Cost of Informal Charges (Amount/Annual Income)**

Year	0%	<1%	1-2%	2-5%	5-10%	>10%
2010	21.8	40.4	16.7	11.4	7.0	2.6
2011	30.2	33.7	20.0	7.7	6.7	1.6
2012	30.0	41.0	17.4	8.3	2.6	0.8
2013	19.7	48.5	18.3	8.7	3.1	1.7
2014	18.7	42.7	20.4	11.8	4.5	1.9
2015	16.4	44.5	18.2	12.8	6.4	1.8
2016	25.9	43.9	15.2	8.8	4.1	2.1
2017	31.3	41.1	14.4	6.8	3.8	2.6
2018	37.5	39.8	14.6	4.8	1.8	1.5
2019	36.6	40.0	13.1	6.0	2.8	1.4
2020	34.7	41.0	14.0	6.9	2.1	1.2
2021	41.9	31.0	13.6	6.9	5.0	1.7
2022	38.1	39.1	11.9	6.1	3.2	1.7

Source: PCI-FDI survey 2022, Question D3.13 "On average, what percentage of income do firms in your line of business typically pay per year for informal charges to public officials?"

Table 2.6 breaks down informal charges by specific procedures. Clear pockets of rampant wrongdoing have diminished over time but there remain some noteworthy observations. In 2022, 38.5 percent of PCI-FDI respondents had to pay bribes during customs procedures. While this is lower than pre-2019 levels, for an outward-looking economy like Vietnam's, it still constitutes a significant hidden drag on business dynamism. Similarly, bribery during land procedures was disturbingly high at 19.2 percent in 2022.

On the other hand, there are encouraging signals in some areas. In 2022, only 17.4 percent of FIEs paid informal fees to regulatory inspectors – a significant drop from 25.4 percent in both 2020 and 2021, continuing the consistent decline since 2016 when the data was first collected.

**Table 2.6. Questions on Corruption in the PCI-FDI Survey**

Year	Paid Informal Charges to Inspectors (percent)	Bribe during Customs Procedures (percent)	Bribe during Land Procedures (percent)	Bribes were a Deterrent to Using Courts (percent)	Service Delivered after Bribe Payment (percent)
2010		64.9		9.3	48
2011		52.9		5.2	46.1
2012		56.2		13.1	54.7
2013		58.6		14.5	59
2014		66.2		21.9	58.2
2015		66.5		23.9	59.1
2016	45.8	56.4	21	18.7	45.3
2017	44.9	53	14.6	18.9	50.3
2018	39.9	44.4	6.2	14.3	49
2019	32.5	42.5	10	14.9	44.5
2020	25.4	37.1	10.3	17.2	39.1
2021	25.4	38.9	21.1	18.2	60.4
2022	17.4	38.5	19.2	14.4	60.4

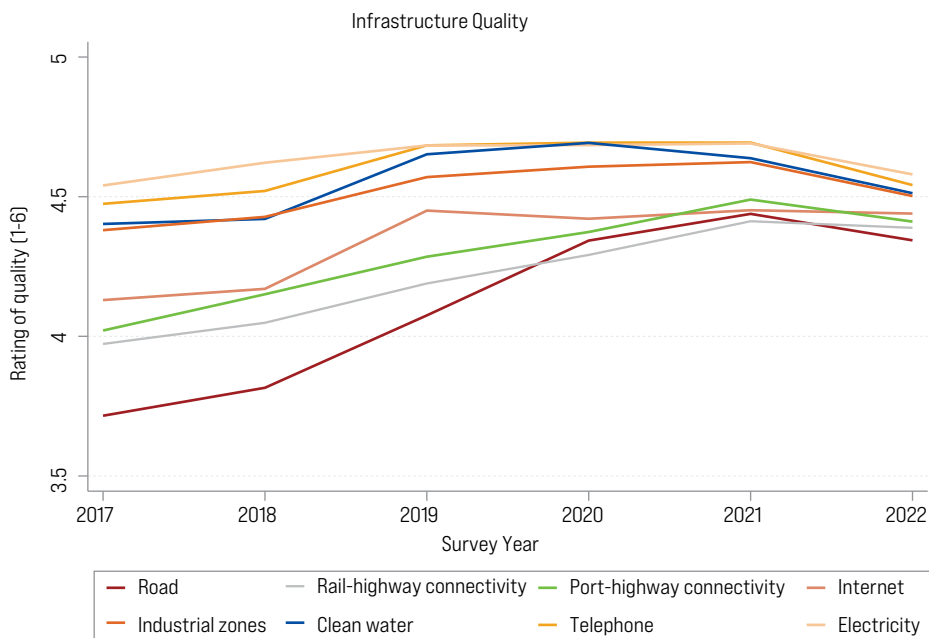
Source: PCI-FDI survey 2022, Question D2.8 “During any of the inspections, did you provide a gift or informal payment to the examiner?”, Question K.6 “Has your firm ever paid an informal charge to expedite import/export procedures?”, Question C7.2 “Paid informal charges to have the dossiers processed faster,” Question G3.1 “If you don’t appeal to the court, what are the reasons?”, and Question D3.15 “In your opinion, if a firm in your province pays ‘informal charges’, how often is the service or document delivered as the firm expected?”



## 2.6. INFRASTRUCTURE

The 2020 PCI report pointed out that Vietnam's infrastructure was not a comparative advantage when foreign firms were considering an investment location, but also noted significant improvements in recent years. Figure 2.7 depicts firms' assessment of the quality of infrastructure most important to the operation of their businesses (roads, electricity, telephone, internet, water, and industrial zone infrastructure) over the period 2017-2021. Firms were asked to evaluate each category on a 6-point scale (1 = "Very poor" and 6 = "Very good"). The results show that progress has generally slowed in the past year across most types of infrastructure. Notably, pandemic disruptions delayed many critical construction projects, including multiple segments of the North-South national highway, the Cat Lai port in Thu Duc City, and Ho Chi Minh City's 2<sup>nd</sup> and 3<sup>rd</sup> beltways.<sup>50</sup>

**Figure 2.7. FIEs' Assessment of Vietnamese Infrastructure**



Source: PCI-FDI survey 2022, Question E1.2 "How do you rate the overall quality of these public services in the province?"

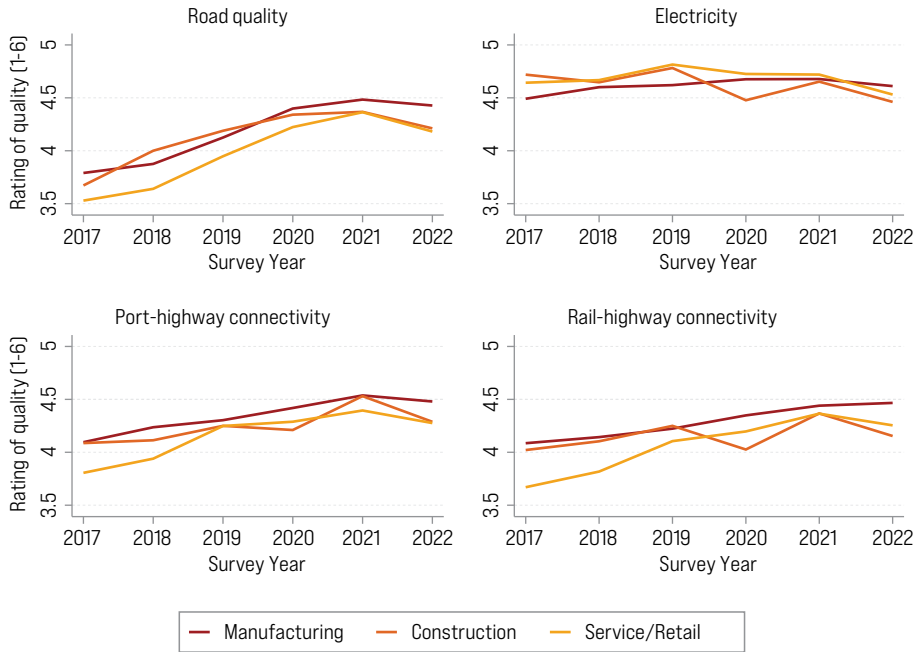
Figure 2.8 breaks down the PCI-FDI sample by three sectors (manufacturing, construction,

<sup>50</sup> Gia Minh. (2022). 5 nhóm dự án trọng điểm ở TP HCM chậm trễ kéo dài [Serious delays in five major construction projects in Ho Chi Minh City]. VnExpress. August 14. <<https://vnexpress.net/5-nhom-du-an-trong-diem-o-tp-hcm-cham-tre-keo-dai-4486915.html>>

T.N. (2021). Dịch Covid-19 ảnh hưởng nghiêm trọng tới tiến độ giải ngân vốn đầu tư công [Covid-19 pandemic seriously affected disbursement of public investment capital]. Institute of Financial Strategies and Policies. August 11. <[https://mof.gov.vn/webcenter/portal/vclvcstc/pages\\_r/l/chi-tiet-tin?dDocName=MOFUCM206962](https://mof.gov.vn/webcenter/portal/vclvcstc/pages_r/l/chi-tiet-tin?dDocName=MOFUCM206962)>

and service/retail) and illustrates their evaluations of two key types of basic infrastructure (roads and electricity). All respondents noted the slowdown in infrastructure-related improvements.

**Figure 2.8. FIEs' Assessment of Infrastructure, by Sector**



Source: PCI-FDI survey 2022, Question E1.2 “How do you rate the overall quality of these public services in the province?”



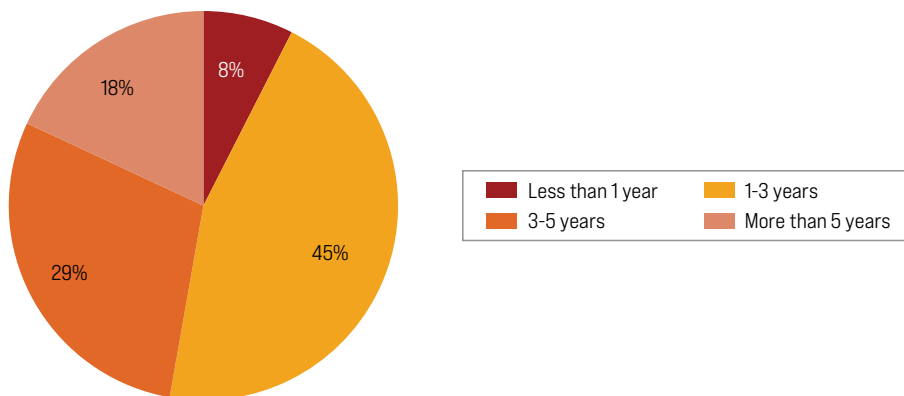


## 2.7. LABOR

The 2022 PCI questionnaire added a battery of new questions related to workers at FIEs. In this section, we analyze these questions to evaluate worker's compensation, firms' assessment of local labor quality, expenditures on training and retention, and recent disruptions in the labor market.

Firms generally prefer low turnover in their workforce, which allows them to invest in training workers for large, long-term orders.<sup>51</sup> Overall, the typical tenure of a worker at an FIE lasts from one to three years in a plurality of these companies, as shown in Figure 2.9. Average tenure is between 3 and 5 years at 29 percent of foreign businesses and more than 5 years at 18 percent of FIEs. However, it has become more difficult for firms to retain employees.<sup>52</sup> According to a human resources officer in Ho Chi Minh City, after COVID-19, workers, especially older ones, are less interested in long-term employment and prefer short-term jobs with less commitment. With these, they can accumulate the time needed to receive one-time social insurance payments which will serve as launching pads to start a business or other alternative careers.<sup>53</sup>

**Figure 2.9. Length of Workers' Tenure at FIEs**



Source: PCI-FDI survey 2022, Question E3.8.2 "How many years does a typical worker work for your company?"

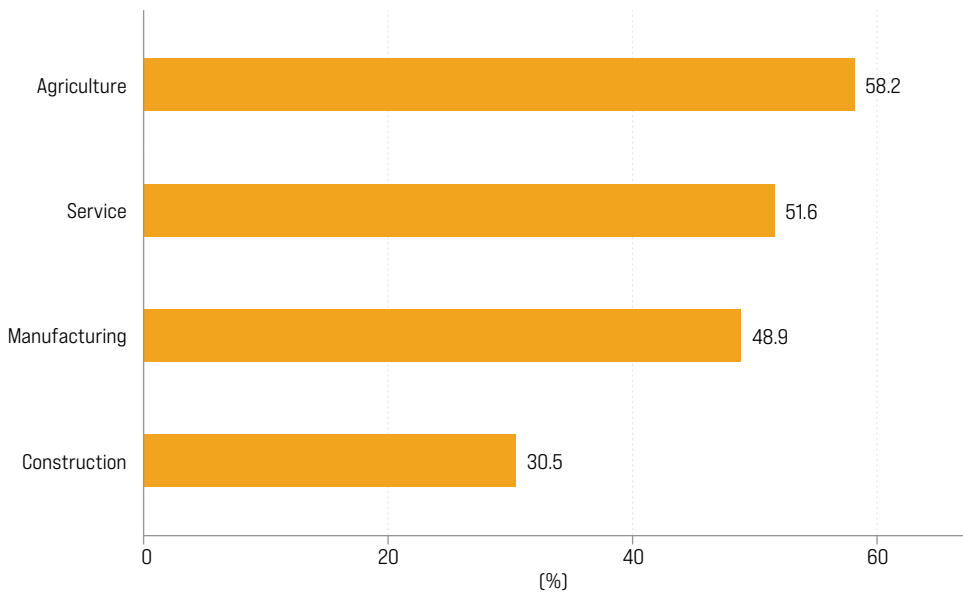
51 Xuân Hinh. (2022). Công nhân may liên tục bỏ nghề, nhà máy "khóc nghẹn" [Garment workers constantly quit their jobs: Factories "cry their heart out"]. Dân Trí. July 29. <<https://dantri.com.vn/lao-dong-viec-lam/cong-nhan-may-lien-tuc-bo-nghe-nha-may-khoc-nghen-20220726211226674.htm>>

52 Phạm, A. (2023). Nhận diện điểm nghẽn thị trường lao động phía Nam [Identifying bottlenecks in the labor market in the South East]. Dân Trí. February 15. <<https://dantri.com.vn/tam-diem/nhan-dien-diem-nghen-thi-truong-lao-dong-phia-nam-20230214174612732.htm>>

53 Tùng Nguyễn. (2022). Nhiều doanh nghiệp tuyển người không được, nghìn công nhân mất việc đi đâu? [Firms unable to recruit new employees: Where will thousands of job-losing workers be going?]. Dân Trí. December 3. <<https://dantri.com.vn/lao-dong-viec-lam/nhieu-doanh-nghiep-tuyen-nguoi-khong-duoc-nghin-cong-nhan-mat-viec-di-dau-20221203071421687.htm>>

Women are relatively well represented in the FIEs' workforce, depicted in Figure 2.10. The average share of female workers among PCI-FDI respondents is 49.1 percent. FIEs in the agriculture and service sectors boast the highest shares of women employees—58.2 percent and 51.6 percent, respectively. On average, 48.9 percent of workers at manufacturing firms are female. Construction is the most male-dominated sector; female employees account for just over 30 percent of their workforce.

**Figure 2.10. Share of Female Workers at FIEs**



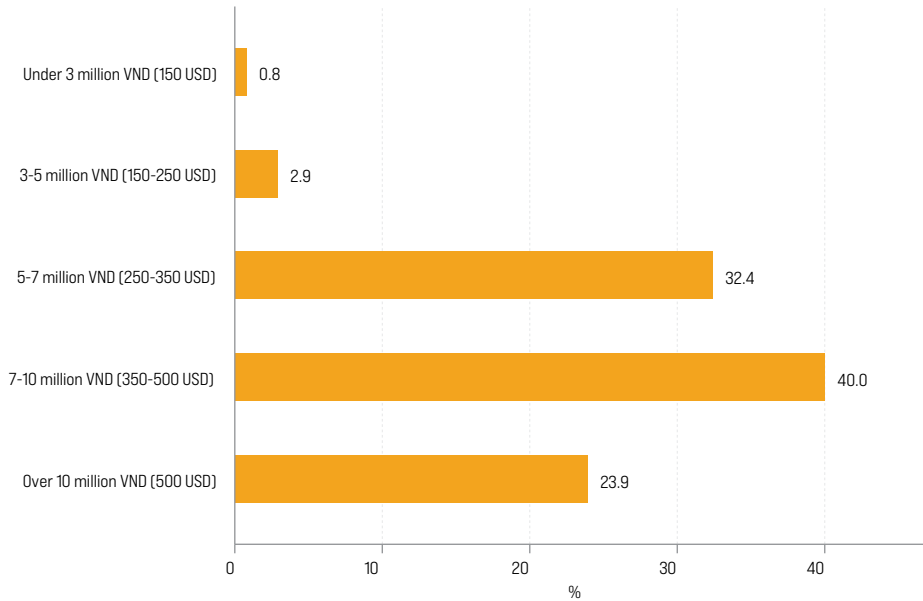
Source: PCI-FDI survey 2022, Question E3.11.1 “What proportion of your total workforce is female workers?”

Most PCI-FDI respondents pay their employees at least 7 million VND, as seen in Figure 2.11. The typical FIE, roughly 40 percent of firms, offers a salary between 7 and 10 million VND (\$350-\$500) per month. The average salary is over 10 million VND at 23.9 percent of FIEs. Very few FIEs fall into the lowest two brackets: The share of firms paying under 3 million VND per month is 0.8 percent (seven respondents in the PCI-FDI sample)<sup>54</sup> while the share paying between 3-5 million VND is 2.9 percent.

<sup>54</sup> Six of these firms report being strongly disrupted by COVID-19, which might have led them to shorten working hours.



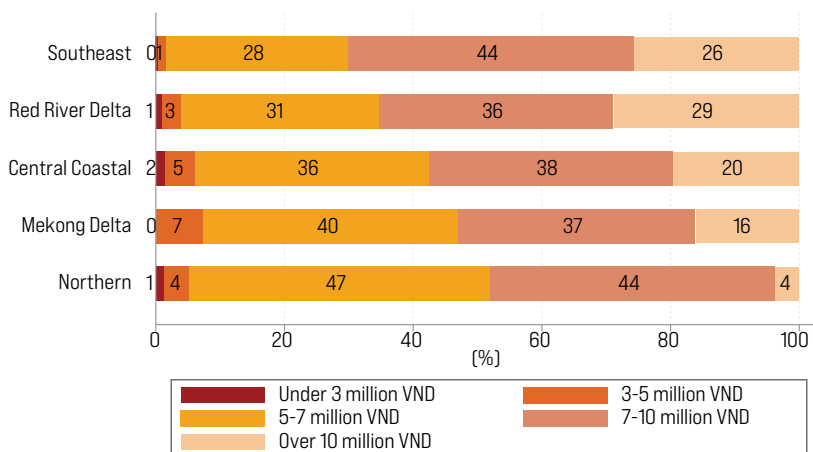
**Figure 2.11. Workers' Monthly Salary at FIEs**



Source: PCI-FDI survey 2022, Question E3.12 "Average monthly salary for non-management workers"

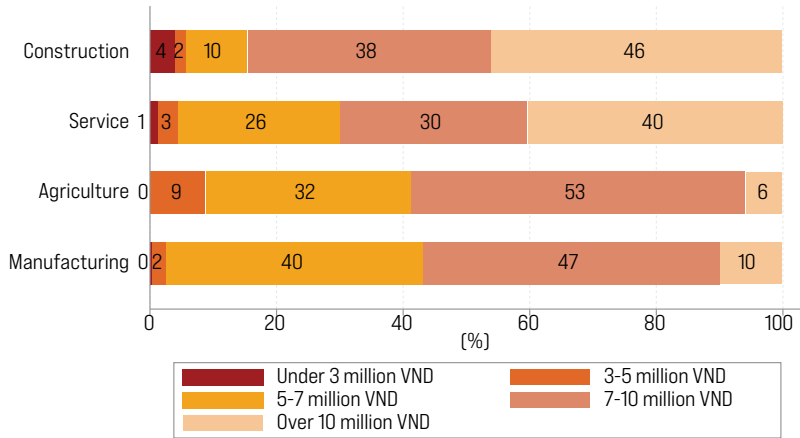
Figure 2.12 breaks down workers' monthly wages by region. Salaries are highest among FIEs in the Southeast and the Red River Delta. The shares of firms paying workers an average of 7 million VND or more per month are 70 percent and 65 percent, respectively.

**Figure 2.12. Worker's Monthly Salary at FIEs, by Region**



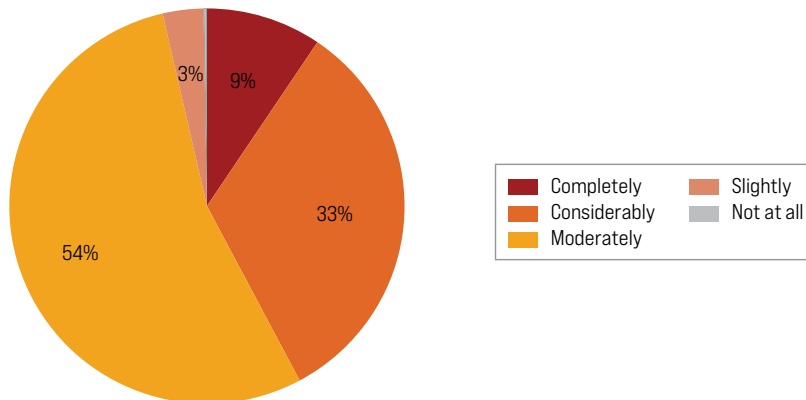
Workers in the construction and service sectors enjoy the highest wages. According to Figure 2.13, 84 percent of foreign firms in construction pay their non-management employees an average of 7 million VND or more. The corresponding figure for the service sector is 70 percent. In contrast, only 57 percent of manufacturing FIEs and 59 percent of those operating in agriculture offer this level of compensation.

**Figure 2.13. Worker’s Monthly Salary at FIEs, by Sector**



Compensation is a function of labor quality and the types of roles that workers can assume. Local labor quality is a key indicator to which provincial governments need to pay attention in their efforts to attract investment and develop business. In this area, there is considerable room for improvement. As shown in Figure 2.14, for the majority of FIEs (54 percent), labor quality in the province only moderately met their needs. About one-third of PCI-FDI respondents reported that labor quality considerably met their needs. Only 9 percent of firms in 2022 were completely satisfied with the local workforce, down from 15 percent in 2021.

**Figure 2.14. FIEs’ Assessment of Local Labor Quality**

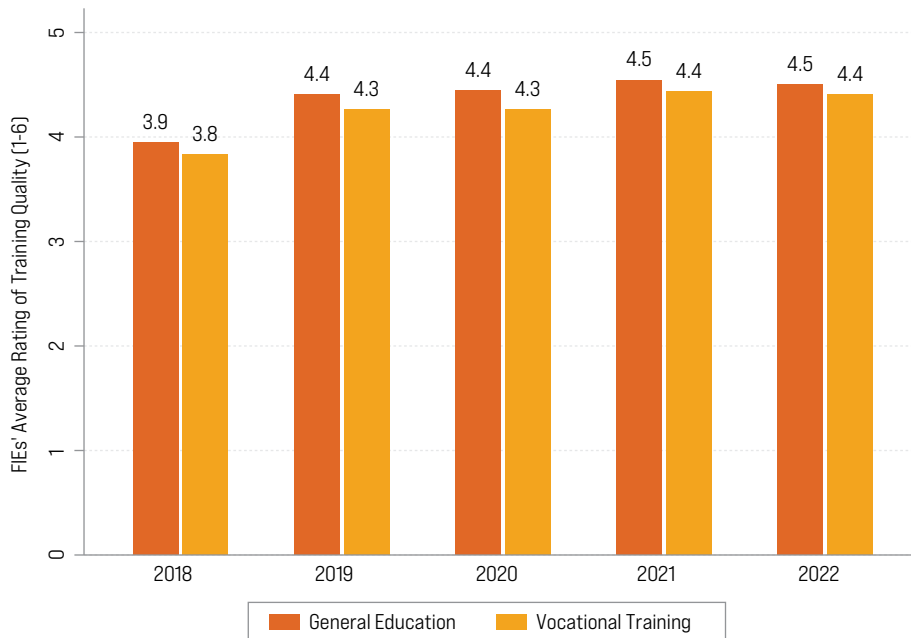


Source: PCI-FDI survey 2022, Question E.9 “From your experience in employment, please judge the quality of local labor.”



