The Myanmar Business Environment Index 2019

Measuring Economic Governance for Private Sector Development

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The Asia Foundation

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Preface

Local economic governance is a critical component of Myanmar's goal of achieving sustainable and inclusive economic growth. The Myanmar government can play an essential role in establishing a healthy business environment by educating and training the country's workforce, maintaining and improving roads and infrastructure, and establishing transparent and efficient business regulations. These and other aspects of economic governance, such as investment laws and business taxes, are key to achieving a strong business environment in Myanmar, and the role of government is central in this effort.

In Myanmar's current reform era, initial steps toward decentralization have created new opportunities for the country's fourteen state and region governments to improve Myanmar's business environment through better local economic governance. Many key government decisions that influence Myanmar's business environment remain at the Union level. However, state and region governments play an increasingly important role in ensuring that businesses drive economic growth. Government agencies, working for both the Union government and the state and region governments in Myanmar's 330 townships, also play an increasingly vital role engaging with businesses. Such agencies exist to support small and medium enterprises, promote investment, and manage local licensing, among other tasks and services. As a result of ongoing decentralization reforms, state and region government offices increasingly have the potential to support Myanmar's local business environment, particularly through administrative efficiency.

The first-ever Myanmar Business Environment Index provides a tool for Myanmar government, businesses, investors, and the public to better understand the strengths and weaknesses of local economic governance in Myanmar. First pioneered by The Asia Foundation in Vietnam over a decade ago, and adapted to the Myanmar context in partnership with Duke University's Development Lab, the Index is designed to objectively benchmark local economic governance. The Myanmar Business Environment Index is a diagnostic tool for Myanmar's Union and state/region governments to better understand the local business environment, and it serves as the first step for providing Myanmar's Union and state/region governments with the data necessary to pursue widespread economic governance reforms. The Foundation also looks forward to conducting a second round of the MBEI in 2020 in order to illustrate ongoing changes in Myanmar's economic governance.

We hope The Asia Foundation's Myanmar Business Environment Index will support the overarching effort to achieve inclusive economic growth in Myanmar and provide the Myanmar government, businesses, and other stakeholders with a valuable source of information for discussing and designing further economic reforms. The Myanmar Business Environment Index was funded by UK Aid and the DaNa Facility. The opinions expressed in this report are solely those of the authors and do not necessarily reflect those of The Asia Foundation, UK Aid, or the DaNa Facility.

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The research project was developed and implemented under the overall leadership of Dr. Kim N.B. Ninh and Dr. Matthew B. Arnold, Country Representatives of The Asia Foundation in Myanmar, and benefited from assistance and input provided by Peter Brimble, Senior Technical Advisor of the DaNa Facility, Liz Patterson of DFID, Linn Maung Maung, Trade, Competitiveness and Investment Lead of the DaNa Facility, and Tom Coward, Team Leader Inclusive Growth and Livelihoods Team of DFID.

Edmund Malesky, Professor of Political Economy at Duke University, led the development of the MBEI's research methodology and was the primary author for the presentation of its analytical findings.

Professor Malesky was supported by a talented research team. Jon Keesecker of The Asia Foundation was the primary leader of the research team and coordinated with the survey team and field researchers. Dean Dulay, doctoral candidate at Duke University, served as research assistant and coauthor of the report. Mi Ki Kyaw Myint, Kyipyar Phyoe Paing, Thu Ta Oo, Naw Janet, and Richard Batcheler were all involved in valuable background research, methodological design, observational data collection, and analysis that facilitated the final report.

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List of Acronyms

ACC:	Anti-Corruption Commission
CDC:	City Development Committee
CEO:	Chief Executive Officer
DALMS:	Department of Agriculture Land Management and Statistics
DAO:	Development Affairs Organization
DFID:	Department for International Development
DICA:	Directorate of Investment and Company Administration
DISI:	Directorate of Industrial Supervision and Inspection
EGI:	Economic Governance Index
GAD:	General Administration Department
GDP:	Gross Domestic Product
ILO:	International Labor Organization
IRD:	Internal Revenue Department
MBEI:	Myanmar Business Environment Index
MOHT:	Ministry of Hotels and Tourism
MOLIP:	Ministry of Labour, Immigration, and Population
MSDP:	Myanmar Sustainable Development Plan
NLD:	National League for Democracy
PCI:	[Vietnam] Provincial Competitiveness Index
PPS:	Probability Proportion to Size Sampling
SME:	Small and Medium Enterprise
SWOT:	Strengths, Weaknesses, Opportunities and Threats
UK AID:	United Kingdom Aid
YCDC:	Yangon City Development Committee

Table of Contents

3 Preface
4 Acknowledgements
5 List of Acronyms
8 Executive Summary

CHAPTER 1
12 Introduction

12 1.1. Why Economic Governance Matters in Myanmar
14 1.2. What is Economic Governance?
21 1.3. MBEI Focus and Methodology

CHAPTER 2
28 Myanmar's Emerging Economic Governance Framework

28 2.1. Government Decentralization in Myanmar
30 2.2. Economic Governance in Myanmar
33 2.3. Implications for the MBEI Level of Analysis

CHAPTER 3
34 The State of Economic Governance in Myanmar

34 3.1. Entry Costs
36 3.2. Land Access and Security
38 3.3. Post-Entry Regulation
39 3.4. Informal Payments
43 3.5. Infrastructure
44 3.6. Transparency
45 3.7. Favoritism in Policy
46 3.8. Environmental Compliance
47 3.9. Labor Recruitment
48 3.10. Law and Order

CHAPTER 4
50 Economic Governance in the States and Regions

50 4.1. State and Region Diagnostics
69 4.2. Comparisons of States and Regions

CHAPTER 5
74 Governance and Economic Growth

CHAPTER 6
76 Variance in Economic Governance by Subgroup
76 6.1. Business Sector and Economic Governance
79 6.2. Gender and Economic Governance

CHAPTER 7
80 Policy Considerations

APPENDIX A
84 Index Methodology
84 A.1. Collection
93 A.2. Construction of the Subindices
94 A.3. Calibration of the Final MBEI

APPENDIX B
97 Description of Indicators Used in the MBEI
97 B.1. Indicator Descriptions and Data for Entry Costs Subindex
99 B.2. Indicator Descriptions and Data for Land Access & Tenure Security Subindex
103 B.3. Indicator Descriptions and Data for Post-Entry Regulatory & Administrative Costs Subindex
106 B.4. Indicator Descriptions and Data for Informal Payments Subindex
108 B.5. Indicator Descriptions and Data for Infrastructure Subindex
111 B.6. Indicator Descriptions and Data for Transparency Subindex
114 B.7. Indicator Descriptions and Data for Favoritism in Policy Subindex
117 B.8. Indicator Descriptions and Data for Environmental Compliance Subindex
120 B.9. Indicator Descriptions and Data for Labor Recruitment Subindex
122 B.10. Indicator Descriptions and Data for Law & Order Subindex

APPENDIX C
125 Analysis of Strength of Preferences for Clean Environment

128 Endnotes
129 Bibliography

Executive Summary

The MBEI is based on a nationwide survey of 4,874 firms—many of which are small and medium enterprises—in Myanmar's service and manufacturing sectors.

The Economic Governance Index (EGI) is a tool that has become widely accepted by governments to understand economic growth, attract investors, and engage in public-private sector dialogue. EGIs have been used in Indonesia, Sri Lanka, Bangladesh, Kosovo, El Salvador, Cambodia, Mongolia, and Vietnam to offer crucial insight into governance and help guide reform efforts. The Myanmar Business Environment Index (MBEI) follows in this tradition by adapting the EGI model to the Myanmar context. The MBEI is designed to provide Union and state/region government leaders, as well as stakeholders such as business managers, with a tool to understand and address the challenges Myanmar businesses face, and thereby encourage sustainable and inclusive economic growth.