When considering the quality of the future labor force, firms' optimistic outlook can be seen in Figure 2.15. Foreign investors are positive about the quality of general education and vocational training for would-be workers. On a scale of 1 to 6, where 1 represents "Very poor" and 6 indicates "Very good", FIEs rate general education at 4.5 and vocational training at 4.4. However, despite distinctly higher confidence compared to 2018, progress has been slow and stagnated in recent years.

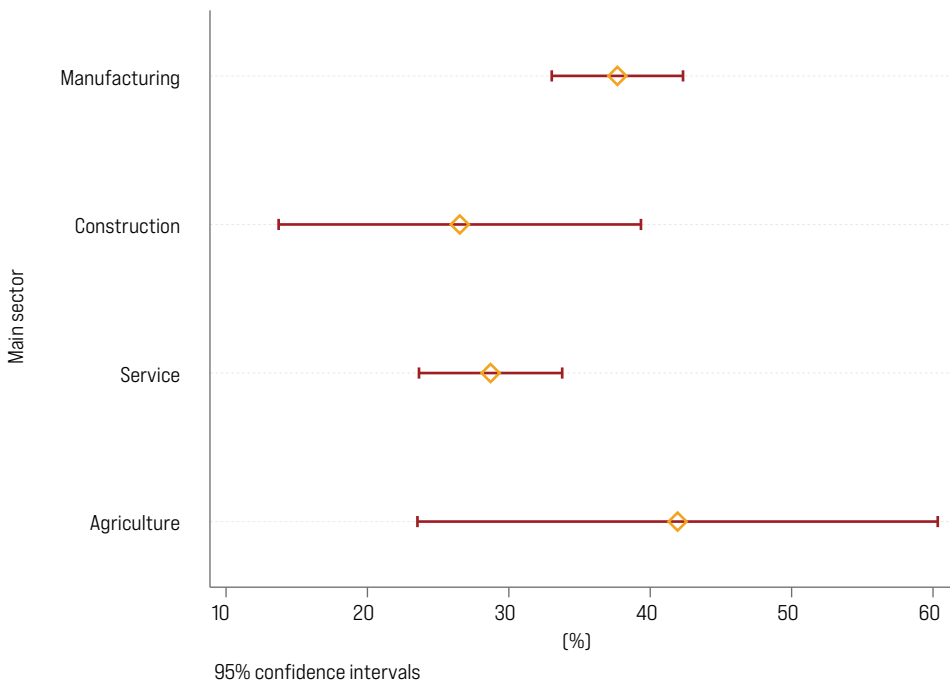
**Figure 2.15. Quality of General and Vocational Training (2018-2022)**



Source: PCI-FDI survey 2022, Question E1.2 "How do you rate the overall quality of these public services in the province?" The graph displays the average of firms' rating in each of the surveyed years.

Improvements in labor quality are urgently needed since labor productivity needs to keep up with wage increases for Vietnam to remain an attractive destination for foreign investment. In the 2022 questionnaire, we asked firms if labor costs have increased faster than productivity in 2021. A staggering 33.7 percent of FIEs responded affirmatively. Overall, productivity growth most lagged labor costs in the manufacturing and agriculture sectors, depicted in Figure 2.16.<sup>55</sup> The lack of progress in strengthening Vietnam’s workforce is also reflected in the continued challenges that foreign investors face in filling vacancies for higher-skilled and higher-productivity jobs.

**Figure 2.16. Share of Firms for Whom Labor Costs Outpaced Productivity, by Sector**



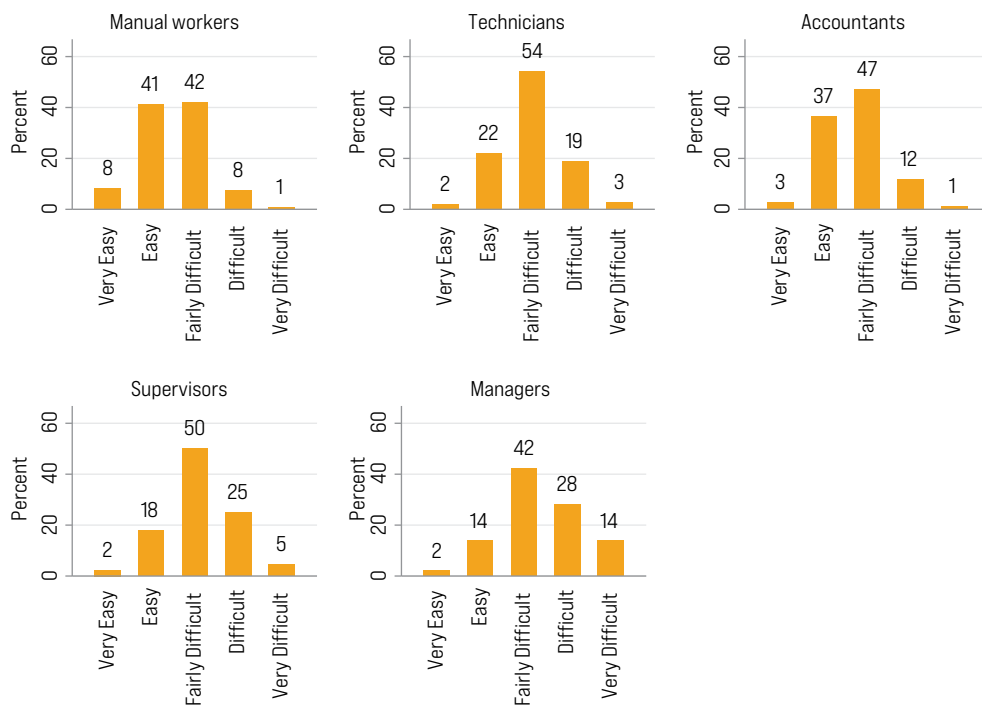
Source: PCI-FDI survey 2022, Question E3.13 “Please assess the changes in labor productivity in your firm relative to the costs your businesses face in recruiting, training, and paying employees in 2021.”

<sup>55</sup> In the 2022 PCI-FDI survey, only 53 respondents operate in agriculture, which results in the large confidence interval associated with this sector. Therefore, the difference between the agriculture sector and the others is suggestive and not statistically significant.



Examples of such high-productivity roles and jobs are managers, supervisors, and technicians. FIEs traditionally found it difficult to recruit local employees for management roles; this did not change in 2022, as depicted in Figure 2.17. Forty-two percent of PCI-FDI respondents reported having difficulties or great difficulties in hiring managers, while the corresponding figure for supervisor roles was 30 percent. Qualified technicians are also in short supply. Fifty-four percent of foreign firms considered it “fairly difficult” to recruit technical staff; 22 percent found it even more burdensome. Fifty-four percent of foreign firms considered it “fairly difficult” to recruit technical staff; 22 percent found it even more burdensome.

**Figure 2.17. Ease of Recruitment, by Labor Type**



Source: PCI-FDI survey 2022, Question E3.71 “Please evaluate the level of easiness in the recruitment of the following workers groups in your areas.” The graphs present shares of firms rating the easiness level of workers groups in 2022.

An interesting divergence from previous years’ results concerns the recruitment of lower-skilled manual workers – an area of usual abundance. The share of FIEs finding it “easy” or “very easy” to recruit such workers was 62 percent in 2021. This year, the figure dropped to 49 percent. Many workers returned to their hometowns due to pandemic-related reasons and the rising costs of living in big cities.<sup>56</sup> The shortage of manual workers is particularly serious for textile and footwear industries.

<sup>56</sup> Xuân Hình. (2022). Hậu Covid-19, nhiều công nhân về quê, người ở lại cũng bỏ việc [Post-Covid-19: Workers return to hometowns; those who stay also quit jobs]. *Dân Trí*. August 2. <<https://dantri.com.vn/lao-dong-viec-lam/hau-covid-19-nhieu-cong-nhan-ve-que-nguoi-o-lai-cung-bo-viec-20220801135933835.htm>>

Phạm, A. (2023). Nhận diện điểm nghẽn thị trường lao động phía Nam [Identifying bottlenecks in the labor market in the South East]. *Dân Trí*. February 15. <<https://dantri.com.vn/tam-diem/nhan-dien-diem-nghen-thi-truong-lao-dong-phia-nam-20230214174612732.htm>>

Inadequate worker quality in the local labor market increases the need for FIEs to provide in-house training. The 2021 PCI report noted some increase in spending on labor training as a percentage of total operation cost. This year's data, reflected in Table 2.7, provides further evidence. In 2020, firms spent an average of 4.77 percent of total operation costs on training. This figure increased to 5.69 percent in 2021 and 5.85 percent in 2022. The non-overlapping 95-percent confidence intervals indicate that the difference between 2020 and 2022 is statistically significant and not just an artifact of random sampling.

**Table 2.7. Average Labor Training Cost of Firms (Percentage of Total Operation Cost)**

Year	Observations	Average	Standard Deviation	95% Confidence Intervals	
				Lower Bound	Upper Bound
2010	619	7.71	13.71	6.63	8.79
2011	580	7.17	13.80	6.05	8.30
2012	574	3.62	5.52	3.17	4.07
2013	793	3.63	7.31	3.12	4.14
2014	798	5.95	11.75	5.13	6.76
2015	1020	5.24	10.20	4.62	5.87
2016	956	4.84	8.78	4.28	5.39
2017	1155	5.72	10.38	5.12	6.32
2018	1049	4.88	8.13	4.39	5.37
2019	1081	4.90	8.63	4.38	5.41
2020	1168	4.77	9.32	4.24	5.31
2021	1153	5.69	12.12	4.99	6.39
2022	1161	5.85	9.04	5.33	6.37

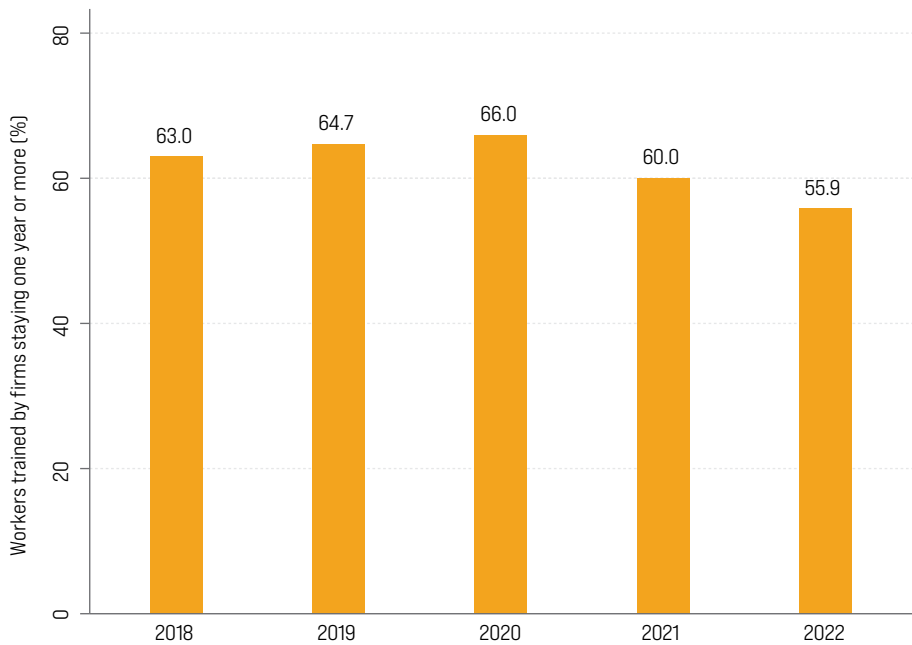
Source: PCI-FDI survey 2022, Question E3.8 "In the last year, what percentage of business costs did your firm spend on labor training"

Not only do FIEs face obstacles recruiting workers, they also have issues retaining those they have hired and trained. A stable workforce with some in-house training is important for operations. However, as seen in Figure 2.18, the share of workers trained by FIEs who stay for a year or more declined significantly in the past two years, from a high of 66 percent in 2020 to 60 percent in 2021 and 55.9 percent this year.





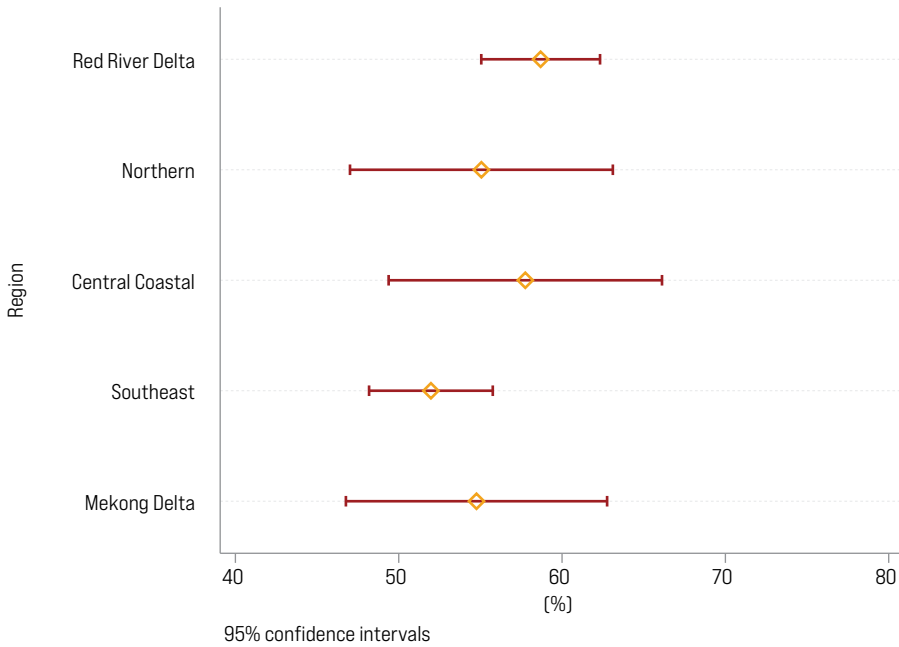
**Figure 2.18. Share of Trained Workers Who Stayed One Year or More (2018-2022)**



Source: PCI-FDI survey 2022, Question E3.8.1 “On average, what percentage of the workers trained by your company remain with the firm for a period longer than a year?”

The challenge of worker retention, shown in Figure 2.19, is particularly severe for FIEs in the Southeast. In 2022, only 52 percent of trained employees in the region stay with a given employer for one year or more. In contrast, the corresponding figure for PCI-FDI respondents in the Red River Delta is 58.7 percent. The difference is statistically significant at the five percent level.

**Figure 2.19. Share of Trained Workers Who Stay One Year or More, by Region**



Source: PCI-FDI survey 2022, Question E3.8.1 “On average, what percentage of the workers trained by your company remain with the firm for a period longer than a year?”

Figure 2.20 demonstrates the share of migrant workers at FIEs by province. Unsurprisingly, Binh Duong – the industrial hub in the Southeast – is by far the most reliant on migrant workers (70.5 percent). Next in line are Da Nang (58.3 percent), Ho Chi Minh City (55.2 percent), Dong Nai (49.4 percent), and Hanoi (48.7 percent).

The height of the pandemic saw a major exodus of migrant workers away from cities, especially in the Southeast.<sup>57</sup> Many migrant workers returned to settle in their home provinces due to pandemic-related concerns and rising costs of living.<sup>58</sup> The proliferation of decent jobs in provinces in the northern and central regions as well as the Mekong Delta

57 Hồng, C., Phương, Á., & Lê, T. (2021). *Cuộc di cư hồi sức của hàng vạn lao động miền Nam [The migration of thousands of workers in the South]*. *VnExpress*. October 13. <<https://vnexpress.net/cuoc-di-cu-hoi-suc-cua-hang-van-lao-dong-4370953.html>>

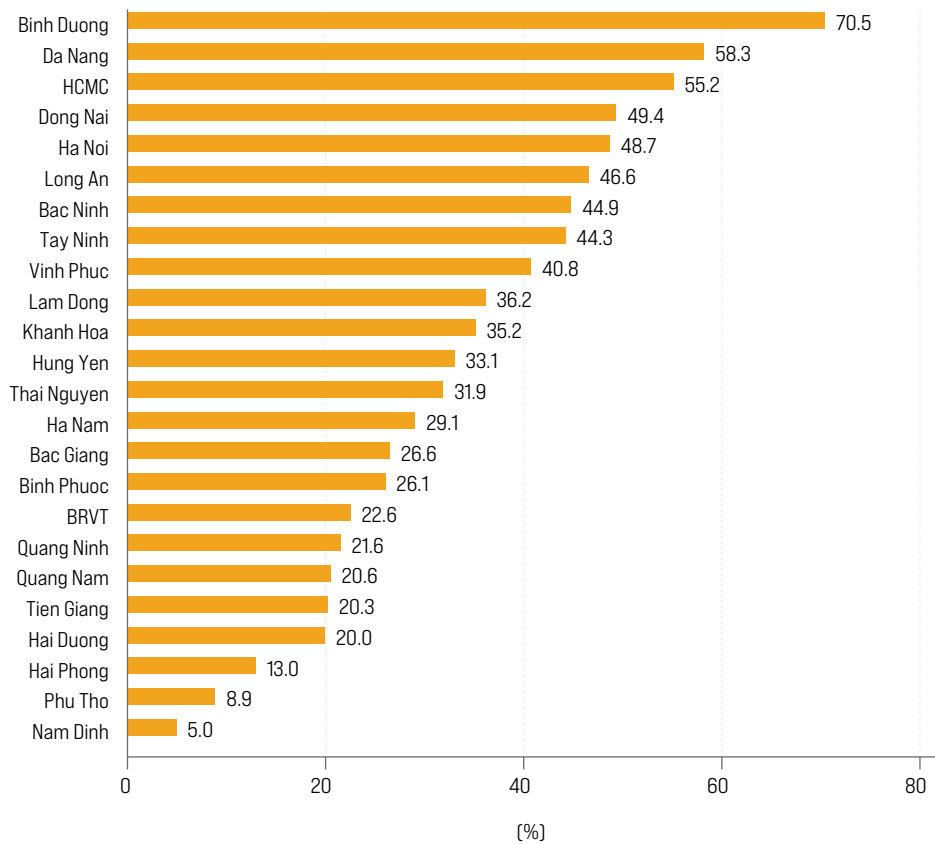
Linh Anh. (2021). *Làn sóng lao động di cư hồi hương vì Covid-19 và nỗi lo “người nghèo phải nuôi người nghèo” [The wave of home-coming migrant workers due to Covid-19 and the fear of “the poor feeding the poor”]*. *CafeBiz*. October 21. <<https://cafebiz.vn/lan-song-lao-dong-di-cu-hoi-huong-vi-covid-19-va-noi-lo-nguoi-ngheo-phai-nuoi-nguoi-ngheo-20211021195640099.chn>>

58 Xuân Hình. (2022). *Hậu Covid-19, nhiều công nhân về quê, người ở lại cũng bỏ việc [Post-Covid-19: Workers return to hometowns; those who stay also quit jobs]*. *Dân Trí*. August 2. <<https://dantri.com.vn/lao-dong-viec-lam/hau-covid-19-nhieu-cong-nhan-ve-que-nguoi-o-lai-cung-bo-viec-20220801135933835.htm>>



also attract workers away from traditional migrant labor markets such as Binh Duong and Dong Nai.<sup>59</sup> Those who stay are drawn to other opportunities with comparable pay and more flexible time arrangements, such as driving for ride-sharing services or working as by-the-hour domestic helpers.<sup>60</sup>

**Figure 2.20. Share of Migrant Workers at FIEs, by Province**



Source: PCI-FDI survey 2022, Question E3.11.2 “What proportion of your total workforce is migrant workers?”

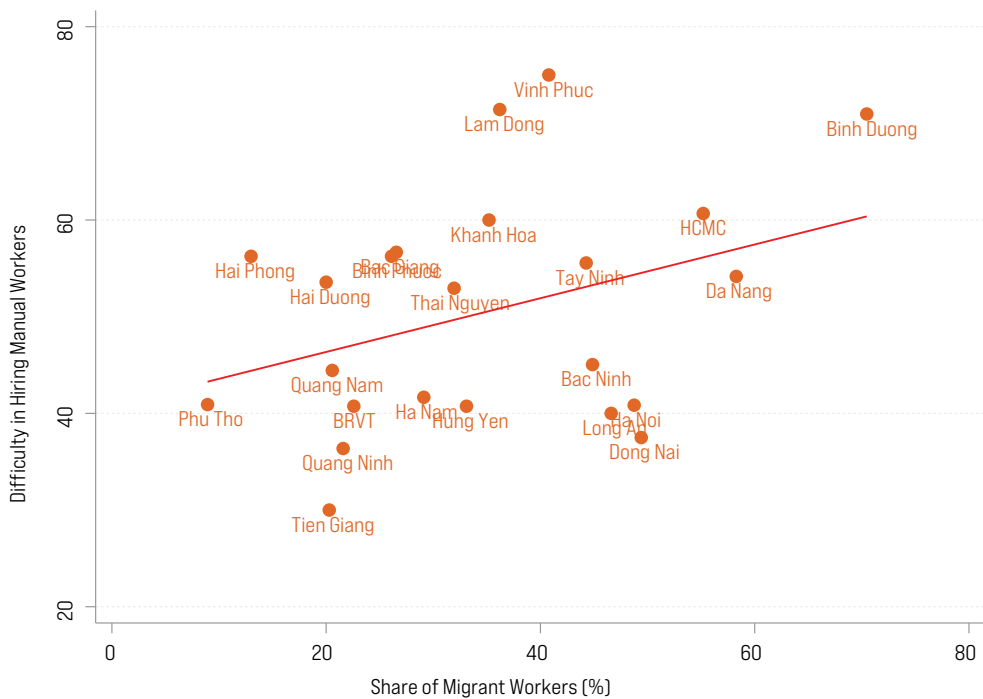
59 Phạm, A. (2023). Nhận diện điểm nghẽn thị trường lao động phía Nam [Identifying bottlenecks in the labor market in the South East]. *Dân Trí*. February 15. <<https://dantri.com.vn/tam-diem/nhan-diem-diem-nghen-thi-truong-lao-dong-phia-nam-20230214174612732.htm>>

Nguyễn Hành. (2023). Lương thưởng tốt, nhiều lao động chuyển hướng về miền Tây [Promising salaries and bonuses, many workers move to the Southern West]. *Dân Trí*. February 17. <<https://dantri.com.vn/lao-dong-viec-lam/luong-thuong-tot-nhieu-lao-dong-chuyen-huong-ve-mien-tay-20230211151807654.htm>>

60 Xuân Ninh. (2022). Hậu Covid-19, nhiều công nhân về quê, người ở lại cũng bỏ việc [Post-Covid-19: Workers return to hometowns; those who stay also quit jobs]. *Dân Trí*. August 2. <<https://dantri.com.vn/lao-dong-viec-lam/hau-covid-19-nhieu-cong-nhan-ve-que-nguoi-o-lai-cung-bo-viec-20220801135933835.htm>>

It is reasonable to predict that disruptions caused by the pandemic and the policy responses will be most acutely felt by FIEs that employ many migrant workers. Figure 2.21 represents one test of this hypothesis. At the provincial level, challenges in hiring manual workers are closely correlated with the province’s reliance on migrant workers. Overall, provinces with a large share of migrants in their labor force, such as Binh Duong and Ho Chi Minh City, tend to face more labor market frictions compared to those at the other end of the spectrum. The relationship is statistically significant at the 10-percent level.

**Figure 2.21. Relationship between Hiring Difficulties and Reliance on Migrant Workers, by Province**



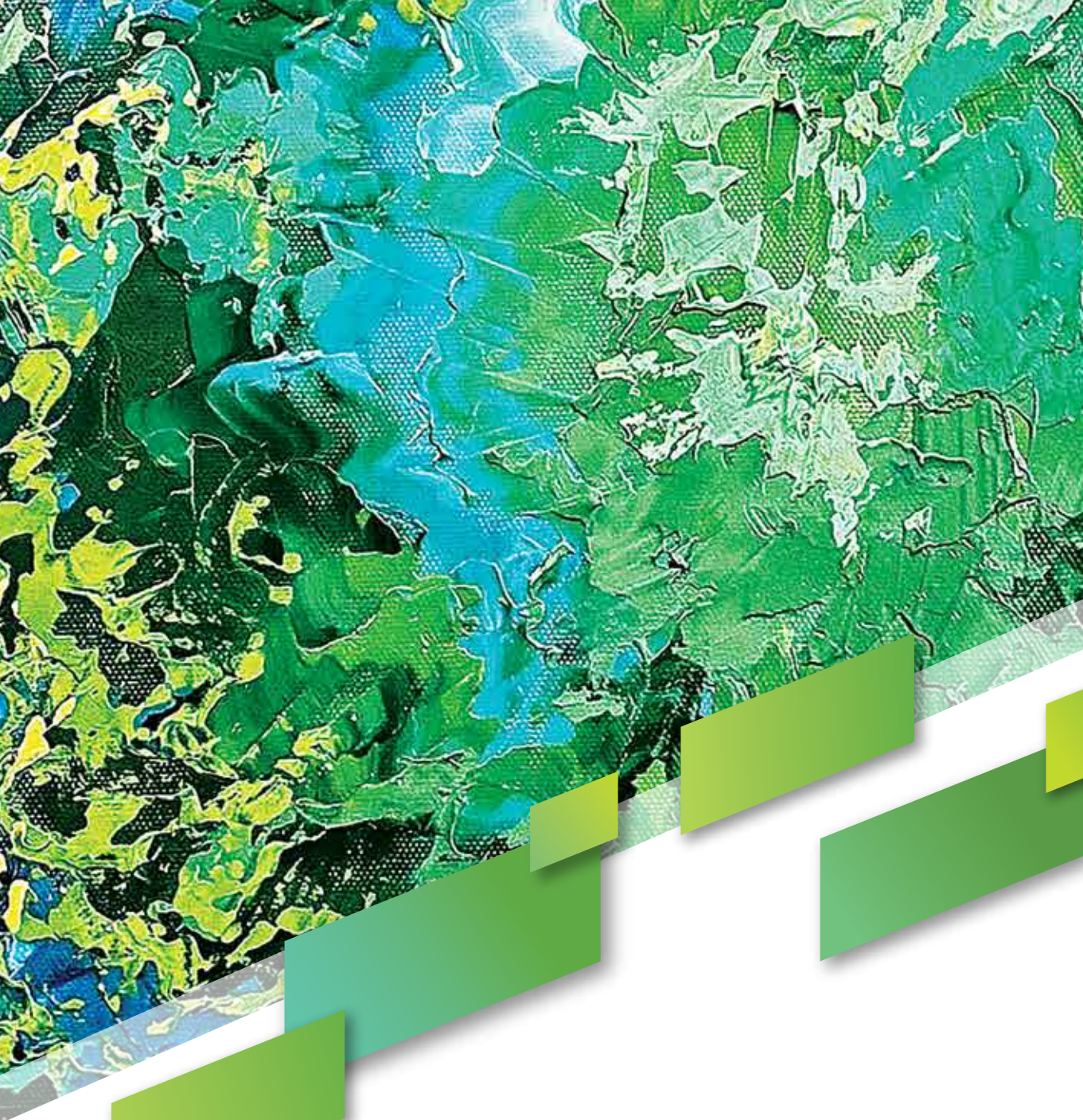
Source: PCI-FDI survey 2022, Question E3.11.2 “What proportion of your total workforce is migrant workers?” and Question E3.7.1 “Please evaluate the level of easiness in the recruitment of the following workers groups in your areas.”



## 2.8. CONCLUSION

The 2022 PCI-FDI survey results showed encouraging developments in many aspects of Vietnam's business environment. Despite foreign investors' reluctance to commit to new projects, foreign enterprises are recovering well from the aftermath of the pandemic, with healthy profits and revenue. The burden of complying with regulatory procedures has been brought back down closer to pre-COVID levels and excessive inspections to the point of harassment are absent from this year's data. Domestic firms are increasingly integrated into the global supply chain by providing inputs to FIEs. Many burdensome administrative procedures related to social insurance, investment/business registration, and import/export procedures have become much more streamlined in firms' view. In addition, corruption and informal charges continue their downward trend that has been observed in recent years.

Several areas still require urgent attention from the government and policy makers, however. Bribery during customs and land procedures remains at high levels. Recent progress in infrastructure showed signs of stalling in 2022 and needs to be accelerated. More importantly, labor quality remains an issue. FIEs face challenges in recruiting suitable workers, especially for higher-skilled management roles. Moreover, due to recent upheavals in the labor market caused by the pandemic and a gloomy global economic outlook, a new phenomenon arises where foreign firms are finding it more difficult to recruit manual workers and to retain employees they have trained. Our analyses suggest a connection between this friction and reliance on migrant workers. This points to the need for policymakers to improve the living conditions, basic services, and opportunities for this previously underserved group so that they can continue to be a mainstay for FIEs in the future.





# Chapter 03

Introducing the New  
Provincial Green Index

## 3.1. INTRODUCTION

**This chapter launches the pilot of an effort VCCI hopes will become an annual Provincial Green Index (PGI) to complement the Vietnamese PCI.** Vietnam's economic success has been accompanied by increasing climate and environmental threats. The long-term health and welfare of the citizenry depends on plotting a path to sustainable economic growth that allows the economy to thrive while protecting Vietnam's vital environmental heritage. This challenge requires excellent data to measure the country's progress and determine what policy solutions can be most impactful. The PGI, which is constructed using the same statistical rigor and contextual country knowledge, hopes to provide exactly this tool for national leaders, provincial decision makers, and foreign and domestic investors. In this chapter, we describe how the pilot is constructed in addition to analyzing differing environmental perceptions by country of origin and industrial sector.

**Over the past four decades, Vietnam's economic growth and private sector development have been the envy of the world, lifting millions out of poverty and propelling the country to middle income status.** Vietnam's international trade performance and attractive foreign direct investment has been remarkable and has even withstood the repercussions of the COVID-19 pandemic. However, this economic dynamism has come at some cost. Vietnam, like many other countries, is experiencing unprecedented threats from climate change and pollution.

**While environmental degradation in rural and coastal areas threatens the livelihoods of farmers and fishers, air and water pollution are the top concerns of the government and citizens in urban areas.** Vietnam ranks 141st out of 180 countries regarding air quality and biodiversity protection (with 180 being the worst possible performance).<sup>61</sup> Air pollution, which is mainly caused by heavy industry (steel, cement, and coal-fired plants), construction, and transportation, is estimated to have caused the death of roughly 50,000 people per year and losses of about 4.45-5.64 percent of Vietnam's Gross Domestic Product (GDP).<sup>62</sup> The Asian Development Bank (ADB) has suggested that if Vietnam maintains its current carbon-intensive energy mix, these sectors will account for 86 percent of the country's total net emissions by 2050.<sup>63</sup>

**The Vietnamese government is aware of these issues and has begun the task of shifting toward a more sustainable economic model. It also signaled a commitment to low-carbon development by ratifying the Paris Agreement and implementing the country's Nationally Determined Contribution (NDC).** Vietnam submitted its second updated NDC in November 2022. The country is

61 Wolf, M. J., Emerson, J. W., Esty, D. C., de Sherbinin, A., Wendling, Z. A., et al. (2022). *2022 Environmental Performance Index*. New Haven, CT: Yale Center for Environmental Law & Policy. [epi.yale.edu](http://epi.yale.edu).

62 Kiet, Anh. 2022. *Air pollution costs Vietnam \$13.6 billion a year*. Hanoi Times. January 15, 2020.

63 Zhongming, Z., Linong, L., Xiaona, Y., & Wei, L. (2017). *Pathways to Low-Carbon Development for Viet Nam*. Manila: Asian Development Bank.





estimated to need over \$27 billion in investment by 2030 to meet its NDC targets.<sup>64</sup> Key investments will support renewable energy and green infrastructure, including public transport, water, and waste management.<sup>65</sup> To this end, in 2022, Vietnam signed a new energy transition partnership with a consortium of wealthy actors which will provide it with \$15.5 billion to reduce its coal capacity and shift it to renewable energy.<sup>66</sup>

**The national government has also initiated a variety of policies to attract green investment including cooperation with development partners in energy transition and issuing green bonds.**

In 2020, the Ministry of Natural Resources and Environment (MONRE) amended the Law on Environmental Protection (LEP) with a Decree on Carbon Inventory and Ozone Layer Protection, which became effective January 2022. This decree is a breakthrough decision to generally regulate environmental protection and particularly reduce greenhouse gases (GHGs). Its passage was particularly timely given the European Union's Carbon Border Adjustment Mechanism (CBAM), whose transitional phase will commence October 1, 2023.<sup>67</sup>

**In February 2021, the 13th Party Congress of the Communist Party approved a ten-year economic strategy which calls for shifting foreign investment to high-tech industries and for those investments to include provisions relating to environmental protection.**

In addition, the 8th Power Development Master Plan (PDP8), the backbone of the country's power sector, lists a set of selected energy projects and details planned capacity through 2045. According to the October 2021 draft of the Plan, the coal-fired thermal power ratio will be reduced from 34 percent in 2020 to 17 percent in 2045 (though, in absolute terms, the total capacity of coal will increase). The plan further calls for increasing the ratio of renewable energy (up to 53 percent) in the total power capacity.<sup>68</sup> Currently, Vietnam ranks 2nd in the ASEAN region and 23rd in the world for renewable energy generation, but there is great potential to improve these positions due to the country's climate and geological advantages. At the time of this writing, renewables account for 25-27 percent of generation capacity. The PDP8, now in its 4th draft, will increase the share of renewables converting planned coal thermal power to Liquefied Natural Gas (LNG) power for baseload capacity while expanding offshore wind and allowing increased rooftop solar connections to the grid.<sup>69</sup>

64 Tran, N. (2021). *International Trade Administration*. September 15. <<https://www.trade.gov/country-commercial-guides/vietnam-environmental-technology>>

65 Chandhok, S. Deffarges, J. Delteil, B. and Nguyen A. T. (2022). *Can Vietnamese banks seize the green-bond opportunity?* McKinsey and Company. August 3. <<https://www.mckinsey.com/industries/financial-services/our-insights/can-vietnamese-banks-seize-the-green-bond-opportunity>>

66 Lo, J. (2022). *Rich nations mobilise \$15.5bn for Vietnam's coal-to-clean transition*. Climate Home News. December 14.

67 European Commission (2021). *Carbon Border Adjustment Mechanism: Questions and Answers*. Brussels, July 14. <[https://taxation-customs.ec.europa.eu/green-taxation-0/carbon-border-adjustment-mechanism\\_en](https://taxation-customs.ec.europa.eu/green-taxation-0/carbon-border-adjustment-mechanism_en)>

68 Burke, F. and Nguyen T. H. (2021). *Vietnam: Key highlights of the new draft of the national power development plan*. In Brief. Hanoi: BakerMcKenzie. March 13. <<https://www.globalcompliancenews.com/2021/03/13/vietnam-key-highlights-of-new-draft-of-national-power-development-plan-draft-pdp8-04032021-2/>>

69 Năng Lượng Việt Nam (2022). *Kết luận của Phó Thủ tướng Lê Văn Thành về việc hoàn thiện Quy hoạch điện VIII [Conclusion of Deputy Prime Minister Le Van Thanh on the completion of Power Planning VIII]*. February 28.

**Vietnam declared its first National Green Growth Strategy in 2012 and recently introduced Decision No. 1658/QĐ-TTg which launched the National Green Growth Strategy for the 2021-2030 period.** Nevertheless, limitations of understanding remain, as do challenges to incorporating these strategies into provincial development plans. This is reflected in the fact that, as of 2021, only 8 ministries and 34 of 63 provinces in Vietnam had issued formal provincial action plans on Green Growth Strategy implementation.<sup>70</sup>

**In this context, the government of Vietnam realizes the need to seek resources from the private sector to finance large green projects and businesses.** Investment in decarbonization in emerging markets like Vietnam should be carried out in a holistic and innovative way for all sectors to benefit, especially transportation, heavy industry, and power generation, which are the top polluters. Experts also agree that mobilizing private sector investment is critical for achieving national environmental protection and green growth goals.

**But significant obstacles to such mobilization remain, highlighted by high regulatory risks such as weak legal infrastructure, barriers to international finance, poor enforcement of intellectual property rights, a shortage of skilled labor, and bureaucratic inertia.** These barriers will cause entrepreneurs and investors to hesitate, weigh their risks, and reduce the ambition and size of their investments in Vietnam. Overcoming these obstacles requires designing and implementing clear and concrete policy reforms and good governance at both national and sub-national levels. To date, however, most meaningful green policy action appears to be limited to the national level. Interestingly, this contrasts with Vietnam's "fence breaking" history of private sector development reforms, which began with provincial and even more local level experimentation, before being embraced and scaled across other provinces by the national leadership.<sup>71</sup>

**Reflecting this growing interest in provincial and private sector climate action, the PGI was initiated to reflect VCCI's concerns regarding environmental protection in Vietnam's growth trajectory and has been developed over the past five years.** Beginning in 2018-2019, VCCI and USAID collaborated to include environmental protection issues in the Provincial Competitiveness Index (PCI) survey. In parallel, in 2019 and 2020 VCCI collaborated with The Asia Foundation to implement the project "Overview of enterprise resilience." The 2020 PCI report dedicated a special chapter to environmental issues, exploring the motivations for businesses to invest in green technology and make environmentally friendly upgrades.<sup>72</sup> Later that year, VCCI developed the idea of building a set of Provincial Green Indices into the PCI Index to

70 *Tạp Chí Con số & Sự kiện (2021). Chiến lược tăng trưởng xanh tại Việt Nam: Đẩy mạnh thu hút vốn đầu tư tư nhân [Green growth strategy in Vietnam: Promoting private investment attraction].* October 8.

71 Fforde, A. (1997). *From plan to market: The economic transition in Vietnam.* Routledge; Kerkvliet, B. J. (2005). *The power of everyday politics: How Vietnamese peasants transformed national policy.* Cornell University Press; Malesky, E. (2004). *Leveled mountains and broken fences: Measuring and analyzing de facto decentralization in Vietnam.* *European Journal of East Asian Studies* 3.2 (2004): 307-336.

72 Malesky, E., Phan T. N., and Pham N. T. (2021). *The Vietnam Provincial Competitiveness Index: Measuring Economic Governance for Private Sector Development, 2020 Final Report.* Vietnam Chamber of Commerce and Industry and United States Agency for International Development: Hanoi, Vietnam.



incentivize provinces and cities to pay more attention to environmental protection and sustainable development alongside promoting economic reform of the provincial business environment. The PGI aims to promote private sector participation in Vietnam's sustainable development processes and received a supportive response from both VCCI members and the larger business community. From those initial results, in 2021, VCCI signed a Cooperation Agreement with USAID and Suntory PepsiCo Vietnam Beverage (SPVB), officially implementing the PGI, contributing to the government of Vietnam's commitment at COP26 on sustainable growth, promoting enticement of quality green investment.

**Like its cousin the PCI, the PGI aggregates the perception of businesses into a common voice, communicating their views on environmental policy to national and local decision makers.** A province that performs well on the PGI is one that is making efforts to combat pollution and private environmental accidents, designing and implementing reasonable regulations that ensure compliance without creating overwhelming burdens, providing appropriate guidance to firms on green operations and environmentally friendly procurement, and incentivizing green operations through targeted incentives and subsidy programs. These factors are measured using four subindices comprised of 44 indicators about green private sector development policy at the provincial level in Vietnam.

**The rest of this chapter is divided into seven remaining sections that extend the PGI analysis:** 1) PGI Methodology; 2) the cumulative index; 3) comparisons of survey and administrative Data; 4) differences in PGI responses between foreign and domestic investors; 5) differences in responses by broad sector and fine-grained industry; 6) exploring whether good PGI performance reduces pollution and environmental disasters; and 7) conclusions and next steps.

**First, in section 3.2, we describe the methodology for the creation of the PCI, detailing the approach to data collection, construction of subindices and dimensions, and finally calibration into the final index.** Here, we provide the measure and motivation for selection of each of the indicators which comprise the final metrics.

**Section 3.3 presents the final unweighted index, but also provides a word of caution about the final measure.** The four subindices of the PGI are not correlated. The same province can excel on one facet of green policies and lag on another. Thus, aggregating them into composite index creates a noisy measure with high variance around provincial scores, which makes it difficult to distinguish excellent performers. As a result, we recommend using a dashboard approach that visualizes the subindices separately.

**Section 3.4 compares the two main sources of data used to construct the PGI – survey data from the PCI and PCI-FDI surveys and administrative data collected by MONRE as part of its PEPI index.** As we describe in the methodology, the two sources are combined in a weighted average, so perception biases of survey investors can be adjusted based on the hard facts of policy

on the ground. Following the PCI methodology, we do this by weighting administrative data as 40 percent of each subindex. In this section, we show that the survey data and administrative data are uncorrelated. However, performing well on the overall PGI requires either outstanding performance on one of those measures or very good performance on both.

**Section 3.5 takes advantage of the fact that the PGI is composed of survey responses from both foreign and domestic investors, comparing their answers across key facets of green governance.**

While foreign investors are generally more satisfied with provincial green governance than their domestic counterparts, there are a few areas where foreign investors express greater negativity, such as in provincial efforts to combat pollution and punish polluting companies. Foreign investors demonstrate greater satisfaction with provincial guidance and incentives. Despite these differences, we also demonstrate the strong correlations between foreign and domestic evaluations of the provinces where they operate, especially in combatting pollution and effective regulation.

**Section 3.6 disaggregates the PGI by broad sector and fine-grained respondent industries.**

Surprisingly, we find very little difference in assessments by domestic investors. Investors in all three broad sectors rank their home province similarly on the cumulative index and individual subindices. Green perceptions of foreign investors, however, differ widely by broad sector. Foreign manufacturing firms are far more likely to evaluate provincial green standards as positive. They are the least likely to see pollution as a problem, the most satisfied with provincial regulation, and rate the highest level of access to guidance and incentive programs.

**Section 3.7 asks whether higher scores on the PGI associated with reductions in economic disasters and pollution.**

To answer this question, we collected data on basic pollutants, including Particulate Matter 2.5 (PM 2.5), Nitrogen Dioxide (NO<sub>2</sub>), and Sulfur Dioxide (SO<sub>2</sub>), which are known to result from industrial behavior. We also collected measures of climate and environment related disasters, such as flooding, landslides, and droughts. We find no relationship between the overall PGI and any of the measures, no significant correlations between outcomes and regulatory quality (subindex 2) or provincial incentive programs (subindex 4), and no relationship between any subindex and NO<sub>2</sub> and SO<sub>2</sub> pollutants. We do, however, find that improvements on subindex 1 are associated with reductions in environmental disasters and that changes in subindex 3 are strongly correlated with reductions in PM 2.5.

**The final section, 3.8, summarizes the main findings and offers some thoughts about how to refine the PGI to enhance its utility and take-up by all relevant stakeholders.**



## 3.2. PGI METHODOLOGY

**The goal of the PGI is to provide actionable advice to national and subnational officials regarding appropriate policies to reduce the impact of climate change and pollution on business performance and longevity.** Consequently, the PGI, like its PCI cousin presented in Chapter 1, is an input-based ranking constructed with indicators capturing policy inputs (measures of provincial actions) that could be potentially correlated with downstream climate and pollution outcomes, such as natural disasters or the level of Particulate Matter 2.5 (PM 2.5), Nitrogen Dioxide (NO<sub>2</sub>), and Sulfur Dioxide (SO<sub>2</sub>) in the air and water.

**Assembly of the PGI adheres to the same methodology employed in the PCI and Infrastructure Index, which the research team describes as the three Cs.** *Collection* involves gathering actionable indicators from survey questions in the annual PCI and PCI-FDI surveys alongside relevant administrative data provided by government agencies. *Construction* rescales these indicators into a 10-point scale and compiles them into theoretically coherent subindices to capture critical dimensions in environmental policy. *Calibration* weights each subindex based on its relative importance in affecting critical outcome variables.

**The 2022 PGI is comprised of 44 indicators which are divided into four subindices that measure the effectiveness of green private sector development policy at the provincial level in Vietnam.** As with the PCI, the individual indicators must balance between the advantages of survey and administrative data. Survey data is well-suited for capturing nuanced concepts and accurately reflecting the experiences of private and foreign firms about the environment. However, it can be prone to measurement error caused by perception and anchoring biases. Perception biases occur when underlying understanding, capacity, or incentives lead to answers that deviate from those that an omniscient and objective observer would provide to the same question. Anchoring biases occur when firms do not have a full knowledge of the range of possibilities reflected in the answer options. For instance, a firm based in mountainous Lao Cai may rate its province highly on economic incentives for climate mitigation without knowing about the more fulsome range of incentives available to firms in Hai Phong, leading it to provide a more positive answer about such incentives than an objective observer.

Administrative data, which is collected by government agencies, is less prone to perception biases but is often limited to specific measures and does not always capture abstract or hidden concepts such as transparency or corruption. To address these problems, the PGI relies primarily on survey data but takes two precautions to minimize perception and anchoring biases. First, as much as possible, indicators are selected based on firms' actual experiences with a policy to minimize opinion-based answers. For instance, firms were asked whether they have directly received guidance from provincial officials about environmental

regulation rather than being asked about their opinions about regulatory guidance in the province generally. Second, when available, survey data in each subindex is combined with administrative data to anchor the perceptions of respondents to measurable government data. However, to ensure that firms' voices receive precedence we weight survey data more heavily (60 percent) than administrative data (40 percent) in each subindex.

**Because of the multifaceted nature of green private sector development and the associated complexity in valuing the relative socio-political and economic importance of each of these four dimensions, we envisioned each to be an equally weighted component of the aggregate PGI.** We list and describe the four subindices below, from the most traditional and well-established provincial government activities to the newest and most aspirational.

- **Minimizing the risk of climate hazards to firms.** This involves the basic provision of infrastructure and public services that has long been a traditional duty of government in Vietnam, even under central planning. With climate change and increasing adverse weather events, as well as with the dramatic expansion of the private sector, these responsibilities have increased substantially in recent years as provinces are expected to provide infrastructure services in a way that helps firms prepare for and limit the impacts of increased climate hazards, such as floods, tropical cyclones, sea level rise, and droughts.
- **Maintaining minimum environmental standards by firms.** This relates to the effectiveness of the government's regulatory oversight and enforcement to limit the environmental damage of business operations. This is also not a new area of activity for provincial governments, though it dates back only to the advent of the formal domestic private sector in the early 1990s. Naturally, these responsibilities grew substantially with the rapid expansion of the formal private sector since the Second Enterprise Law came into effect in 2000. Pressure for greater effectiveness in this area has grown even more with industrial accidents in more recent years. Despite citizen pressure, inspections have actually declined in recent years in response to business complaints about the costliness of frequent inspections by government officials.
- **Environmental leadership by provincial governments.** This refers to the potential for provincial governments to incorporate environmental goals into their broader responsibilities for general policy making, procurement of goods and services, and regulatory guidance to assist firms in greening their operations and behaviors. This will help leading businesses pursue strategies to be models of good environmental behavior. This could include instructing them to make operational decisions that make them leaders in energy efficiency or the use of more sustainable energies.
- **Environmental incentives and support services by provincial governments.** This refers to government policies encouraging private firms to engage in behavior and decision-making with positive environmental impacts above and beyond minimum conduct



mandated by Vietnamese law or international standards. For example, government-supported supply of relevant services, such as consulting on procedures relating to environmentally beneficial investments and training for workers needed to support such investments would fill any voids in private markets for providing the needed capabilities for firms to engage in these green behaviors and decisions.