The MBEI represents the voice of private businesses from across Myanmar. The MBEI is based on a nationwide survey of 4,874 firms—many of which are small and medium enterprises—in Myanmar's service and manufacturing sectors. It excludes the primary sector (agriculture, forestry, fisheries, and mining) and foreign firms operating in Myanmar. To capture the views of businesses, the MBEI uses a two-stage, stratified random sample to ensure representation at the state and region level as well as the township level. Survey responses are combined with objective data gathered from observations of township offices recorded by our field team, from statistical yearbooks, and from other administrative sources available from government ministries. This combination ensures highly reliable estimates of economic governance at the local level that are based on business perceptions but anchored by objective measures as well.

The MBEI measures ten core components of good economic governance. The overall MBEI score comprises ten subindices. A state or region that is considered to perform well on the MBEI is the one that has 1) low entry costs for business start-up, 2) easy access to land and security of business premises, 3) limited time requirements for bureaucratic procedures and inspections, 4) minimal informal payments, 5) sufficient and well-maintained physical and telecommunications infrastructure, 6) a transparent business environment and equitable business information, 7) minimal crowding out of private activity from policy biases toward state, foreign, or connected firms, 8) limited pollution and environmental damage, 9) sound labor training policies, and 10) fair and effective legal procedures for dispute resolution and maintaining law and order (see Appendix A for a full description of the methodology and Appendix B for a description of all indicators used in the analysis).

Each state and region in Myanmar demonstrates different strengths and weaknesses with respect to governance. No state or region stands out as superior to all others with respect to overall economic governance. When the subindices are simply added together, there is very little difference in governance across Myanmar's states and regions. None are obvious stars in providing an environment for successful business development, and none are all-around laggards. Most states and regions achieve middling scores across the ten indices or have high performance on some dimensions offset by low performance on others (see Figure 16 for individual subindex rankings). These results are unusual internationally for most EGIs and illustrate the difficulties inherent in

Myanmar's nascent decentralization. Localities have not yet achieved the full autonomy for stars to emerge.

MBEI measurements are weighted to reflect business confidence and expansion. Weighting the index by contribution to private sector performance, however, offers more widespread and salient divergence. To generate the weights, subindices were regressed on three key outcome variables measuring private sector satisfaction and performance: confidence in local leadership, business performance over the past year, and plans to expand in the next two years. Subindices most strongly correlated with these measures received higher weights in the index (see Appendix A.3 for methodological details on calibration and regression results). This step allows local leaders to better prioritize reform efforts. The three highest weighted subindices in the MBEI, each accounting for 20% of the final index, are Environmental Quality (subindex 8), Labor Quality (subindex 9) and Law and Order (subindex 10).

Myanmar businesses believe their performance depends upon a clean environment. Myanmar businesses place greater emphasis on preventing environmental damage than creating jobs or receiving tax benefits. The research team confirmed this surprising preference for environmental quality by using a conjoint survey experiment from the marketing literature, where we probed the true preferences of businesses for environmentally friendly investment. We found that most local businesses are willing to forgo economically beneficial investment for their townships if it is likely to lead to increased pollution and environmental damage (see Section 3.8 and Appendix C for details on the conjoint experiment).

The MBEI suggests a strong substantive relationship between economic governance and economic welfare. The analysis in this report demonstrates that local government performance on the MBEI is strongly associated with local economic welfare, measured by luminosity of night lights within townships. We find that just a one unit change in township-level governance is associated with a 32% increase in nighttime luminosity. Importantly, research suggests that nighttime luminosity observed from satellites is an excellent proxy for economic activity and welfare. In short, economic governance and economic welfare are highly correlated. Well-governed townships have more business activity and higher welfare. Much more work is needed to determine the full causality of the relationship, but these initial estimates are impressive (see Figure 18).