**Table 3.1 provides a brief snapshot of the PGI methodological process. Column 1 lists the four subindices summarized above.** Column 2 provides the theoretical dimensions of each subindex. For example, subindex 1 includes three dimensions capturing provincial efforts to combat pollution (dimension 1), mitigate climate disasters (dimension 2), and administrative data from MONRE (dimension 3). Column 3 records the total number of indicators derived from the PCI and PCI-FDI surveys, while Column 4 displays the administrative indicators supplied by MONRE from their 2022 Environmental Protection Performance Indicators (PEPI).<sup>73</sup> It is important to note that the research team was unable to identify any theoretically appropriate administrative measures for subindex 4, as environmental incentives are very new and thus little information is officially recorded as yet. Thus, subindex 4 relies entirely on survey-based measures.

**Table 3.1. Summary of Indices and Indicators in PGI**

Subindex	Dimensions	Survey Indicators (Weight = 60 percent)	MONRE Indicators (Weight = 40 percent)	Weight in Final PGI (percent)
1. Minimizing the Risk of Climate Hazards (to Firms)	3	6	1	25
2. Maintaining Minimum Environmental Standards (by Firms)	4	6	6	25
3. Environmental Leadership (by Provincial Governments)	3	13	2	25
4. Environmental Incentives and Support Services (by Provincial Governments)	2	10	0	25

<sup>73</sup> Vietnam National Administration of Tourism. (2023). Vietnam announces environmental protection rankings in cities. January 9. <<https://moitruongdulich.vn/en/index.php/item/13410>>10

### 3.2.1. Minimizing the Risk of Climate Hazards (to Firms)

The first subindex measures the basic infrastructure and public services provided by provincial governments to reduce the risk to their businesses of pollution and climate change. We measure these responsibilities in three dimensions. The first focuses on firm assessments of provincial efforts to combat pollution. The second measures efforts to reduce or mitigate the negative effects of natural disasters. And the third captures available hard data on these approaches. A full list of dimensions, indicators, and individual scores can be found in Table 3.2.

**Table 3.2. Indicator Scores for Subindex 1 - Minimizing the Risk of Climate Hazards**

Indicator	National Average	95% CI Low	95% CI High	Minimum Score	Minimum Province	Median Score	Median Province	Maximum Score	Maximum Province
<b>PGI 1: Minimizing the Risk of Climate Hazards (to Firms).</b>	3.73	3.70	3.75	3.07	Dak Lak	3.45	Bac Giang	6.85	Bac Ninh
PGI Dimension									
1.1. Combatting Pollution	1.38	1.36	1.39	1.06	Ha Noi	1.43	Bac Lieu	1.83	Ha Giang
PGI Dimension									
1.2. Avoiding Environmental Disaster	1.57	1.56	1.57	1.34	Kon Tum	1.57	Lam Dong	1.65	Tien Giang
PGI Dimension 1.3. Hard Data	0.78	0.77	0.80	0.40	Quang Tri	0.40	Bac Kan	4.00	Bac Ninh
Environmental quality is good or v. good [%]	51.2%	50.2%	52.2%	27.1%	HCMC	54.1%	Lang Son	76.3%	TT-Hue
No or low pollution [% agree]	30.5%	29.5%	31.4%	12.2%	Bac Lieu	30.3%	Ha Noi	57.9%	Ha Giang
Pollution is no problem [% agree]	37.2%	36.2%	38.1%	19.2%	Ha Tinh	37.1%	Long An	71.8%	Thai Binh
Enterprises cause pollution [% agree]	59.1%	58.1%	60.1%	28.1%	Quang Binh	58.1%	An Giang	84.7%	Thai Binh
Chose location to avoid natural disasters [% agree]	0.6%	0.4%	0.7%	0.0%	Khanh Hoa	0.5%	Hung Yen	2.7%	Long An
Natural disasters are an obstacle [% agree]	6.8%	6.3%	7.3%	0.9%	Tien Giang	6.1%	Nam Dinh	23.6%	Kon Tum
MONRE: Air Quality Monitors per 10,000	0.06	0.05	0.06	0.00	Quang Tri	0.00	Tuyen Quang	0.52	Bac Ninh





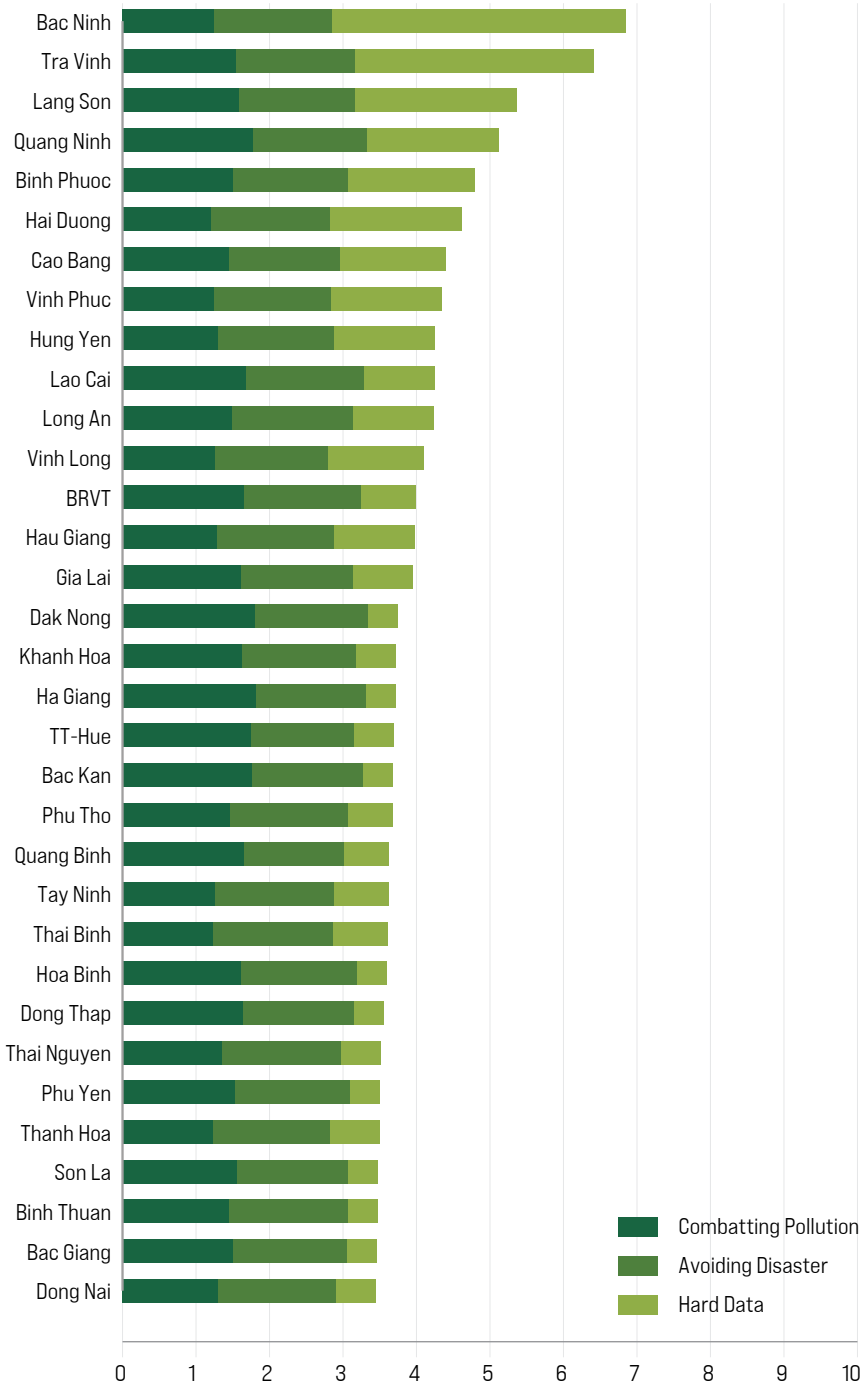
**The first dimension, called combating pollution, is comprised of four survey indicators from the PCI and PCI-FDI survey.** The first indicator is derived from a scaled question asking firms to evaluate environmental quality in their province. The measure takes the provincial share of firms answering good or very good. While just over half of the firms in the country responded environmental quality was at least good (51.2 percent), there was considerable regional divergence. Only 27.1 percent of firms in HCMC responded positively, compared to 76.3 percent in the central province of Thua Thien Hue. The next indicator reports the share of firms that answered there was no or low pollution in their community. In the median province, only 30 percent reported low or no pollution with scores ranging from a low of 12 percent to a high of 58 percent. Next, we asked if pollution was a problem for their business, extracting the share that reported “no problem” as the third indicator. Again, scores were surprisingly low with only 37 percent of firms in the median provinces reporting no issue with pollution. The final indicator identifies the share of respondents who believe that pollution is caused by the activities of enterprises. With this indicator, where a higher share of firms indicate worse environmental policy, a high share translates into a lower score on the dimension, and contrariwise, higher scores mean lower shares of firms and better policy. We find that 58 percent of firms in the median province believe that business activity is a major source of pollution. Strikingly, nearly 85 percent of Thai Binh’s 159 respondents agreed with the statement.

**The second dimension, avoiding environmental disaster, consists of two measures that capture respondent perceptions of policies to mitigate climate accidents.** First, we ask whether firms chose their specific location to avoid natural disasters. The share answering “yes” indicates a province that has a positive reputation for environmental safety. Only 0.5 percent of firms in the median province (Hung Yen) answered “yes.” However, close to 3 percent of firms in Long An said that they located their business in the province for environmental safety reasons. The second indicator in this dimension measures the share of firms that believe natural disasters are an obstacle to their businesses. Six percent of firms in the median province agreed with the statement. However, respondents were particularly concerned in Kon Tum province, where nearly 24 percent of respondents pointed to severe threats from natural disasters.

**The final dimension is comprised of a single hard indicator collected by MONRE on the number of air quality monitors in the province for every 10,000 citizens.** We chose this measure because it was a clear administrative measure of provincial expenditures on environmental safety. As we noted above, this dimension accounts for 40 percent of the first subindex compared to 30 percent for each of the other two.

**The three dimensions were then weighted and combined into a final composite index shown in Figure 3.1.** While the score ranges from 1 (minimum) to 10 (maximum), none of the 63 provinces achieved the highest possible score. Actual scores ranged from 3.07 in Dak Lak to 6.85 in Bac Ninh province. Tra Vinh (6.41), Lang Son (5.37), Quang Ninh (5.11), and Binh Phuoc (4.79) round out the top five. Importantly, there is no obvious regional pattern to these selections. However, national-level cities performed particularly poorly on this index. The average score for large cities (Hanoi, HCMC, Can Tho, Hai Phong and Da Nang) was 3.2, compared to a score of 3.8 for all other provinces, a difference that is statistically significant at the .05 level.

**Figure 3.1. Subindex 1 - Minimizing the Risk of Climate Hazards  
(Provinces above median score)**





**Bac Ninh rose to the top position based primarily on the strength of the MONRE measure of the number of air monitors installed inside the province.** Following a 2017 report on the negative impact of trade villages on the health of citizens in the province,<sup>74</sup> provincial leaders have worked to monitor and address potential pollution from both trade villages and growing industrial zones. They implemented environmental regulations to monitor air and water quality, and to manage waste disposal and treatment.<sup>75</sup> Bac Ninh leaders have encouraged sustainable economic activities, such as supporting the development of eco-friendly industries and encouraging businesses to adopt green practices. Decision No. 222/QĐ-UBND on the Plan for Environmental Protection in Industrial Zones, for instance, outlines a strategy for strengthening environmental protection in industrial zones, including measures to control air and water pollution, manage waste, and protect natural resources.<sup>76</sup> The province has also invested in infrastructure to treat and distribute clean water, and it has implemented measures to protect water resources and prevent pollution.<sup>77</sup> Finally, Bac Ninh has implemented initiatives to raise awareness about the importance of protecting the environment, such as organizing educational campaigns to educate people and firms about environmental issues and encouraging them to adopt eco-friendly practices. In that same spirit, the province tightened regulations for waste disposal and licensing for businesses. Most recently, it fined 18 companies after investigating illegal disposal activities and considered further legal proceedings, including prosecution.<sup>78</sup>

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74 VNA (2017). *Bac Ninh trade villages face major pollution*. Vietnam+. February 10. <<https://en.vietnamplus.vn/bac-ninh-trade-villages-face-major-pollution/107055.vnp#:~:text=>>

75 *Bắc Ninh dẫn đầu cả nước về sản xuất công nghiệp*. <<https://moit.gov.vn/tin-tuc/phat-trien-cong-nghiep/bac-ninh-dan-dau-ca-nuoc-ve-san-xuat-cong-nghiep.html>>; *Quyết định 222/QĐ-UBND năm 2019 về phê duyệt Đề án tổng thể bảo vệ môi trường tỉnh Bắc Ninh, giai đoạn 2019-2025*. <<https://lawnet.vn/vb/Quyết-dinh-222-QĐ-UBND-2019-phe-duyet-De-an-tong-the-bao-ve-moi-truong-tinh-Bac-Ninh-65BB1.html>>

76 Anh Thế - Lê Tú. (2023). *Cần khởi tố điều tra vụ 18 doanh nghiệp xả thải ra hệ thống công trình thủy lợi gây ô nhiễm môi trường tại Bắc Ninh* [It is necessary to prosecute and investigate the case of 18 enterprises discharging waste into the irrigation works system causing environmental pollution in Bac Ninh]. *Đại Biểu Nhân Dân*. January 1. <<https://daibieunhandan.vn/kiem-tra-giam-sat/can-khoi-to-dieu-tra-vu-18-doanh-nghiep-xa-thai-ra-he-thong-cong-trinh-thuy-loi-gay-o-nhiem-moi-truong-tai-bac-ninh-i313257/>>

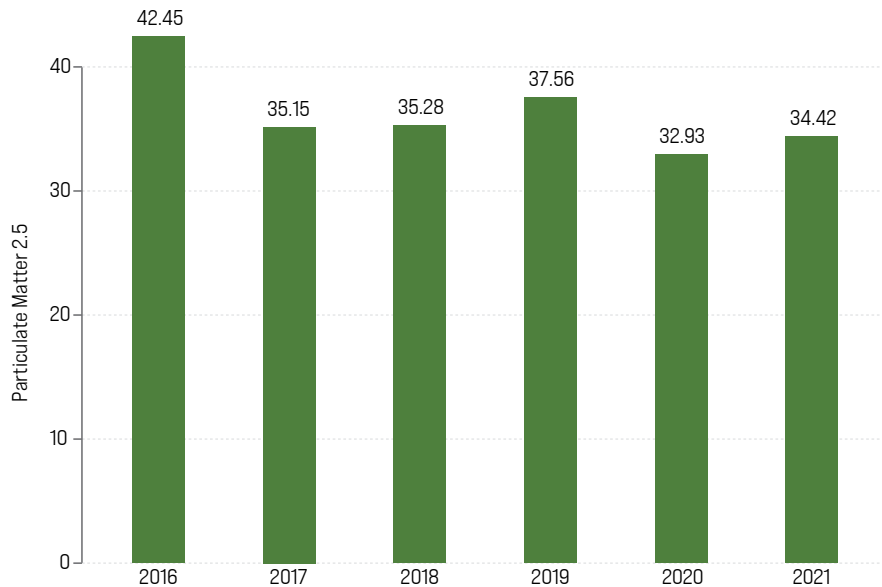
Nguyễn T.M. (2021). *Bắc Ninh: Phát triển kinh tế làng nghề gắn với bảo vệ môi trường*. Bac Ninh Provincial Party Committee. November 12. <<http://bacninh.dcs.vn/web/tinhuy/news/-/details/20182/bac-ninh-phat-trien-kinh-te-lang-nghe-gan-voi-bao-ve-moi-truong>>

77 1974/TCT-CNTT <<https://thuvienphapluat.vn/van-ban/Moi-truong/Circular-24-2015-TT-BTNMT-cong-bo-quy-chuan-thai-nuoc-thai-cong-nghiep-276370.aspx>>

78 Anh Thế - Lê Tú. (2023). *Cần khởi tố điều tra vụ 18 doanh nghiệp xả thải ra hệ thống công trình thủy lợi gây ô nhiễm môi trường tại Bắc Ninh* [It is necessary to prosecute and investigate the case of 18 enterprises discharging waste into the irrigation works system causing environmental pollution in Bac Ninh]. *Đại Biểu Nhân Dân*. January 1. <<https://daibieunhandan.vn/kiem-tra-giam-sat/can-khoi-to-dieu-tra-vu-18-doanh-nghiep-xa-thai-ra-he-thong-cong-trinh-thuy-loi-gay-o-nhiem-moi-truong-tai-bac-ninh-i313257/>>

**Figure 3.2 demonstrates that these policies have paid dividends in terms of reductions in PM 2.5, tiny particulates that reduce air quality and visibility.** Before the 2017 pollution crisis, Bac Ninh recorded a PM 2.5 score of nearly 42.5, a score deemed to be extremely unhealthy especially for members of at-risk groups. By 2021, the pollution levels dropped nearly 24 percent to 34.4, a score deemed far healthier for citizens.

**Figure 3.2. Bac Ninh Measures of PM2.5 Pollution<sup>79</sup>**



### **3.2.2. Maintaining Minimum Environmental Standards (by Firms)**

The second PGI subindex measures efforts by provincial officials to uphold environmentally safe standards through high quality regulations, reasonable inspections, and enforcement against polluters. The subindex is divided into four dimensions. The first two are drawn from survey data and reflect firm assessments of provincial leaders' willingness to hold polluters accountable and the quality of environmental regulation. The second two are drawn from the MONRE PEPI data to cover the ministry's assessment of business compliance with wastewater and solid waste regulation. In line with our methodology, dimensions 1 and 2 receive 30 percent weights each, compared to 20 percent weights for each of the two dimensions based on MONRE data.

<sup>79</sup> Data from: Thanh T.N. Nguyen, Truong X. Ngo, Ha V. Pham, Hieu D.T. Phan, Anh T.N. Nguyen, Luan N. Vuong, Thuy T. Pham, Nam H. Tran, Huy C. Pham, Bang Q. Ho, Vinh T. Tran, Phat T. Nguyen, Krishna P. Vadrevu, Chris Justice. (2022). LASER Vietnam Air Pollution Monitoring Project PM2.5 Data (2019-2021). LASER PULSE Research for Development Program and VNU - University of Engineering and Technology.

**Table 3.3. Indicator Scores for Subindex 2 - Minimizing Harm**

Indicator	National Average	95% CI Low	95% CI High	Minimum Score	Minimum Province	Median Score	Median Province	Maximum Score	Maximum Province
<b>PGI 2: Maintaining Minimum Environmental Standards (by Firms)</b>	5.07	5.05	5.09	4.03	Binh Thuan	5.06	BRVT	6.74	Da Nang
PGI Dimension 2.1. Enforcement Against Polluters	1.54	1.52	1.55	1.07	Ca Mau	1.59	Hung Yen	1.78	Lam Dong
PGI Dimension 2.2. Satisfaction w/ Environmental Regulation	1.28	1.28	1.29	1.21	Dien Bien	1.29	Quang Ngai	1.41	Vinh Long
PGI Dimension 2.3. Hard Data - Waste Water	1.16	1.15	1.16	0.51	Ha Noi	1.13	Phu Yen	1.99	Da Nang
PGI Dimension 2.4. Hard Data - Solid Waste	1.09	1.09	1.10	0.20	Hau Giang	1.10	Tay Ninh	2.00	Da Nang
Province has measures to prevent pollution [% agree]	74.0%	73.2%	74.9%	47.8%	Ca Mau	76.3%	Yen Bai	87.3%	Lam Dong
Province takes timely action to address pollution incidents [% agree]	72.9%	72.0%	73.8%	47.8%	Ca Mau	76.2%	Ha Tinh	87.3%	Lam Dong
Province punishes polluters [% agree]	75.9%	75.0%	76.7%	50.0%	Ca Mau	78.5%	Ha Giang	89.2%	Lam Dong
Selected environmental protection as a troublesome procedure [%]	5.2%	4.7%	5.6%	0.0%	Hoa Binh	5.2%	Bac Lieu	11.9%	Lai Chau
Environment Inspectors	6.1%	5.6%	6.6%	1.4%	Ben Tre	6.0%	Thanh Hoa	13.4%	Vinh Long
Informal charge for Environment Inspectors	1.8%	1.6%	2.1%	0.0%	Quang Ngai	1.7%	Dong Nai	6.8%	Lai Chau
MONRE: Urban domestic wastewater treated in compliance with regulations [%]	15.8%	15.5%	16.2%	0.0%	Ha Giang	6.0%	Ha Nam	88.2%	Da Nang
MONRE: Business establishments that have a wastewater treatment system [%]	88.3%	87.8%	88.8%	0.0%	Ha Noi	100.0%	Ninh Thuan	100.0%	Tien Giang
MONRE: Domestic solid waste that is separated at source [%]	15.5%	15.1%	15.9%	0.0%	Vinh Long	1.5%	TT-Hue	80.0%	Da Nang
MONRE: Domestic solid waste treated in compliance with regulations [%]	80.0%	79.5%	80.4%	0.0%	Hau Giang	87.3%	Soc Trang	100.0%	BRVT

**Dimension 1, measuring actions taken to punish pollution, is comprised of three perceptions-based indicators drawn from a new module in the PCI and PCI-FDI surveys.** The three questions assess different aspects of provincial efforts to counteract and mitigate pollution: prevention, response, and accountability. The first studies preventive measures, gauging business assessments of whether authorities have effective measures to stop pollution from happening in the first place. Over 73 percent of businesses agreed that preventive measures were in place in their locality. The second measure studies responsiveness, capturing whether authorities respond in a timely manner to pollution incidents. Seventy-two percent of firms agreed that provincial leaders were responding adequately. The final indicator highlights accountability by asking whether businesses are held accountable for their actions if they were violating against environmental regulations, causing pollution. Three quarters of firms in Vietnam believed that this was the case. There is remarkable consistency in the provincial rankings on these survey-based indicators. Lam Dong province in the central highlands, which depends heavily on eco-tourism and agriculture, ranked first in all three indicators with just under 90 percent of firms agreeing. Ca Mau province, however, ranked last with half or less than half of companies agreeing that their province was taking appropriate prevention, response, and accountability measures.

**Dimension 2 re-purposes three questions from the PCI survey that capture regulatory burdens. In this case, we are interested in whether provinces are enforcing environmental regulation in any way. The first indicator measures whether the business was visited by environmental inspectors this year – only 6 percent of firms reported inspections.** Next, we asked whether that inspection was troublesome as an indicator of whether environmental difficulties had been discovered. Again, just over 5 percent of firms cited environmental inspectors as creating excess regulatory burdens. To measure whether this environmental attention was in the public interest or merely pernicious, we asked whether environmental inspectors requested bribes (informal charges) during their visits. A high share of firms answering yes on this question is used to measure poor environmental regulations, as the focus is on pecuniary gain for the inspector rather than environmental compliance. Moreover, a high score here indicates that businesses can avoid environmental accountability through strategic use of informal charges, which undermines enforcement goals. Scores were quite low overall. Only 1.8 percent of businesses paid informal charges to inspectors. However, the low national score conceals a great deal of local variation.<sup>80</sup> Not a single firm paid an environmental bribe in Quang Ngai province while close to 7 percent did so in Lai Chau.

**Dimensions 3 and 4 capture two very different pollution reduction activities.** Dimension 3 measures wastewater treatment and disposal to avoid leakage of dangerous pollutants

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<sup>80</sup> Note that this indicator uses all firms in the province as the denominator rather than just the share of firms that underwent an inspection.



into the water system, which could endanger citizens' health and harm agriculture and aquaculture industries that depend on clean water for their activities. The most egregious example of such an incident occurred in Ha Tinh province 2016 when the Formosa Plastic plant agreed to pay \$500 million to compensate affected citizens and farmers for the release of toxic waste into the waters of central Vietnam.<sup>81</sup> To measure compliance with wastewater regulations, we employ 1) MONRE's measures of the share of urban domestic wastewater that is treated in compliance with regulations; and 2) MONRE's assessment of the share of provincial businesses that treat their wastewater.<sup>82</sup> According to the MONRE data, about 16 percent of wastewater overall in the country is treated and over 88 percent of businesses are in compliance. Scores again range dramatically. While zero wastewater in Ha Giang province is currently treated, over 88 percent is treated in the top province of Da Nang. Surprisingly, MONRE data scores Hanoi as having 0 percent of businesses with functioning water treatment systems, compared to 100 percent of firms in Tien Giang.<sup>83</sup>

**Dimension 4 looks specifically at solid waste with two MONRE indicators.** The first asks whether solid waste is separated at the source, allowing for more precise disposal. Toxic items can be dealt with before they endanger the environment or public health, normal items can be appropriately disposed, and recyclable items can be directed to the proper companies to allow for conservation of resources. Separation remains a rare activity among provinces. The national average is 15.5 percent with some provinces, such as Vinh Long, currently not engaging in separation at all. Again, Da Nang stands apart for a well-developed sanitation system, where nearly 80 percent of waste is separated at the source. The second measure asks whether solid waste is appropriately treated to avoid hazardous pollutants. Nationally, an average of 80 percent of waste is appropriately treated and many provinces have 100 percent treatment rates, including BRVT and Hanoi.

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81 Yu, J. M and Hung, F. (2016). *Exclusive: Broken rules at \$11 billion Formosa mill triggered Vietnam spill, report says.* Reuters. November 14. <<https://www.reuters.com/article/us-vietnam-environment-formosa-plastics-idUSKBN1380WH>>

82 Specifically, the "percentage of production, business and service establishments generating wastewater from 50 m<sup>3</sup>/day or more with wastewater treatment systems meeting environmental technical regulations."

83 The results of synthesis and review of records showed that 62/63 localities collected and calculated the results of the implementation of the index, of which one province (Thua Thien Hue) was missing the index because there was no production, business or service establishments located in the area outside the concentrated production, business and service zones generating wastewater from 50 m<sup>3</sup>/day.

**Figure 3.3 presents the cumulative results of the subindex for all provinces above the median score. Da Nang ranks far ahead of peers on this measure due to its high combined performance on both the survey and administrative assessments.** The province has put in place a vision of sustainable development by 2030, which prioritizes constructing green infrastructure to complement the development of a green economy in its urban planning from 2021-2030.<sup>84</sup> The province has also laid out a clear environmental regulatory framework for both public and private actors. Ranked as the “greenest” city in Vietnam,<sup>85</sup> Da Nang has pioneered projects on minimizing plastic waste. Consistent with its high performance on the PGI, Da Nang was the first province in Vietnam to launch a project on separating waste into through a 3R (Reduce, Reuse, Recycle) program with the support of Yokohama, Japan.<sup>86</sup> To deal with recycling specifically, Da Nang fostered the development of high-productivity recycling factories. Although these have struggled initially due to coordination difficulties between businesses and related governmental agencies, the effort is still far ahead of other localities.<sup>87</sup>

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84 *Công Tâm*. (2021). *Phát triển Đà Nẵng theo hướng đô thị nén thông minh, sáng tạo và bền vững*. Da Nang Portal. July 14. <[https://www.danang.gov.vn/chi-tiet?id=444746\\_c=3,9](https://www.danang.gov.vn/chi-tiet?id=444746_c=3,9)>

85 *Nhân Tâm* (2018). *WWF: Đà Nẵng là thành phố xanh nhất Việt Nam* [World Wildlife Federation Declares Da Nang the Greenest City in Vietnam.]. *Saigon Times*. July 12. <<https://thesaigontimes.vn/wwf-da-nang-la-thanh-pho-xanh-nhat-viet-nam/>>

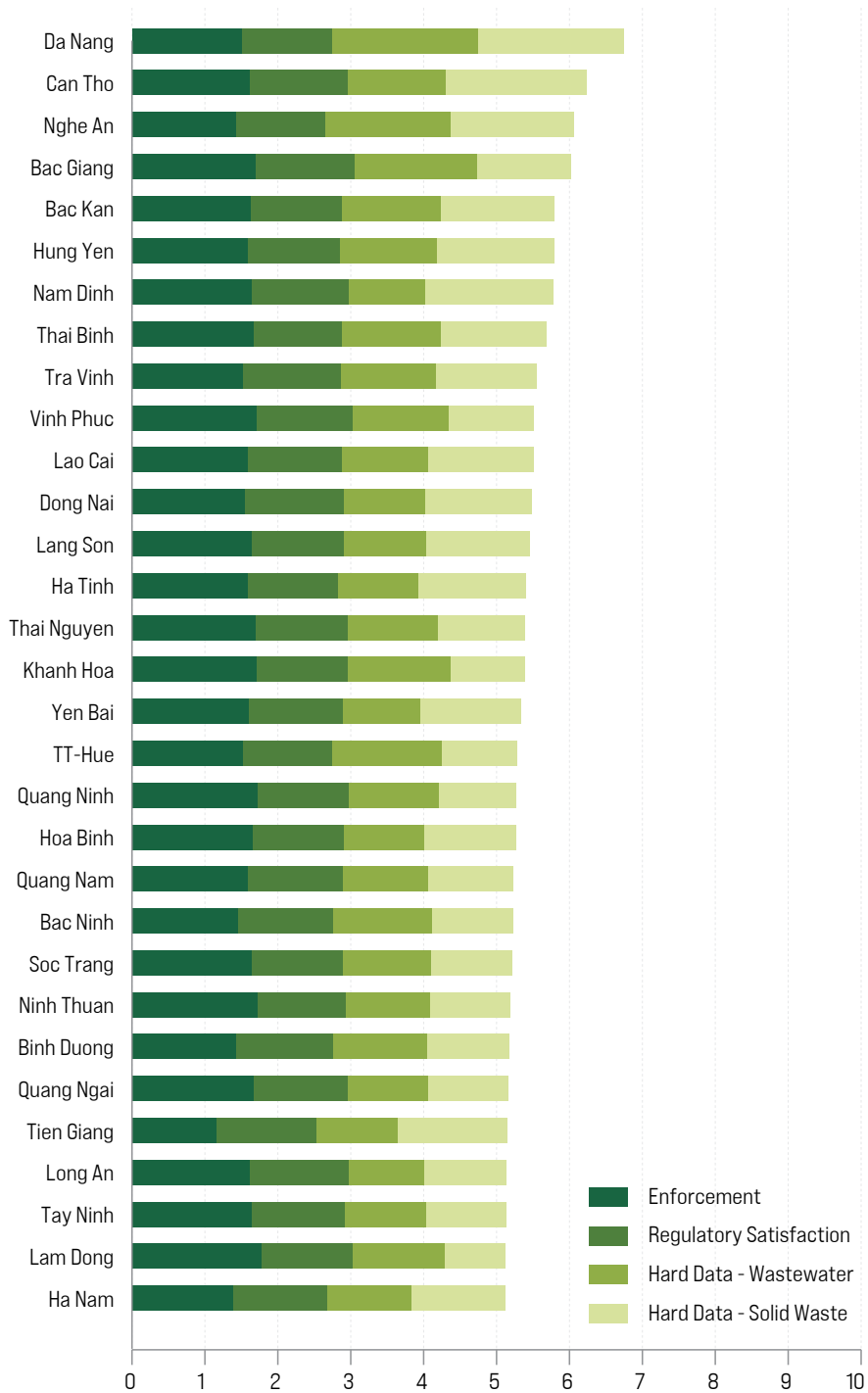
86 *Tạp chí Đông Nam Á* [ASEAN e-magazine] (2022). *Đô thị đầu tiên tại Việt Nam triển khai dự án 3R từ chuyển giao kỹ thuật, kinh nghiệm và hỗ trợ của thành phố Yokohama* [First city in Vietnam to deploy 3R project from technology transfer, experience and support from Yokohama city]. August 2. <<https://tapchidongnama.vn/do-thi-dau-tien-tai-viet-nam-trien-khai-du-an-3r-tu-chuyen-giao-ky-thuat-kinh-nghiem-va-ho-tro-cua-thanh-pho-yokohama/>>

87 *Da Nang People's Committee, Official Document 6693/UBND-STNMT* [https://docs.portal.danang.gov.vn/images/documents/van-ban-phap-quy/Du%20thao%20van%20ban/2020/6693%20cv\\_signed.PDF](https://docs.portal.danang.gov.vn/images/documents/van-ban-phap-quy/Du%20thao%20van%20ban/2020/6693%20cv_signed.PDF) :





**Figure 3.3. Subindex 2 - Maintaining Minimum Environmental Standards  
(Provinces above median)**



### ***3.2.3. Environmental Leadership (by Provincial Governments)***

**The third PGI subindex measures provincial governments' environmental leadership in two areas: 1) green procurement and 2) guidance on environmental protection policies and associated regulations that are relevant to firms' operations.** This subindex is divided into three dimensions. The first two dimensions consist of firm responses to questions in the PCI and PCI-FDI survey about their experience with government practices in green procurement and whether they have received guidance on sustainable practices from their provincial government. The third dimension relies on hard data from the MONRE PEPI and captures the amount of financial and human resources provincial governments devote to environmental protection work. Table 3.4 gives an overview of all three dimensions and their corresponding indicators.

**Dimension 1 focuses on green procurement using firms' perception of their provincial government's commitment and readiness to purchase goods and services from providers with positive environmental records. It is based on two questions from the PCI and PCI-FDI surveys.** The first question measures firms' agreement that the provincial government prioritizes purchasing goods and services from environmentally friendly providers. The second question asks to what extent firms believe the provincial government is willing to pay a premium for goods and services that are sourced in an environmentally sustainable manner. Overall, there is considerable consistency in the responses. On average, about two-thirds of the firms (66.1 percent) agree that provincial governments are committed to green procurement, but with considerable variation across the provinces. From firms' perspective, commitment to green procurement is relatively low in Quang Tri (34 percent), but high in Bac Lieu where 85 percent of firms agree their provincial government prioritizes green producers and businesses when procuring goods and services. The median response to the second question comes from firms located in Lai Chau. There, 60.2 percent of the firms think the government is prepared to pay more for green products or services. Similarly, there is sizeable variation across the provinces. At one end, less than one third of the firms (29 percent) surveyed in Soc Trang agree that the provincial government is ready to pay higher prices for goods or services from green providers. At the other end, the provincial government in Bac Lieu again emerges as highly committed to green procurement with 85.2 percent of the firms there sharing the view that the provincial government is willing to pay a premium for green goods and services.

**Table 3.4. Indicator Scores for Subindex 3 - Maximizing Green Benefits**

Indicator	National Average	95% CI Low	95% CI High	Minimum Score	Minimum Province	Median Score	Median Province	Maximum Score	Maximum Province
<b>PGI 3: Environmental Leadership (by Provincial Governments)</b>	4.11	4.08	4.14	2.98	Ben Tre	4.09	HCMC	5.35	Hai Phong
PGI Dimension 3.1. Green Procurement	2.01	1.99	2.04	1.19	Quang Tri	2.02	Hung Yen	2.60	Bac Lieu
PGI Dimension 3.2. Green Regulatory Guidance	0.67	0.66	0.69	0.46	Gia Lai	0.68	Vinh Long	0.89	Lai Chau
PGI Dimension 3.3. Hard Data	1.43	1.42	1.44	0.68	Bac Lieu	1.39	Vinh Phuc	2.41	Da Nang
Provincial government prioritizes purchasing from green firms (%)	66.1%	65.2%	67.1%	34.0%	Quang Tri	66.3%	Kien Giang	85.2%	Bac Lieu
Provincial government pays premium for green goods// services (%)	60.5%	59.6%	61.5%	29.0%	Soc Trang	60.2%	Lai Chau	85.2%	Bac Lieu
Received guidance on environmental regulations (%)	43.2%	42.2%	44.2%	13.5%	Gia Lai	39.1%	Binh Phuoc	83.4%	Thai Binh
Received guidance on conserving energy (%)	12.5%	11.9%	13.2%	6.1%	Kien Giang	12.3%	HCMC	24.6%	Lai Chau
Received guidance on using renewable energy (%)	8.6%	8.1%	9.2%	3.5%	Bac Lieu	8.6%	Quang Ninh	19.5%	Lai Chau
Received guidance on producing renewable energy (%)	5.4%	4.9%	5.8%	1.6%	Gia Lai	4.9%	Cao Bang	16.9%	Lai Chau
Received guidance on minimizing plastics (%)	10.4%	9.8%	11.0%	2.6%	Bac Lieu	10.2%	Binh Duong	19.1%	BRVT
Received guidance on investing in solid waste management (%)	5.1%	4.7%	5.6%	0.6%	Khanh Hoa	5.4%	Ha Nam	10.5%	BRVT
Received guidance on limiting water pollution (%)	16.5%	15.8%	17.2%	4.8%	Gia Lai	15.5%	Lao Cai	31.2%	Hai Phong
Received guidance on using water economically (%)	17.2%	16.4%	17.9%	4.3%	Bac Lieu	17.2%	HCMC	29.0%	Long An
Received guidance on reducing air pollution (%)	13.4%	12.8%	14.1%	3.2%	Binh Thuan	13.6%	Dien Bien	27.0%	Hai Phong
Received guidance on reforestation (%)	6.0%	5.6%	6.5%	0.6%	Can Tho	5.5%	Thanh Hoa	21.0%	Son La
MONRE: Proportion of state budget allotted to environmental protection work (%)	1.8%	1.8%	1.8%	0.2%	Binh Phuoc	1.4%	Tien Giang	6.2%	Da Nang
MONRE: Governmental officials in protection work/1 Million	147.01	145.76	148.26	44.43	Binh Duong	151.53	Vinh Phuc	380.39	Bac Kan

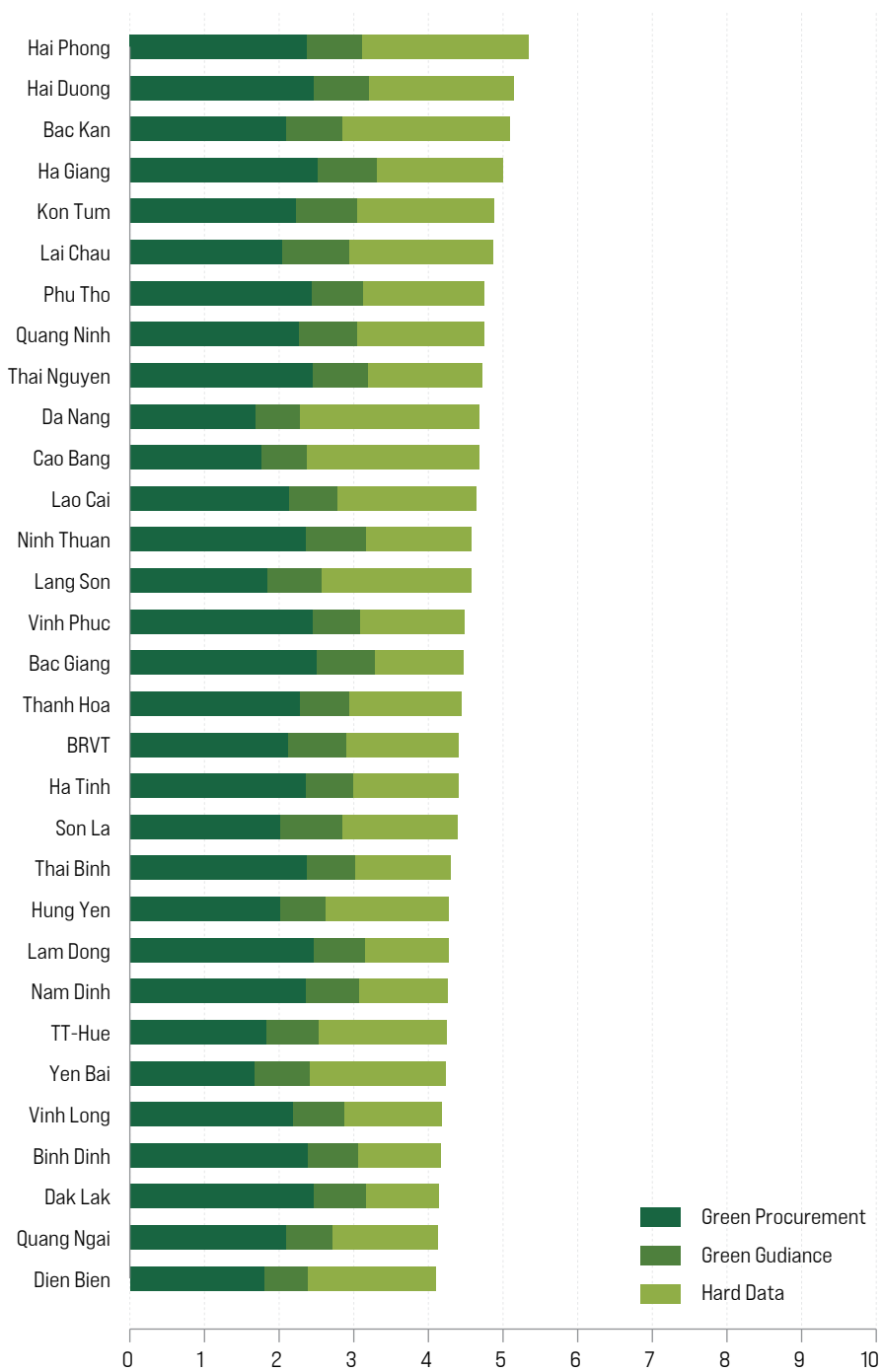
**Dimension 2 captures the share of firms receiving guidance from the provincial government on environmental regulations and activities to help minimize their environmental impact.** Specifically, this dimension comprises a battery of survey items that ask firms whether they have received guidance, instruction, or communication from the local authorities on 1) environmental regulations, 2) energy conservation, 3) renewable energy consumption, 4) renewable energy production, 5) plastics reduction, 6) solid waste management, 7) reducing pollution mitigation, 8) saving water, 9) reducing air pollution, and 10) reforestation. A higher share of firms answering yes to these questions suggests more concerted efforts by the provincial government to increase firms' environmental literacy and awareness about existing regulatory frameworks and sustainable practices. While a relatively high share of firms (43.2 percent) report that they obtained support from their provincial government in navigating environmental regulations, this is not the case when it comes to government instruction and guidance on specific activities to increase firms' environmental performance and minimize their environmental footprint. Less than 10 percent of the respondents state that they have received guidance from local authorities on investments to manage firms' solid waste (5.1 percent), on renewable energy production (5.4 percent), on reforestation (6 percent), and on the use of renewable energy (8.6 percent). Slightly stronger efforts by the provincial government to assist local businesses in adopting more environmentally friendly practices were reported in the areas of plastics use reduction (10.4 percent), energy conservation (12.5 percent) and air pollution mitigation (13.4 percent). Across all provinces, local governments seem to have invested the most effort in providing guidance on activities to reduce water consumption (17.2 percent) and water pollution (16.5 percent), respectively.

**Using data from the MONRE PEPI data, the third dimension reflects the provincial government's financial and personnel commitment to environmental protection. The first indicator measures the share of the local state budget allotted to environmental protection work.** Overall, the national average of 1.8 percent indicates that in terms of financial contribution environmental protection is still a relatively low-priority issue area compared to over 5 percent for healthcare. However, differences across provinces suggest that some local governments recognize the necessity to protect the environment and have ramped up their financial commitments to this end. Notably, Da Nang dedicates 6.2 percent of its total budget to environmental protection work. However, at present, Da Nang is a clear outlier. Similar variation across provinces can be observed for the second indicator which measures the number of government officials working on environmental protection per 1 million inhabitants. In Binh Duong, there are only 44.43 officials per million inhabitants mandated to address environmental issues, whereas the number amounts to 380.39 officials in Bac Kan. The median score of 151.53 is from Vinh Phuc.

**Dimensions 1 and 2 counted 60 percent toward the subindex, while Dimension 3 contributed the remaining 40 percent (see Table 3.1).** The provincial ranking on the aggregated subindex is shown in Figure 3.4. With an average score of 5.35 Hai Phong emerges as the top performer on this subindex, followed by its neighboring province of Hai Duong (5.14). The only other province that reaches a score above 5 (5.09) is Bac Kan.



**Figure 3.4. Subindex 3 - Environmental Leadership (Provinces above median)**



**Hai Phong is number 1 on maximizing green benefits from government activities.** With its remarkable economic success, the city is also increasingly experiencing environmental pressures, including air and water pollution and inefficient waste management. Moreover, due to its coastal location in the Red River Delta region, Hai Phong is particularly vulnerable to natural disasters, especially seasonal floods. The local government initiated several measures to address the environmental challenges associated with the city's growth. For example, Hai Phong was the first city in Vietnam to adopt a Green Growth Strategy Action Plan in 2014, based on the national-level Green Growth Strategy and the National Action Plan on Green Growth for the period 2014-20. The Action Plan charts the city government's vision to develop Hai Phong into a "green port city" through transforming urban areas and industry.<sup>88</sup> To identify concrete projects to implement the vision outlined in the Action Plan, the city adopted the Green Growth Promotion Plan in 2015.

**Hai Phong's Green Growth Strategy for Industry in 2020 formulates the city's vision for modernizing industry and its planned activities boost energy-effective production.** To this end, the government has pledged its support for 120 casting companies that use coal to transform their manufacturing process (OECD 2016). Moreover, the city government has already begun to provide support and consulting to local businesses in the areas of energy auditing and energy saving with substantial success. The city managed to save 50.3 million kWh per year, equivalent to more than \$3 million (VND 64 billion) and reduced carbon emissions by 42,000 tons over one year thanks to government's activities in energy auditing (OECD 2016).

**The efforts of the local government in Hai Phong are also reflected in the PGI, where the city government achieves top scores and clearly stands out in the provision of support and guidance on reducing water and air pollution.** To illustrate, 31.2 percent of the firms from Hai Phong say they received assistance from local authorities on how to reduce water pollution. In Lao Cai, which represents that median response, only 15.5 percent of local businesses received equivalent support from their local government. Similarly, a considerably larger share of firms (27 percent) received guidance from Hai Phong's city government on mitigating air pollution than the national average (13.4 percent).

### ***3.2.4. Environmental Incentives and Support Services (by Provincial Governments)***

**The final subindex describes the availability and the reach of government instruments aimed at improving the private sector's environmental performance.** Specifically, this subindex captures two dimensions measuring firms' access to 1) local government-sponsored programs that incentivize businesses to adopt environmentally sustainable practices and 2) public advisory and training services to increase uptake of sustainable approaches of doing business. Both dimensions draw on data from the PCI and PCI-FDI surveys. Table 3.5 lists all the indicators employed in the subindex.

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<sup>88</sup> OECD. 2016. *Hai Phong's opportunities for green growth*. OECD Green Growth Studies. <[https://www.oecd-ilibrary.org/green-growth-in-hai-phong-viet-nam\\_5jlwjfxfd6d.pdf?itemId=%2Fcontent%2Fpublication%2F9789264260207-en&mimeType=pdf](https://www.oecd-ilibrary.org/green-growth-in-hai-phong-viet-nam_5jlwjfxfd6d.pdf?itemId=%2Fcontent%2Fpublication%2F9789264260207-en&mimeType=pdf)>

**Table 3.5. Indicator Scores for Subindex 4 - Effective Government Incentives**

Indicator	National Average	95% CI Low	95% CI High	Minimum Score	Minimum Province	Median Score	Median Province	Maximum Score	Maximum Province
<b>PGI 4: Environmental Incentives and Support Services (by Prov. Government)</b>	1.92	1.89	1.95	1.39	Bac Lieu	1.93	Ca Mau	2.59	Lai Chau
PGI Dimension 4.1. Incentive Programs	0.97	0.96	0.99	0.70	Bac Lieu	1.00	Cao Bang	1.28	Hai Phong
PGI Dimension 4.2. Advising and Training Programs	0.95	0.93	0.97	0.68	Bac Lieu	0.96	Hai Duong	1.34	Bac Giang
Incentive program for energy saving and efficiency (0-4)	1.03	0.99	1.06	0.31	Gia Lai	1.00	BRVT	2.02	Binh Dinh
Incentive program for clean/renewable energy (0-4)	0.31	0.29	0.33	0.07	Hung Yen	0.32	Quang Ninh	0.74	Hai Phong
Incentive program for air pollution mitigation (0-4)	0.54	0.52	0.57	0.17	Bac Lieu	0.52	Ha Giang	1.15	Thai Binh
Incentive program for water pollution mitigation (0-4)	0.46	0.44	0.49	0.19	Thanh Hoa	0.44	Tuyen Quang	1.07	Hai Phong
Incentive program for water plastic reduction (0-4)	0.40	0.38	0.42	0.13	Bac Lieu	0.40	Quang Tri	0.73	Hai Phong
Incentive program for waste recycling (0-4)	0.24	0.22	0.25	0.06	Ninh Binh	0.22	Lao Cai	0.50	Tay Ninh
Incentive program for disaster resilience (0-4)	0.17	0.16	0.19	0.04	Hung Yen	0.17	Quang Tri	0.46	Quang Ngai
Incentive program for reforestation (0-4)	0.18	0.17	0.20	0.00	Khanh Hoa	0.16	Soc Trang	0.59	Son La
Province offers advisory services to improve environmental performance (0-4)	0.54	0.51	0.56	0.22	Hoa Binh	0.54	Ca Mau	1.23	Thai Binh
Province offers training services to improve environmental performance (0-4)	0.25	0.24	0.27	0.09	Bac Lieu	0.25	Soc Trang	0.61	Bac Giang

**Dimension 1 provides information about the existence and accessibility of government incentive programs to support local green growth strategies.** It is measured as the share of firms that benefited from government incentive schemes dedicated to improving business practices in eight areas: 1) energy saving and efficiency; 2) renewable energy; 3) air pollution mitigation; 4) water pollution mitigation; 5) plastic reduction; 6) waste recycling; 7) disaster resilience; and 8) reforestation. Responses were captured on a 0-4 scale. Firms which never received support from an incentive program financed by the local government were coded as 0. Among firms which gained from such schemes we assign 1 to firms who found accessing the program(s) was difficult and 4 to firms that considered access to the program to be easy. However, as shown in Table 3.5, none of the provinces achieved the maximum score. In fact, the median value for this dimension, scored by Cao Bang province, was 1; the maximum value, 1.28, came from Hai Phong.

**Thus, access to incentive programs to support the green transition of local businesses appears limited across all provinces.** Moreover, even in cases where they are being provided, accessibility of these programs remains an issue. The results from the individual indicators that make up this dimension mirror this picture. Except for one area, energy saving and efficiency, the median response from firms across all provinces never reaches 1, suggesting that only a very few firms have ever benefited from incentive programs by their local government. Provision of incentive schemes by the provincial government seems lowest in the areas of disaster resilience and reforestation, where the national average score is 0.17 and 0.18, respectively.

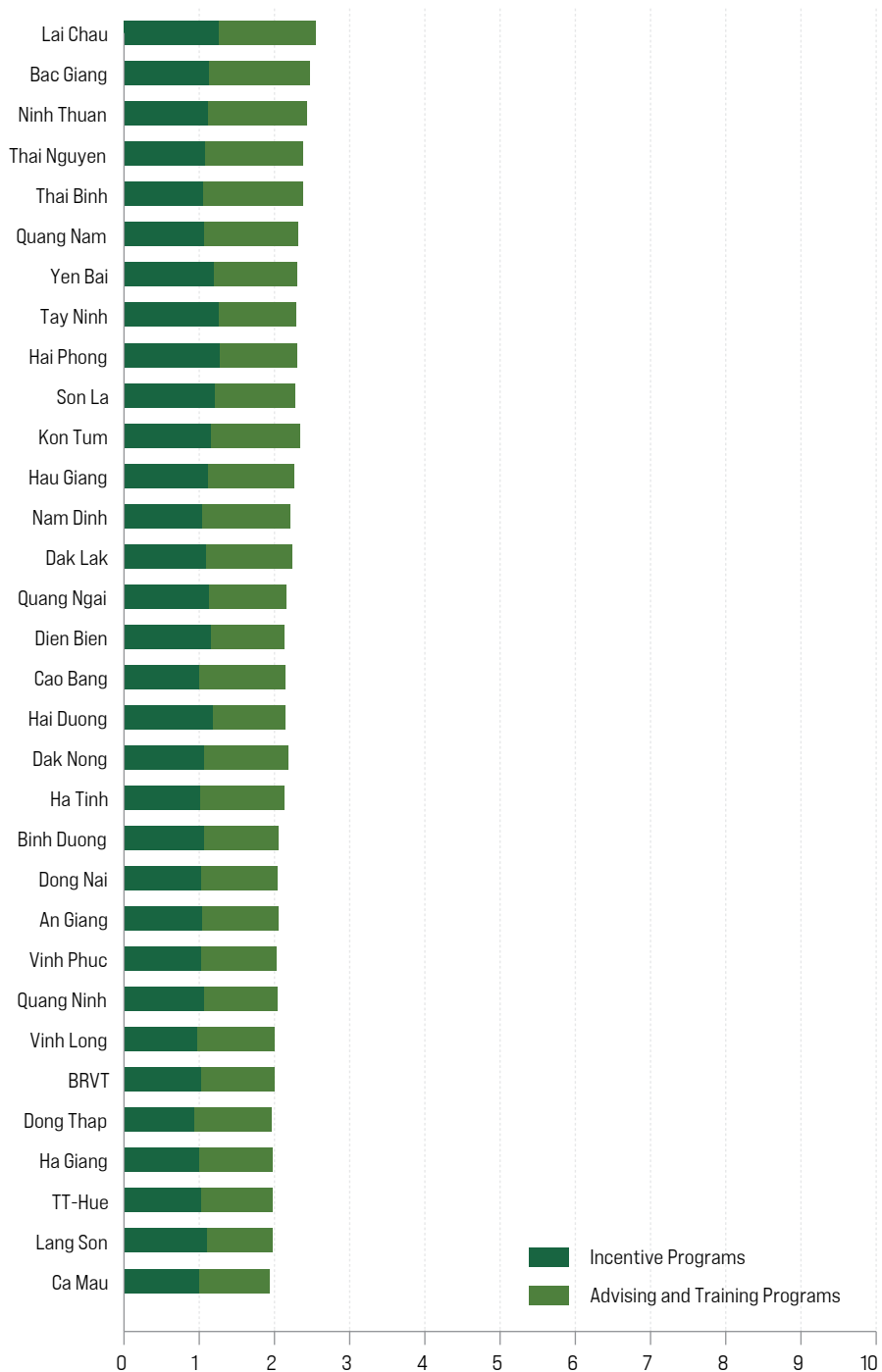
**Dimension 2 uses two questions from the PCI and PCI-FDI surveys to measure accessibility to advisory and training services to improve businesses' environmental performance.** First, we take the share of firms that have accessed advisory services offered by the provincial government (coded as 1) and their reported experience with the accessed service, ranging from 1 (very bad) to 4 (very good). Second, we apply the same approach to obtain information about the percentage of firms that have benefited from training to improve environmental performance and their overall experience with the service. Consistent with the findings from Dimension 1, we find that access to such services is still extremely limited. While firms seem to have access to advisory services in one province (Thai Binh), which holds the maximum score of 1.23, the results on the second indicator suggest that training services from local governments to improve businesses' environmental practices are virtually non-existent.

As noted above, subindex 4 relies exclusively on the data drawn from the PCI surveys. The two dimensions, Incentive Programs and Advising and Training Programs, were weighted equally to generate the subindex. Figure 3.5 presents the ranking of the provincial governments' performance on this subindex.





**Figure 3.5. Subindex 4 - Environmental Incentives and Support Services  
(Provinces above median)**



**Lai Chau ranks first on the subindex of government incentives and support. The provincial government implemented projects to support citizens and businesses in applying new environmental regulations to green transformation.** For example, one of the main incentives for companies is encouraging them to utilize the available natural resources efficiently without doing harm to the environment. The government also publishes statistics on the environment costs of investment activities, which provides a guideline for businesses to balance their benefits and environment risks. Moreover, the government regularly honors individuals and companies that make positive contributions to environmental protection activities, with the aim of incentivizing them to be more responsive to the city's environment. In addition, for businesses in organic farming, the government has a program to help them approach the best markets and upgrade the environmental standards in accordance with the national framework.<sup>89</sup>

**Future investigation can hopefully determine the extent to which findings from subindex 4 reflect an actual undersupply of local government programs versus underusage of these services by the private sector.** However, matching the findings from subindex 3, especially the low share dedicated to environmental protection work in provincial governments' budgets, with the findings from this subindex, we speculate the results are more likely to indicate a lack of government incentives and support services to help businesses improve their environmental performance. This is consistent with the notion that this subindex represents a more aspirational role of the local government, unlike subindices 2 and 3 which represent more traditional official action and involvement. Provincial governments need to step up their contributions to help local businesses achieve the transition towards green growth.

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89 VIOIT. (2020). "Lai Châu: Chương Trình Khuyến Công Giai Đoạn 2021 – 2025". <<https://vioit.org.vn/vn/chien-luoc-chinh-sach/lai-chau--chuong-trinh-khuyen-cong-giai-doan-2021---2025-42974050.html>>

Vietnam Integration Magazine. (2021). "Lai Châu: Phát triển kinh tế gắn với bảo vệ môi trường". <<https://vietnamhoinhap.vn/vi/lai-chau-phat-trien-kinh-te-gan-voi-bao-ve-moi-truong-32048.htm>>



### 3.3. THE PILOT PROVINCIAL GREEN INDEX

A notable feature of the four subindices is that only one province, Bac Giang, appears in the top five of more than one of the four indices. Policies necessary to excel in each of the different subindices are very different and few provinces have the inclination, resources, or capacity to successfully prepare for disasters, enforce environmental regulations, provide guidance for green business activities, and subsidize green business operations. Most provinces demonstrate reasonable success in only one or two facets of green behavior. As we show below, this leads to low overall performance on the PGI and very little difference in cumulative scores between high- and low-ranking provinces. Consequently, policy makers may best view the results as a dashboard of independent policy dimensions rather than a cumulative index.

Additionally, it is very early in Vietnam's green development, so it is reasonable to consider the 2022 PGI a useful baseline by which to measure future policy advances in all four dimensions and the cumulative index.

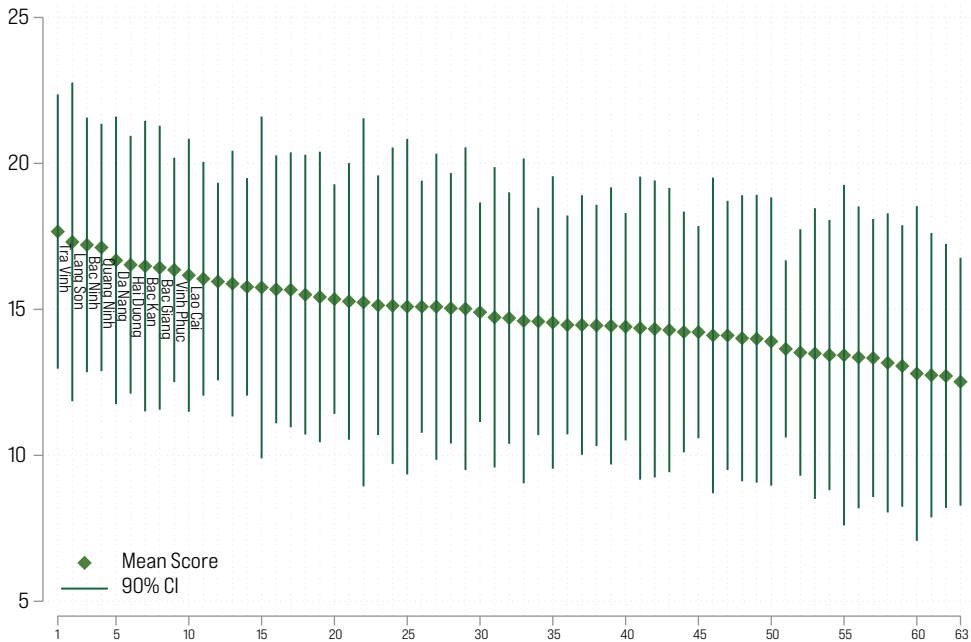
**Table 3.6. Top 5 in Each PGI Subindex**

Top 5 Ranking	1. Minimizing the Risk of Climate Hazards (to Firms)	2. Maintaining Minimum Environmental Standards (by Firms)	3. Environmental Leadership (by Provincial Governments)	4. Environmental Incentives and Support Services (by Provincial Governments)
1	Bac Ninh	Da Nang	Hai Phong	Lai Chau
2	Tra Vinh	Can Tho	Hai Duong	Bac Giang
3	Lang Son	Nghe An	Bac Giang	Ninh Thuan
4	Quang Ninh	Bac Giang	Ha Giang	Thai Nguyen
5	Binh Phuoc	Bac Kan	Kon Tum	Thai Binh

In this section, we construct the pilot PGI index by summing the total four subindices to create an unweighted index. Each subindex receives an equal weight of 25 percent. Thus, the total possible score of the pilot PGI equals forty points.

Figure 3.6 presents the pilot green index. The score for each province is displayed by the green diamond. The horizontal axis shows the implied rank of the provinces. Provinces are rank-ordered from left to right, so the best performing province is on the far left. Tra Vinh ranks first in cumulative green policies with a score of 17.67, followed by Lang Son (17.3), Bac Ninh (17.21), Quang Ninh (17.12), and Da Nang (16.7).

**Figure 3.6. Pilot Provincial Green Index**

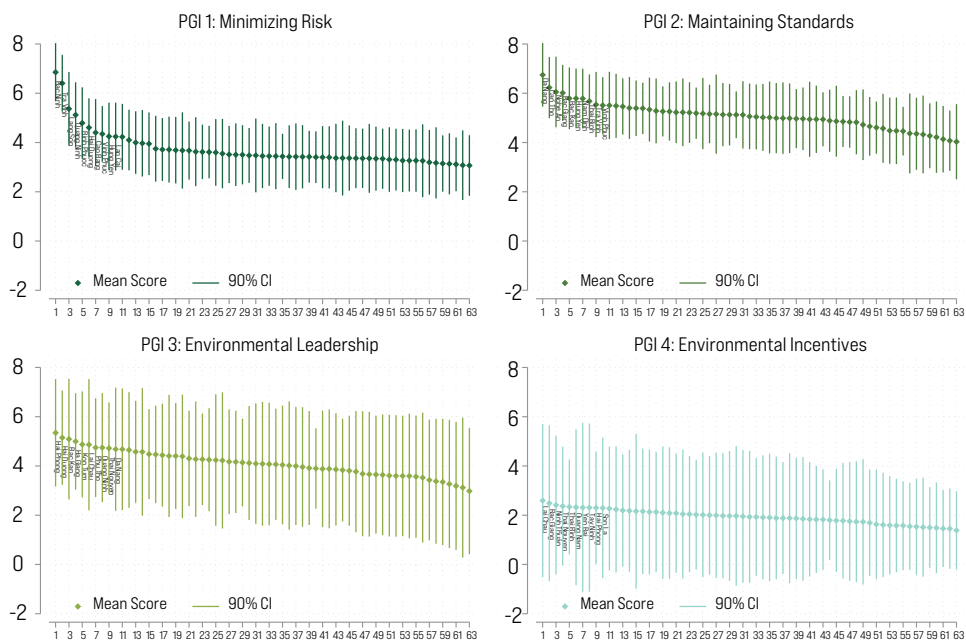


**The range bars depict 90 percent confidence intervals around the mean score.** The confidence intervals can be interpreted as the range of possible scores a province’s PGI could take if we repeated the PGI survey and construction of the index 1000 times. Thus, for instance, the possible scores for Tra Vinh could range from as high as 22.3 to a low of 13.

**Depicting the index this way leads to two critical findings.** First, no province comes close to the maximum possible score of 40 for green policies. Second, there is very little statistical difference between the highest and lowest ranked provinces. In alternative samples of the domestic and foreign populations, it would be possible for even the lowest ranked provinces to achieve high-ranking scores. As we noted above, a key reason for this low performance and lack of variance in overall provincial scores has to do with the clear choices provinces are making in choosing to specialize in only one or two facets of green behavior. One reason for this may be that country’s green growth strategy is still being rolled-out quite slowly and has yet to be fully integrated into provincial socio-economic development plans. **While there is little evidence of star performers in the aggregate, there is evidence that some provinces are distinguishing themselves with high quality policies in subindices 1 and 2.** To illustrate this point, Figure 3.7 creates the same 90 percent confidence intervals for each of the four PGI subindices. The plot indicates much tighter confidence intervals and clearer differentiation in subindices 1 and 2 than 3 and 4. For instance, in the NW quadrant, we see that Bac Ninh and Tra Vinh provinces have confidence intervals that do not overlap with the median province of Dong Nai and are far higher than those provinces in the bottom left corner. In

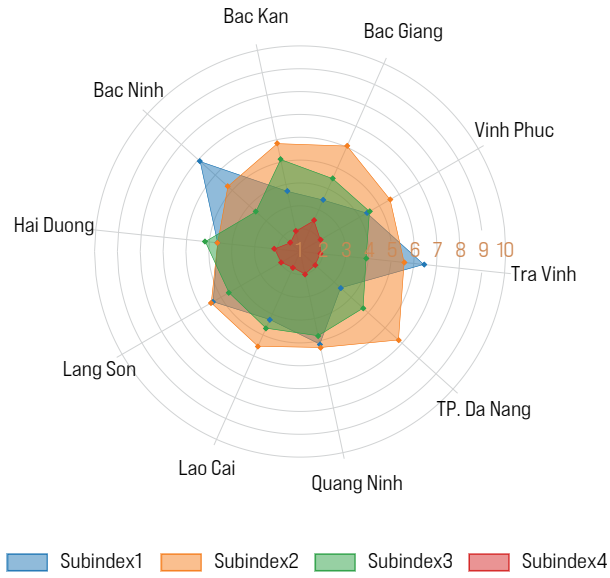
repeated samples, we can be confident that Bac Ninh and Tra Vinh would emerge as high performers, indicating that their placement is statistically reliable and that they are good provinces to learn from. The tight confidence intervals indicate less variance in provincial responses, which means that firms within a locality tend to agree in their assessments. **In subindices 3 and 4, where the policy practices are newer to Vietnam, the confidence intervals are larger, which indicates a great deal of disagreement and confusion in firms' ability to evaluate provincial leadership in those areas.**

**Figure 3.7. Range Bars and Rankings for all Four Subindices**



**Figure 3.8 demonstrates an alternative dashboard approach using a spider map, where each stem represents a province and each color represents a score on a subindex.** We show each of the top 10 province's scores against a perfect score of ten. Again, we can see how even the very best performing provinces fall short on each stem. Furthermore, we can observe how most provinces score quite poorly, especially in subindex 4, as very few provinces have active incentive programs at this time.

**Figure 3.8. Provincial Green Index Dashboard (Top 10 Provinces)**





## 3.4. COMPARING SURVEY AND ADMINISTRATIVE INDICATORS

**Administrative indicators, which receive 40 percent of the PGI weight, are meant to complement the survey data that is weighted at 60 percent of the subindex.** The goal is to correct for biases in perceptions by including data to anchor the opinions and experiences of firms to what an objective observer, who is aware of policy in all provinces in Vietnam, would include.

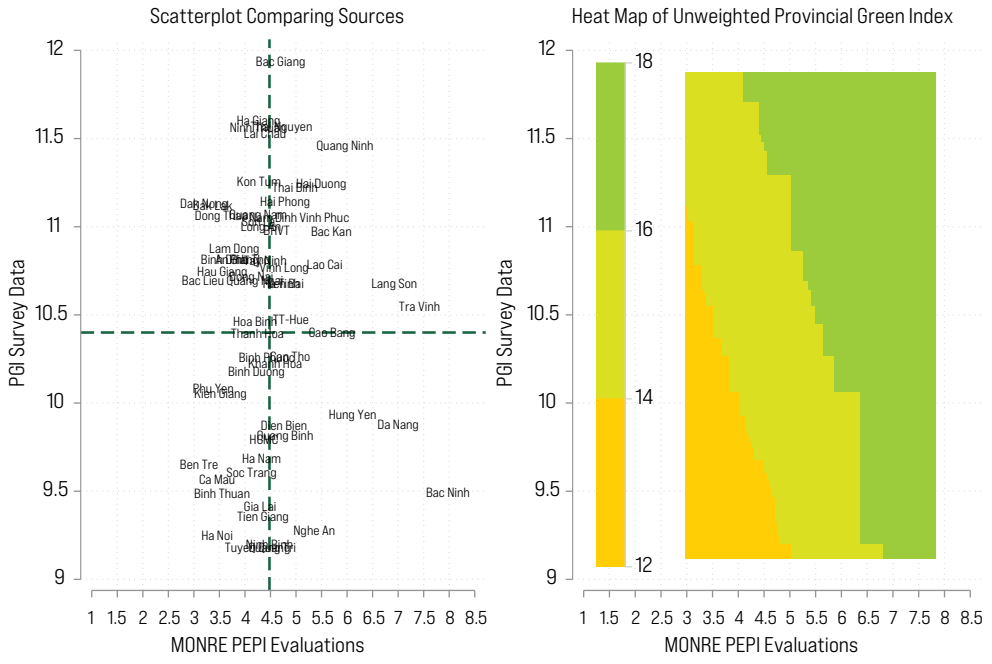
**Figure 3.9 provides a demonstration of this process as well as the relative performance of provinces on administrative and survey data.** The left panel presents a scatter plot with MONRE administrative data on the horizontal axis and PCI survey data on the vertical axis, while the right panel presents a heat map of the contribution of the two types of data to final scores.

**The analysis reveals that provincial officials and businesses view environmental performance quite differently.** The first thing to notice about the left panel is that there is very little correlation between the implied provincial ranking based on firms' responses to surveys and the administrative data collected by MONRE. The formal correlation coefficient is  $-0.054$ , which is not significantly different from zero.

**However, there are some provinces that perform well on both types of measures.** Provinces in the NE quadrant, such as Tra Vinh, Quang Ninh, Lang Son, and Hai Duong, are those where both MONRE administrators and firms rate their provincial leadership as doing well along the four dimensions of green governance that we highlighted. By contrast, the SW quadrant shows the provinces (Ha Noi, Binh Thuan, Ca Mau, and Ben Tre) where officials and firms agree improvement is needed.

**The right panel of Figure 3.9 uses a heat map to illustrate how performance on survey and administrative indicators translates into cumulative PGI scores.** To be a top-rated province requires either stellar scores on survey (i.e. Bac Giang) or administrative data (i.e. Bac Ninh), indicated by the dark green pixels at the top or bottom right corner of the graph, or good performance on both (i.e. Tra Vinh and Quang Ninh). The lowest PGI score can be seen in orange in the bottom left corner, indicating that a province performed poorly on both sources of data.

**Figure 3.9. Correlation and Predictions from Hard and Soft Indicators**







## 3.5. GREEN PERSPECTIVES OF FOREIGN VERSUS DOMESTIC FIRMS

**A key difference between the PCI and PGI methodologies is that the PGI includes responses from both foreign and domestic respondents, allowing us to compare their views regarding green performance in the localities where they operate.** To emphasize the comparison, we study only the 19 provinces with at least 20 PCI-FDI respondents, allowing us to estimate statistically reliable samples.

**While foreign investors are generally more satisfied with provincial environmental governance than their domestic counterparts in host provinces, there are a few areas where foreign investors express greater negativity, such as provincial efforts to combat pollution and punish polluting companies.** Foreign investors demonstrate greater satisfaction, however, with provincial guidance and incentive efforts.

**To demonstrate this point, Table 3.7 provides compares means for the overall PGI, all four subindices, and every survey-based dimension measure.** Recall that administrative data is measured at the provincial level and therefore cannot be disaggregated by investor types within those provinces. The table is divided into six columns. The first two columns provide the average score for foreign investors on each index alongside the standard error (SE) for the foreign investor estimate, which is a measure of how much bigger or smaller the population mean is likely to be from the sample estimate.<sup>90</sup> The next two columns provide the mean and SE for the domestic respondents. The last set of columns provides the difference between those two averages. For instance, foreign investors score their provinces with an average PGI of 15.473, while domestic investors score their provinces as having a score of 15.214. The difference between the averages is 0.259, or about a quarter of a point on the 40-point potential scale. The final column provides the p-value for the difference. The p-value tells us the probability of finding zero difference between the two if the true difference was in fact zero. In this case, we calculate a p-value of 2.2 percent, which implies a very high probability that there is a statistically distinguishable difference between the foreign and domestic samples.

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<sup>90</sup> Technically, the SE is the standard deviation of the sampling distribution, which is calculated by taking the square root of the variance divided by the number of observations.

**Table 3.7. Differences between Foreign and Domestic Investors on PGI Subindices and Dimensions**

Subindices and Dimensions	Foreign Investors		Domestic Investors		Difference	
	Score	SE	Score	SE	Margin	p-value
<b>Unweighted Provincial Green Index</b>	15.473	(0.097)	15.214	(0.057)	0.259	(0.022)
<b>PGI 1: Minimizing the Risk of Climate Hazards (to Firms)</b>	3.890	(0.037)	3.880	(0.022)	0.009	(0.831)
PGI Dimension 1.1. Combatting Pollution	1.264	(0.022)	1.307	(0.013)	-0.043	(0.091)
PGI Dimension 1.2. Avoiding Environmental Disaster	1.597	(0.009)	1.596	(0.005)	0.000	(0.966)
<b>PGI 2: Maintaining Minimum Environmental Standards (by Firms)</b>	5.295	(0.028)	5.347	(0.016)	-0.052	(0.104)
PGI Dimension 2.1. Enforcement Against Polluters	1.443	(0.022)	1.554	(0.013)	-0.110	(0.000)
PGI Dimension 2.2. Satisfaction w/ Environmental Regulations	1.341	(0.009)	1.265	(0.005)	0.075	(0.000)
<b>PGI 3: Environmental Leadership (by Provincial Governments)</b>	4.116	(0.046)	4.174	(0.027)	-0.058	(0.274)
PGI Dimension 3.1. Green Procurement	1.959	(0.037)	2.041	(0.022)	-0.082	(0.060)
PGI Dimension 3.2. Green Regulatory Guidance	0.777	(0.017)	0.639	(0.010)	0.138	(0.000)
<b>PGI 4: Environmental Incentives and Support Services</b>	2.151	(0.045)	1.817	(0.026)	0.334	(0.000)
PGI Dimension 4.1. Incentive Programs	1.082	(0.024)	0.940	(0.014)	0.141	(0.000)
PGI Dimension 4.2. Advising and Training Programs	1.064	(0.028)	0.883	(0.017)	0.182	(0.000)

To ease interpretation, significant p-values (those below 5 percent) are bolded, indicating differences that we are confident are not accidents of our sampling or research designs. The table records nine significant differences between foreign and domestic investors in regard to how they evaluate green policies. However, the direction of these differences is quite mixed.

**Foreign investors in a province are generally more positive than domestic investors about green policy.** As we noted above, they have a final PGI that is about one quarter of a point higher. This may sound small, but in the very tightly ranked index, this amount would be enough to move a province three or four notches higher. In particular, foreign investors believe provincial governments enforce regulations, reasonably administer the rules, and are low in corruption (Dimension 2.2). They also tend to be more positive about provincial efforts to guide compliance with environmental regulation, especially for air, wastewater, and solid waste disposal (Dimension 3.2). Finally, foreign investors are dramatically more likely to



report that they have access to provincial financial incentive programs for adopting green behaviors and advising and training programs to assist with these transitions (Dimensions 4.1 and 4.2). The latter results may be influenced by the greater size and visibility of foreign firms as well as their greater presence in manufacturing industries, which are often the target for these programs.

**By contrast, foreign investors tend to be quite negative about provincial efforts to combat pollution.** They evaluate pollution in their province poorly and believe it is more likely to damage their business than domestic firms (Dimension 1.1). They do not believe provincial leaders do enough to punish polluters or address pollution in a timely manner (Dimension 1.2). Finally, foreign investors are less satisfied with the quality and fairness of efforts to incentivize green procurement (Dimension 3.1).

**Disaggregation also provides an opportunity to observe whether foreign and domestic investors evaluate the same provinces differently.** At first blush, a strong correlation between the perceptions of the two groups provides confidence that the PGI is capturing true latent features of green behavior in the locality, as two separate samples come to the same conclusions about the behavior. At the same time, differences could provide insight into biases in the way provincial leaders administer green programs in terms of enforcement, access to guidance, or allocation of incentive programs.

**Figures 3.10 allays fears that there is bias toward particular ownership types. Foreign and domestic investors come to remarkably similar conclusions about overall green performance in their host provinces.** Provinces that domestic investors regard as performing reasonably well are assessed similarly by foreign investors. For example, Quang Ninh tops the rankings of both types of investors, primarily due to its high scores in subindices 2 and 3. Bac Ninh, Da Nang, and Vinh Phuc are similarly ranked in the top five by both foreign and domestic investors. At the same time, Ha Noi and Ha Nam rank near the bottom of both lists for environmentally friendly behavior. Of course, there are some exceptions to the general pattern. For example, in Tay Ninh, from foreign firms' perspective, the provincial government's actions in green procurement and guidance on environmental protection policies and regulations (subindex 3) as well as efforts to support the green growth transition through incentive programs alongside advisory and training services to improve environmental performance (subindex 4) contribute significantly to the province's ranking among the top 5 provinces on the PGI. Among domestic investors, Tay Ninh's performance is viewed much less favorably sending the province to 14th place.

**Figure 3.10. Ranking of Foreign and Domestic Respondents**

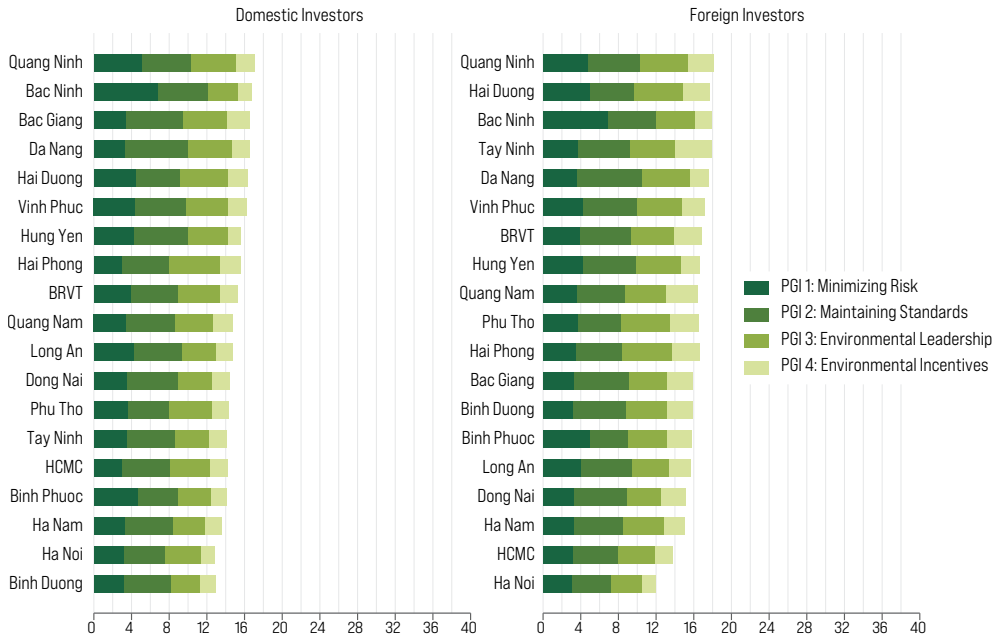
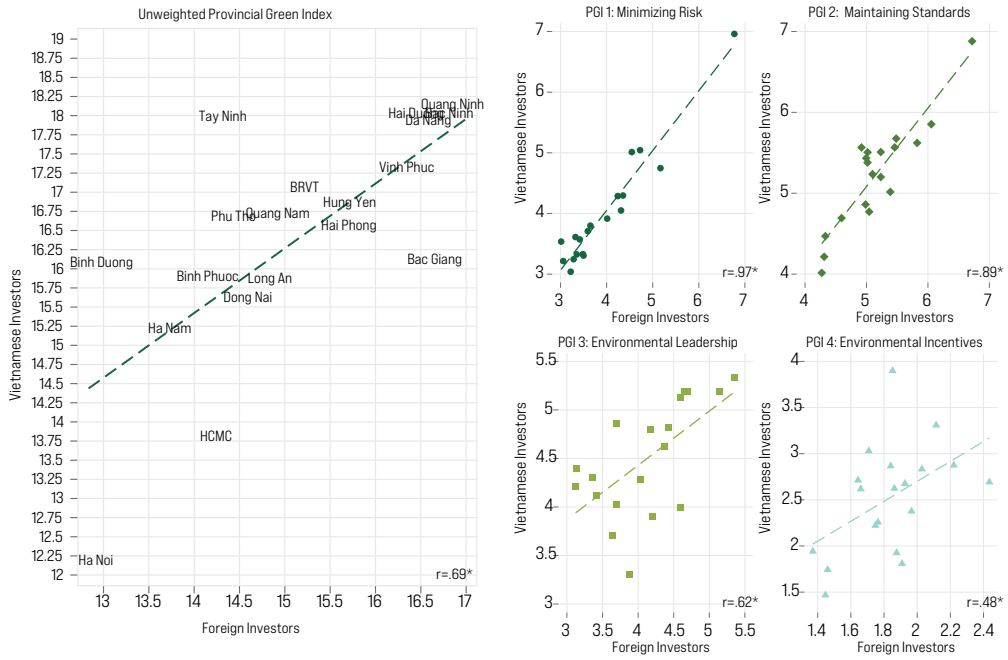


Figure 3.11 demonstrates this correlation more systematically by way of a scatter and linear fit plot, illustrating strong correlations on the overall PGI and every subindex. In the far left panel, we show the association on the unweighted PGI. The provincial names depict the observed value on the graph, illustrating the average foreign and domestic scores for that province. The dashed blue line represents the linear fit between the two measures. The steep upward slope indicates a strong positive relationship, which is also captured by the highly significant bivariate correlation of 0.69. For provinces that are far above the line, such as Tra Vinh, it indicates that domestic investors are much more positive about green activities than domestic investors. Those below the line are more favorably evaluated by foreigners.

The other four plots in Figure 3.11 tell the same story. Foreign and domestic investors strongly agree on all four subindices. Associations are much stronger for subindices 1 and 2 which have bivariate correlations of 0.97 and 0.89, respectively, but are also quite high for subindices 3 and 4, which record correlations of 0.62 and 0.48. Again, we believe these lower correlations result from the fact that these activities remain quite rare and domestic investors especially have little information about them. This lack of information results in noisy estimates and less precision in identifying patterns.

**Figure 3.11. Strong Agreement in Evaluation of Foreign and Domestic Respondents**



## 3.6. GREEN PERSPECTIVES BY SECTOR AND INDUSTRY

**Industries and business sectors feel different impacts from pollution and environmental degradation.** Some sectors tend to be dirtier, using less environmentally friendly equipment, exploiting natural resources, or employing more chemicals in their production processes. Other sectors are more dependent on a clean environment. Tourism, for instance, relies upon pristine beaches, clear mountain passes, and sanitary cities to appeal to travelers. Toxic waste can destroy the output of agriculture, aquaculture, and food processors. Natural resource-based investors profit from harvesting forest products or mining valuable mineral deposits.

**At the same time, regulatory guidance and incentive programs do not equally target all industries.** Because they can cause the most environmental damage, dirtier industries and natural resource-based companies tend to be first in line for access to these activities. Help with wastewater and solid waste disposal are less consequential for the service sector, especially finance and insurance investors. We have already shown that foreign investors are more positive about environmental guidance and incentives because they are more likely to be recipients.

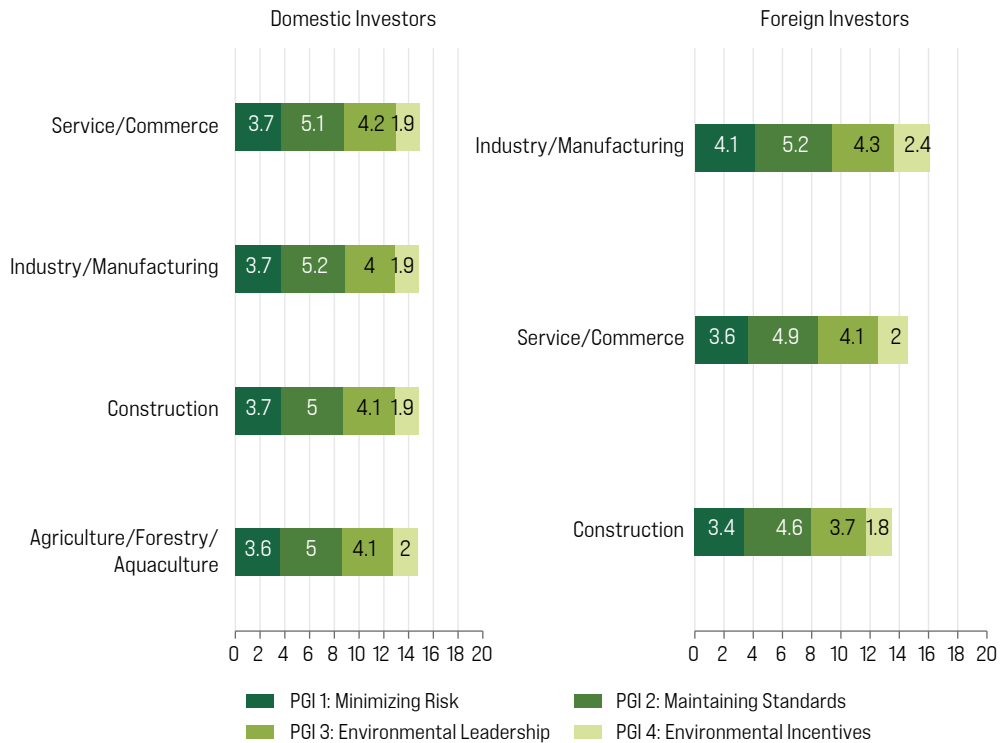
**As a result, it is necessary to take sector and industry of respondents into account in analyzing PGI scores.** We begin with the very broad self-reported sector (Question A5) in Figure 3.12, which is also disaggregated by the origin of the investor.

**The first thing to notice is that there is very little difference in assessments of domestic investors.** Investors in all three broad sectors rank their home province around 14.8. Similarly, there are limited differences across subindices. Domestic respondents provide consistent scores of about 3.7, 5.0, 4.1, and 1.9 regardless of their main operation. While we do not report them, confidence intervals around these estimates overlap, indicating that they are not statistically distinguishable from one another.

**One reason for the similarity of responses may be size. As we reported in Chapter 1, domestic investors of all sectors tend to be quite small.** Fifty-eight percent of domestic investors have fewer than 10 employees and 89 percent employ fewer than 50, a proportion that has increased since COVID-19. Small investors are simply less visible to provincial regulators. They are less likely to be seen as environmental threats, but also less likely to be targets for guidance and incentive programs.



**Figure 3.12. Differences in PGI by Sector Only Observable for Foreign Investors**



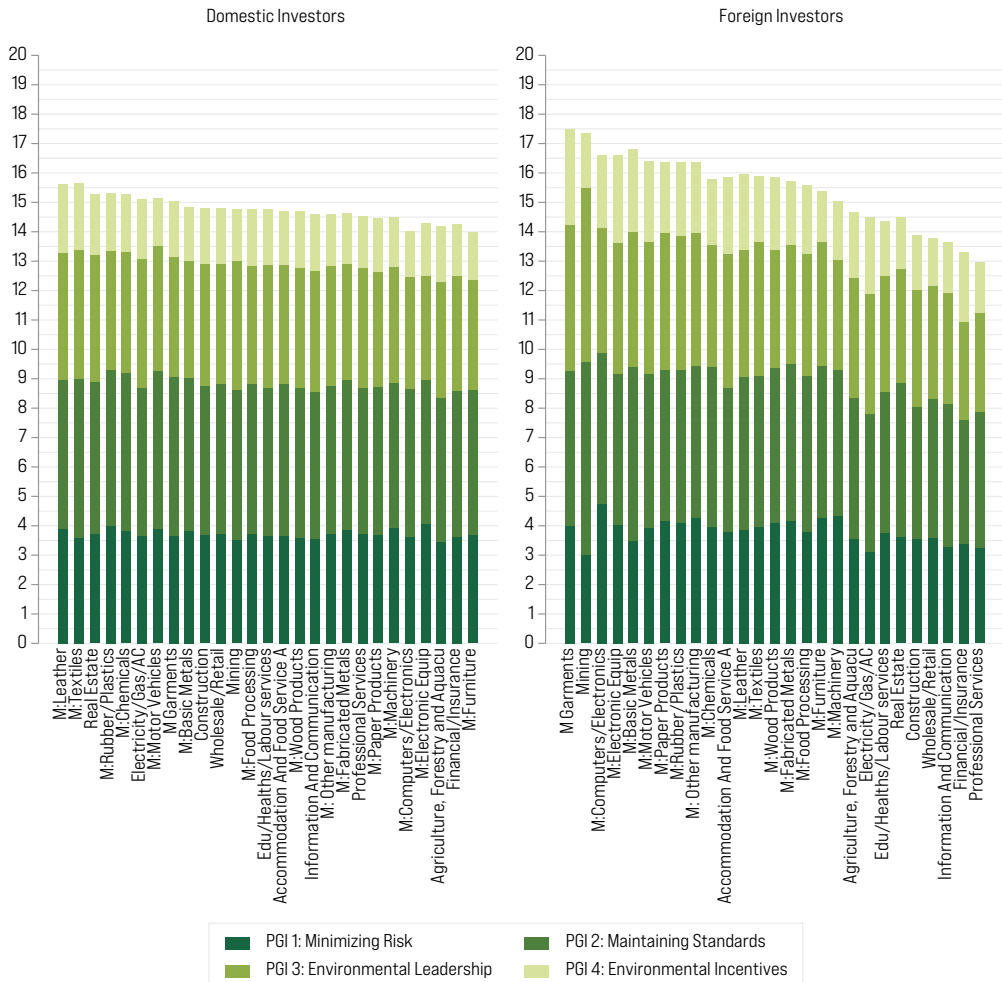
**Green perceptions of foreign investors, however, differ widely by broad sector. Manufacturing firms are far more likely to evaluate provincial green standards as positive with an average score of 16.11.** They are the least likely to see pollution as a problem (4.1), the most satisfied with provincial regulation (5.2), and have the highest level of access to guidance (4.3) and incentive programs (2.4). These differences are statistically significant at the .05 level. Firms in the service and financial industries are moderately satisfied with an overall PGI score of 14.6. Surprisingly, foreign respondents in the construction sector are the most negative with a score of 13.6.

**While construction firms give similar scores as services in the first two subindices, their frustration clearly emerges in the last two subindices.** This finding may point to biases in whether construction firms are eligible for provincial green guidance and subsidy programs. The low score of construction firms also helps account for the low ranking of Hanoi and HCMC in the foreign PGI above, as foreign construction firms are most likely to be in the country’s two metropolises.

**Figure 3.13 digs deeper into the differences in green assessments by disaggregating to the International Standard Industry Classification (ISIC) two-digit industry level.** Again, we see very little differentiation among domestic investors. The difference between the lowest and

highest rated industries is only 1.7 points, ranging from a 14 for furniture manufacturers to a 15.7 for leather manufacturers. Moreover, a discernable pattern is not obvious. Manufacturers with very similar processes and operations can be found at both the high and low end of the scales.

**Figure 3.13. PGI Assessments by 2-Digit Industry**



**For foreign investors, however, there is wide variation and clear concentration of relatively dirty manufacturers and mining operations at the top-end of the scale, while financial, professional, and information services congregate at the bottom.** The gap for foreign investors between industries is nearly three times the size of the gap for domestic investors, ranging from a score of 18 for garment manufacturers to 13 for professional services. Mining firms also rate green behavior quite highly with a score of 17.3.



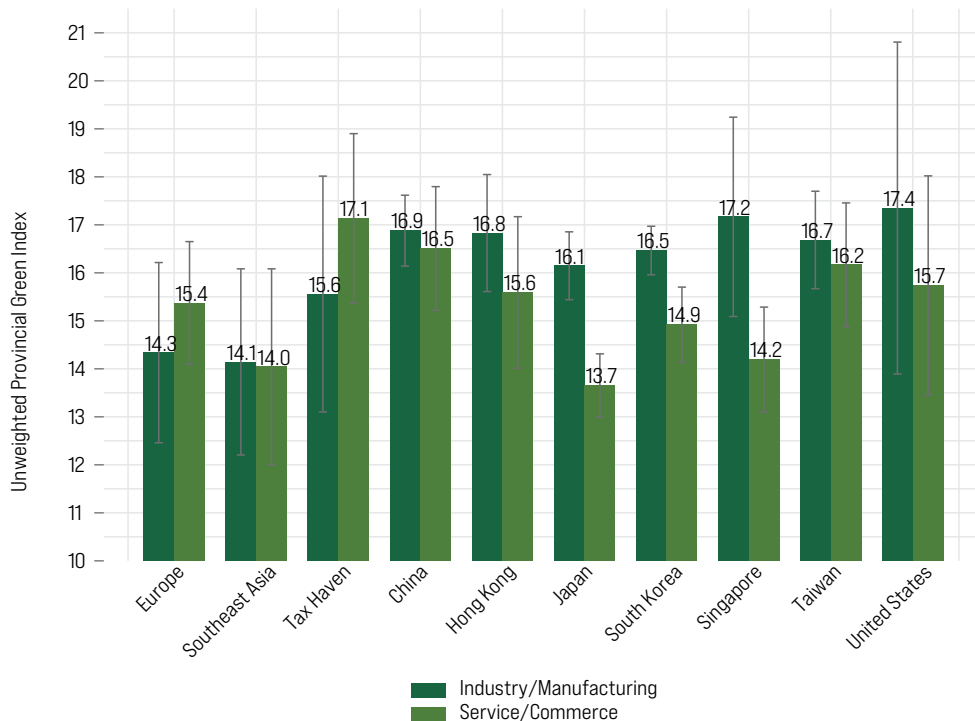


**Unlike domestic investors, foreign industries with similar operations and equipment congregate next to one another.** Notice the remarkably similar scores of Computers/Electronics and Electronic Equipment (around 16.5) and Leather and Textile production (just under 16). Similarly, industries that depend on clean environments to attract business or value clean living conditions are all congregated at the bottom of the index with scores at 15 or lower.

**The bottom line is that survey responses appear to be highly driven by the specific industrial needs and origin of investors.** As a result, we should be careful about penalizing provinces for good or bad behavior. A lot of their ability to combat pollution depends on the industry of firms they have in operation. Similarly, satisfaction with environmental regulation also depends heavily on the business needs of the operation.

**Interesting patterns emerge when we differentiate sector by the country of origin of the foreign investor.** This is visible in Figure 3.14, where we study the largest foreign investors in Vietnam by country of origin. Because many countries have only a handful of firms, we created baskets to capture European firms, firms from Southeast Asia outside of Singapore, and firms from known tax havens, such as the Seychelles, Belize, or Virgin Islands.

**Figure 3.14. PGI Reflections by FIE Country of Origin**



**Looking just at manufacturing, we see manufacturers from the United States (17.4), Singapore (17.2), China (16.9) and Hong Kong (16.8) are significantly more satisfied with environmental policy in their provinces than those from Europe (14.3) or Southeast Asia (14.1).** This reflects differences in environmental standards and attitudes in the mother country as well as the type of manufacturing. Those in food processing are more concerned about environmental degradation.

**In services, manufacturers with their headquarters in known tax havens (17.1), China (16.5), and Taiwan (16.7) rate environmental policies higher than those from other countries, especially investors from Singapore (14.2), other Southeast Asian countries (14.0), and Japan (13.7).**

**Wide differences also exist between investors from different industries but the same country of origin.** The largest gaps are visible among Singaporean (3 points), Japanese (2.4 points), and South Korean investors (1.5 points). Looking deeper into the data, these gaps tend to reflect business feelings about regulatory enforcement and access to subsidies. In all of these cases, service sector firms believe they are treated worse than manufacturers.



## 3.7. RELATIONSHIP BETWEEN POLICY INPUTS AND CLIMATE/POLLUTION OUTPUTS

### **Are higher scores on the PGI associated with reductions in economic disasters and pollutions?**

In this final section of the index, we explore this question econometrically to study the association between critical outcomes and provincial policies. We collected data on basic pollutants, including Particulate Matter 2.5 (PM 2.5),<sup>91</sup> Nitrogen Dioxide (NO<sub>2</sub>), and Sulfur Dioxide (SO<sub>2</sub>), which are known to result from industrial behavior.<sup>92</sup> We also collected a measure of climate and environment related disasters, such as flooding, landslides, and droughts.<sup>93</sup>

### **While better green policies should reduce pollution and natural disasters, several confounding factors might reduce the chances of finding a correlation.**

As we have already discussed, PGI scores tend to be low with relatively low variance. Most provinces have just begun the process of environmental reform and there has been limited room for improvement. Even where provinces have excelled, no provinces have been successful at the full suite of efforts necessary to truly combat environmental degradation and climate change. Finally, on two of the subindices, there is simply too little variation to adequately distinguish high and low performers, and ultimately attribute those differences to reduced pollution.

### **A final confounder is spillover. While provinces might design and implement sterling policies within their own borders, they can do little about pollution and environmental risks caused by their neighbors.**

Pollutants can be carried across borders by wind and water. Environmental disasters may also be precipitated by the failure of neighboring jurisdictions to police regulatory violations in shared mountain ranges, water bodies, or common pool resources. Finally, climate change can be exacerbated by actors far removed from the ultimate consequences of their behaviors. Salination in the Mekong Delta caused by rising sea levels is among the most salient current examples.

<sup>91</sup> PM<sub>2.5</sub> data comes from the LASER PULSE Research for Development Program and VNU - University of Engineering and Technology. Thanh T.N. Nguyen, Truong X. Ngo, Ha V. Pham, Hieu D.T. Phan, Anh T.N. Nguyen, Luan N. Vuong, Thuy T. Pham, Nam H. Tran, Huy C. Pham, Bang Q. Ho, Vinh T. Tran, Phat T. Nguyen, Krishna P. Vadrevu, Chris Justice. (2022). LASER Vietnam Air Pollution Monitoring Project PM<sub>2.5</sub> Data (2019-2021). LASER PULSE Research for Development Program and VNU - University of Engineering and Technology

<sup>92</sup> NO<sub>2</sub> and SO<sub>2</sub> data come from Nasa's Earthdata repository, which provides daily gridded measurements of pollutants, including NO<sub>2</sub> and SO<sub>2</sub>. For our purpose, we downloaded all 365 data files to aggregate the data to the annual level. Next, we aggregated the point-based estimates to the next higher administrative level to obtain data at the provincial level. Nickolay A. Krotkov, Lok N. Lamsal, Sergey V. Marchenko, Eric J. Bucsel, William H. Swartz, Joanna Joiner and the OMI core team (2019), OMI/Aura Nitrogen Dioxide (NO<sub>2</sub>) Total and Tropospheric Column 1-orbit L2 Swath 13x24 km V003, Greenbelt, MD, USA, Goddard Earth Sciences Data and Information Services Center (GES DISC), Accessed: [Data Access Date], 10.5067/Aura/OMI/DATA2017

<sup>93</sup> Disaster count data comes from EM-DAT. D. Guha-Sapir, R. Below, Ph. Hoyois - EM-DAT: The CRED/OFDA International Disaster Database - www.emdat.be - Université Catholique de Louvain - Brussels - Belgium.





address spillover pollution caused by China and the national-level cities. Full results are available in Tables 3.8 through 3.11 in the appendix.

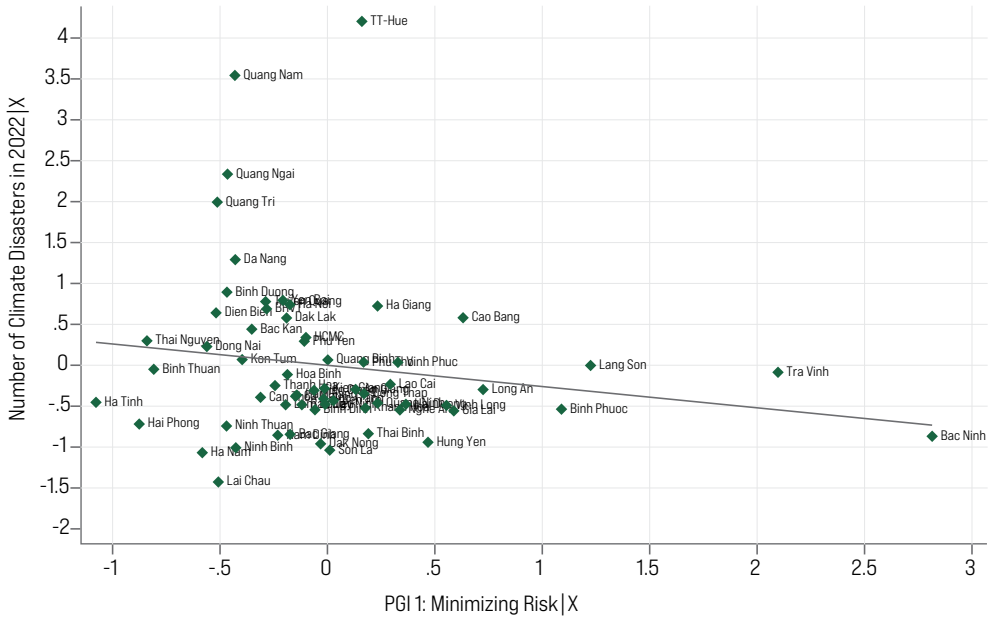
**Our analysis identifies only two areas where provincial policies are associated with positive environmental outcomes.** As expected, better scores on the overall PGI are not associated with any improvements in natural disasters or pollution. Variance is too high and there are too few differences between provincial performance. In addition, provinces that do well on subindices 2 and 4 do not perform better on any outcome than provinces that do poorly. We also do not see relationships between any of the four subindices and specific pollutants such as NO<sub>2</sub> and SO<sub>2</sub>. These final null results are likely due to relationships between these factors, such as coal production and automobile exhaust. However, we do find that subindex 1 and subindex 3 are quite strongly correlated with their most theoretically related outcome variable.

**First, taking steps to combat natural disasters through subindex 1 is in fact associated with reductions in climate and environmental disasters.** This can be seen in Figure 3.16, where we present a partial regression plot. The plot shows the relationship between subindex 1 and our outcome variable of number of disasters experienced in 2022 after parsing out the impact of the control variables for GDP, population, coal, and spillovers (X). The negatively sloping line indicates that a one-point improvement on the index is associated with 0.25 fewer environmental accidents in the province. Since the average province has about 0.66 disasters, this is a substantial improvement that would make a lot of citizens safer. Over 10 years, we could expect 2.5 fewer accidents in provinces that improve one point on the index today.

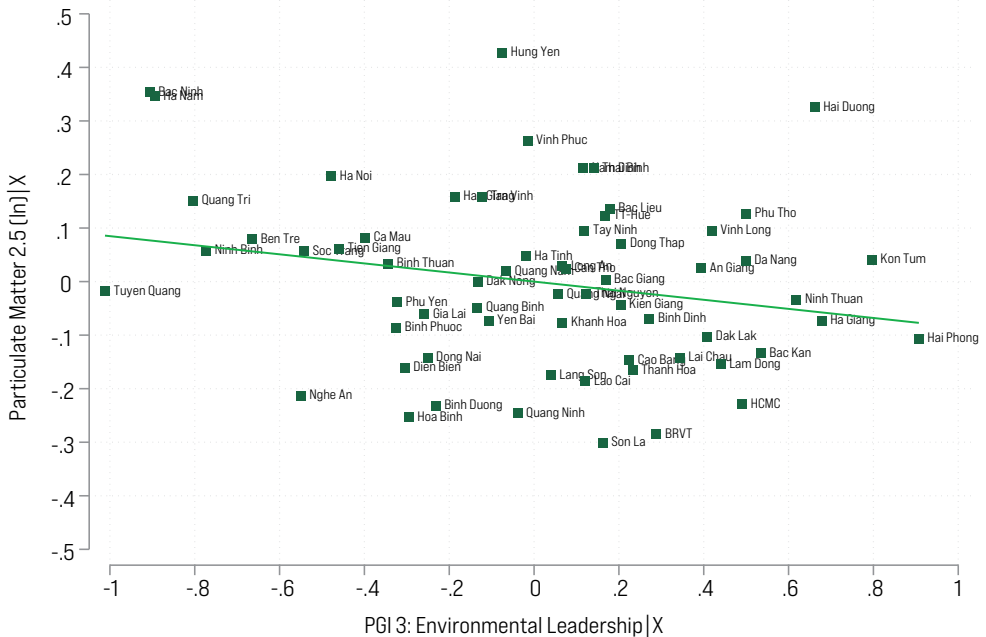
**Second, improving environmental leadership by providing guidance on environmental standards and best practices in subindex 3 is strongly associated with reductions in PM 2.5.** This relationship can be seen in Figure 3.17, which again depicts a partial regression plot of the relationship after controlling for confounders. Surprisingly, despite the noisy measurement of subindex 3, there is quite a strong relationship. A one-point improvement on subindex 3 is associated with an 8 percent reduction in PM 2.5 in the atmosphere. To put this result in perspective, if Hanoi, currently ranked 49<sup>th</sup> on this measure, could improve its subindex score by one point (to the level of 10<sup>th</sup> place Da Nang), it would see PM 2.5 in its air fall from the current level of 34.9 to 32.1. This would be about the level of air quality currently experienced in Vinh Phuc and Ha Nam.

**In short, while the PGI remains a preliminary product, there is reason to be optimistic that two of the subindices are guiding policymakers toward sustainable practices that could improve the lives of citizens.** Efforts to reduce climatic disasters can be effective and providing firms with guidance on ways to improve their businesses can reduce pollution.

**Figure 3.16. Subindex 1 Negatively Correlated with Climate Disasters in Controlled Regression**



**Figure 3.17. Subindex 3 Negatively Correlated with Pollution in Controlled Regression**





## 3.8. CONCLUSIONS AND NEXT STEPS

**The inaugural PGI was initiated by VCCI and USAID to assess the importance of environmental protection in Vietnam's growth trajectory and has been developed over the past five years.** Like its cousin, the PCI, the PGI aggregates the perception of businesses into a common voice to communicate their views on environmental policy to national and local decision makers. A province that performs well on the PGI is one that makes effort to combat pollution and private environmental accidents (subindex 1), designs and implements reasonable regulations that ensure compliance without creating overwhelming burdens (subindex 2), provides appropriate guidance to firms on green operations and operates environmentally friendly procurement (subindex 3), and incentivizes green operations through targeted incentives and subsidy programs (subindex 4).

**The goal of the PGI is to provide actionable policy advice to national and subnational officials about the appropriate policy goals to reduce the impact of climate change and pollution on business performance and longevity.** Consequently, the PGI, like the PCI, is an input-based ranking that is constructed with indicators capturing policy inputs (measures of provincial actions) that could be potentially correlated with climate and pollution outcomes that Vietnam cares about.

**Assembly of the PGI adheres to the same methodology employed in the PCI and Infrastructure Index, which the research team describes as the three Cs:** *Collection* of survey and administrative data; *Construction* of theoretically coherent subindices to critical environmental policy arenas; and a *Calibration* subindex based on the relative importance of the measures. The 2022 PGI is comprised of 44 indicators, which are divided into four subindices that measure the effectiveness of green private sector development policy at the provincial level in Vietnam.

**After constructing the index, several critical findings emerge:**

- The four subindices of the PGI are not strongly associated with one another. The same province can excel in one facet of green policies and lag on another. Thus, aggregating them into a composite index creates a noisy measure with high variance around provincial scores, which makes it difficult to distinguish excellent performers. As a result, we recommend using a dashboard approach that visualizes the subindices separately.
- Survey data and administrative measures of green policies are not correlated. However, performing well on the overall PGI requires either outstanding performance on one of those measures or very good performance on both.

- Foreign investors in a province are generally more pleased with provincial green policies than their domestic counterparts. However, there are a few areas where foreign investors express greater negativity, such as in provincial efforts to combat pollution and punish polluting companies. Foreign investors demonstrate greater satisfaction with provincial guidance and incentive efforts.
- Despite the differences between foreign and domestic investors, there are strong associations between foreign and domestic evaluations of the provinces where they operate, especially in regard to combatting pollution and effective regulation.
- There is no statistical sectoral difference in evaluation of green policies. Domestic investors in all three broad sectors rank their home provinces similarly on the cumulative index and individual subindices.
- Green perceptions of foreign investors differ widely by broad sector. Foreign manufacturing firms are far more likely to evaluate provincial green standards as positive. They are the least likely to see pollution as a problem, the most satisfied with provincial regulation, and report the highest level of access to guidance and incentive programs.
- As this is a baseline measure of green policies, we do not yet find a strong association between the overall PGI and any of the measures, no significant correlations between outcomes and regulatory quality (subindex 2) or provincial incentive programs (subindex 4), and no relationship between any subindex and NO<sub>2</sub> and SO<sub>2</sub> pollutants. However, we strongly believe that the measure will be able to be associated with changes in pollution over time. Adherence to policy now will bring great benefits later.
- Improvements on subindex 1 are associated with reductions in environmental disasters. Changes in subindex 3 are strongly correlated with reductions in PM 2.5.

**With the pilot PGI now completed, we hope to begin a large-scale expert evaluation of its methodology, scientific rigor, and policy implications.** As with the PCI, we will form an advisory board to critically evaluate the questionnaire and measurement choices, asking them to advise on ways to tighten measurement. At the same time, we plan to engage with provincial leaders, to better understand the policy innovations they are trying and the trade-offs they are facing between policies that enhance economic growth and protect the environment.





**Several limitations of the current PGI stand out, which we hope to confront in future iterations and in discussions with environmental experts.** Across all provinces, PGI scores tend to be low with relatively low variance. Most provinces have just begun the process of environmental reform and there has been limited room for improvement. Even where provinces excel, none have been successful at the full suite of efforts necessary to truly combat environmental degradation and climate change. This leads to a great deal of noise in determining the locations that are truly excelling. Finally, on two of the subindices, there is simply too little variation to adequately distinguish high and low performers or to ultimately attribute those differences to reduced pollution. In assessing the implications of improvements on the green index for reducing pollution and environmental catastrophes, final confounder is spillover. While provinces might design and implement sterling policies within their own borders, they can do little about the pollution and environmental harm caused by their neighbors. Pollutants can be carried across borders by wind and water. Environmental disasters may also be precipitated by the failure of neighboring jurisdictions to police regulatory violations in shared mountain ranges, water bodies, or common pool resources.

## 3.9. ANNEX

**Table 3.8. Only Subindex 1 is Negatively Associated with Climate Disasters in Controlled Regressions**

Dependent Variable = Climate disasters in 2022	Baseline	PGI	Subindex 1	Subindex 2	Subindex 3	Subindex 4
	(1)	(2)	(3)	(4)	(5)	(6)
Provincial GDP (ln)	-0.087 (0.246)	-0.022 (0.304)	0.034 (0.265)	-0.118 (0.272)	-0.098 (0.264)	-0.096 (0.246)
Population (ln)	-0.261 (0.366)	-0.367 (0.472)	-0.484 (0.410)	-0.230 (0.396)	-0.240 (0.407)	-0.221 (0.382)
Latitude of capital	0.054*** (0.016)	0.060*** (0.020)	0.058*** (0.017)	0.052*** (0.017)	0.051** (0.023)	0.051*** (0.017)
Coal Power Capacity MW (ln)	-0.049 (0.033)	-0.041 (0.036)	-0.025 (0.038)	-0.048 (0.033)	-0.050 (0.035)	-0.052 (0.032)
Unweighted Final PGI		-0.060 (0.115)				
PGI 1: Minimizing Risk			-0.260* (0.137)			
PGI 2: Maintaining Standards				0.082 (0.217)		
PGI 3: Environmental Leadership					0.048 (0.268)	
PGI 4: Environmental Incentives						0.305 (0.483)
Constant	4.458 (3.019)	6.029 (4.889)	7.173* (3.675)	3.972 (3.589)	4.135 (3.845)	3.449 (3.655)
Observations	63	63	63	63	63	63
R-squared	0.139	0.142	0.162	0.140	0.139	0.145
rmse	1.034	1.041	1.029	1.042	1.043	1.039

Ordinary least squares (OLS) regression; Robust standard errors in parentheses [\*\*\* p<0.01, \*\* p<0.05, \* p<0.1]



**Table 3.9. Only Subindex 3 is Negatively Associated with Pollution in Controlled Regressions**

Dependent Variable = Particulate Matter 2.5 (ln)	Baseline	PGI	Subindex 1	Subindex 2	Subindex 3	Subindex 4
	(1)	(2)	(3)	(4)	(5)	(6)
Provincial GDP (ln)	-0.018 (0.051)	0.001 (0.063)	-0.028 (0.055)	-0.024 (0.056)	0.012 (0.049)	-0.017 (0.051)
Population (ln)	0.152* (0.088)	0.119 (0.107)	0.171* (0.098)	0.158* (0.091)	0.095 (0.081)	0.145* (0.086)
Latitude of capital	0.099*** (0.005)	0.101*** (0.006)	0.099*** (0.005)	0.099*** (0.006)	0.106*** (0.007)	0.099*** (0.005)
Coal Power Capacity MW (ln)	-0.003 (0.011)	-0.001 (0.014)	-0.005 (0.013)	-0.003 (0.011)	0.001 (0.012)	-0.003 (0.012)
Distance from HN or HCMC (ln)	-0.093*** (0.022)	-0.094*** (0.022)	-0.091*** (0.023)	-0.093*** (0.023)	-0.092*** (0.021)	-0.093*** (0.022)
Unweighted Final PGI		-0.019 (0.030)				
PGI 1: Minimizing Risk			0.022 (0.032)			
PGI 2: Maintaining Standards				0.015 (0.056)		
PGI 3: Environmental Leadership					-0.133** (0.057)	
PGI 4: Environmental Incentives						-0.052 (0.106)
Constant	-0.609 (0.826)	-0.114 (1.190)	-0.850 (0.995)	-0.697 (0.898)	0.283 (0.798)	-0.436 (0.840)
Observations	63	63	63	63	63	63
R-squared	0.852	0.853	0.853	0.852	0.863	0.853
rmse	0.221	0.222	0.223	0.223	0.215	0.222

Ordinary least squares (OLS) regression; Robust standard errors in parentheses [\*\*\* p<0.01, \*\* p<0.05, \* p<0.1]

**Table 3.10. No Subindices Associated with Nitrogen Dioxide in Controlled Regressions**

Dependent Variable = Nitrogen Oxides (ln)	Baseline	PGI	Subindex 1	Subindex 2	Subindex 3	Subindex 4
	(1)	(2)	(3)	(4)	(5)	(6)
Provincial GDP (ln)	0.154*** (0.030)	0.162*** (0.036)	0.151*** (0.032)	0.160*** (0.032)	0.159*** (0.031)	0.155*** (0.030)
Population (ln)	-0.117*** (0.044)	-0.131** (0.054)	-0.111** (0.049)	-0.123** (0.046)	-0.126*** (0.047)	-0.120** (0.046)
Latitude of capital	0.021*** (0.003)	0.021*** (0.004)	0.021*** (0.003)	0.021*** (0.003)	0.022*** (0.004)	0.021*** (0.003)
Coal Power Capacity MW (ln)	-0.002 (0.005)	-0.001 (0.005)	-0.003 (0.005)	-0.002 (0.005)	-0.002 (0.005)	-0.002 (0.005)
Distance from HN or HCMC (ln)	-0.035*** (0.010)	-0.035*** (0.010)	-0.034*** (0.010)	-0.034*** (0.010)	-0.034*** (0.010)	-0.035*** (0.010)
Unweighted Final PGI		-0.008 (0.015)				
PGI 1: Minimizing Risk			0.007 (0.020)			
PGI 2: Maintaining Standards				-0.015 (0.028)		
PGI 3: Environmental Leadership					-0.021 (0.038)	
PGI 4: Environmental Incentives						-0.024 (0.055)
Constant	1.212*** (0.403)	1.421** (0.580)	1.131** (0.468)	1.300*** (0.440)	1.354*** (0.488)	1.293*** (0.463)
Observations	63	63	63	63	63	63
R-squared	0.632	0.634	0.633	0.634	0.635	0.634
rmse	0.114	0.115	0.115	0.115	0.114	0.115

Ordinary least squares (OLS) regression; Robust standard errors in parentheses (\*\*\*)  $p < 0.01$ , (\*\*)  $p < 0.05$ , (\*)  $p < 0.1$ )



**Table 3.11. No Subindices Associated with Sulfur Dioxide in Controlled Regressions**

Dependent Variable = Sulfure Oxides (ln)	Baseline	PGI	Subindex 1	Subindex 2	Subindex 3	Subindex 4
	(1)	(2)	(3)	(4)	(5)	(6)
Provincial GDP (ln)	-0.301 (0.386)	-0.397 (0.394)	-0.348 (0.386)	-0.384 (0.411)	-0.310 (0.389)	-0.297 (0.387)
Population (ln)	0.746 (0.554)	0.907 (0.582)	0.841 (0.565)	0.827 (0.584)	0.762 (0.563)	0.726 (0.557)
Latitude of capital	0.021 (0.020)	0.012 (0.021)	0.020 (0.020)	0.016 (0.021)	0.019 (0.024)	0.022 (0.020)
Coal Power Capacity MW (ln)	0.054 (0.040)	0.042 (0.045)	0.044 (0.044)	0.055 (0.042)	0.053 (0.040)	0.055 (0.040)
Distance from HN or HCMC (ln)	-0.160* (0.087)	-0.155* (0.084)	-0.152* (0.090)	-0.162* (0.082)	-0.160* (0.087)	-0.161* (0.087)
Unweighted Final PGI		0.092 (0.101)				
PGI 1: Minimizing Risk			0.112 (0.184)			
PGI 2: Maintaining Standards				0.212 (0.219)		
PGI 3: Environmental Leadership					0.038 (0.235)	
PGI 4: Environmental Incentives						-0.156 (0.310)
Constant	-6.916* (3.924)	-9.350* (4.880)	-8.137* (4.334)	-8.163* (4.514)	-7.171* (4.225)	-6.397 (3.983)
Observations	63	63	63	63	63	63
R-squared	0.225	0.236	0.232	0.240	0.226	0.228
rmse	0.784	0.786	0.788	0.784	0.791	0.790

Ordinary least squares (OLS) regression; Robust standard errors in parentheses [\*\*\* p<0.01, \*\* p<0.05, \* p<0.1]

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