Elements of governance are experienced differently across sectors. Analysis of variance in the MBEI reveals that overall governance does not vary much based on either the sector of the business or gender of the respondent. A detailed analysis in Chapter 6, however, reveals more subtle differences. First, firms in the agricultural and natural resources sector face greater perceived entry costs (subindex 1) than firms in manufacturing, and both believe market entry is more difficult than in service sectors. Roughly the same pattern is evident for post-entry regulation (subindex 3) and informal payments (subindex 4). Together, these results indicate significant differences in the impact of regulator design and implementation across sectors. Second, firms in high-end services such as finance, insurance, and telecommunications (other services) are significantly more negative about their ability to acquire land than firms in other industries. Firms in food services are the least concerned about land acquisition. Third and by contrast with the other indices, firms in agricultural and natural resources are less concerned about bias toward connected firms (subindex 7) and their ability to access qualified labor (subindex 9) than other sectors. Fourth, very little sectoral variation is found in access to information (subindex 6), environmental quality (subindex 8), and law and order (subindex 10). In the case of transparency and law and order, scores are generally low across the different sectors. In the case of the environment, firms are more positive.

Each state and region in Myanmar demonstrates different strengths and weaknesses with respect to governance. No state or region stands out as superior to all others with respect to overall economic governance.

National-level findings point to businesses that remain optimistic despite operating in a challenging environment. In addition to describing the variance in economic governance across Myanmar's states and regions, we also detail national-level findings that apply to all firms in the country. While businesses not surprisingly report facing many obstacles, in many areas they also show glimmers of optimism and confidence in Myanmar's future. A few highlights from the study's findings include the following:

- ***Eighty-five percent of Myanmar businesses have at least one documented proof of formalization.*** Sixty-five percent of businesses in the MBEI sample have obtained only a township-level operating license, while an additional 17% possess an operating license from a City Development Council in Yangon, Mandalay,

or Nay Pyi Taw. Only 6% of businesses possess a registration certificate from the Directorate of Investment and Company Administration (DICA). Fifteen percent of businesses are fully informal, possessing neither documentation of registration nor an operating license (see Figure 4).

Although most Myanmar businesses have obtained only an operating license, 60% of Myanmar businesses report having all the required documentation that they believe is necessary to be fully legal within three months of starting the application process.

- ***Many businesses perceive administrative procedures for business entry as satisfactory.*** Although most Myanmar businesses have obtained only an operating license, 60% of Myanmar businesses report having all the required documentation that they believe is necessary to be fully legal within three months of starting the application process. Only 9.3% of firms complain of difficulties in obtaining the necessary documentation. However, the data shows that these procedures are still lengthier and more cumbersome than for firms in Vietnam.

- ***Informal payments may be less problematic for service and manufacturing SMEs than generally perceived.*** In general, MBEI enterprises report that informal payments are infrequent and small. Seventy-four percent of firms report that informal payments are not common for firms like them, and 79% pay less than 2% of their annual revenue in informal payments. Using a list experiment to shield respondents, we estimate that only 2% of respondents paid such facilitation payments (see Box 10 and Table 3 for details). In regards to informal payments in procurement, 68% of firms that participated in public tenders claim that commissions are not necessary for winning government contracts (see Figure 8). Experience with informal payments, however, varies dramatically across states and regions. Moreover, this geographic variation is correlated with corruption complaints filed in each state/region with the Myanmar Anti-Corruption Commission (see Figure 9).

- ***Firms show signs of trust in Myanmar's contracting institutions.*** Eighty-four percent of firms believe that the courts judge economic cases by law. Seventy-six percent of firms also claim that legal aid supports businesses by helping them with legal procedures and dispute resolution. While many businesses may not have extensive experience with Myanmar's court system, faith in courts bodes well for business confidence and plans for expansion.

- ***Post-entry administrative procedures are not terribly problematic for many businesses, but inspections are still a hassle.*** Regulation and administrative procedures after entry, such as recurring administrative tasks and business inspections, are also reasonable in international comparisons. Firms in Myanmar spend less time on paperwork and find officials more effective than the average Vietnamese firm. However, Myanmar businesses are twice as likely to face regulatory inspections and are much more likely to complain that regulatory fees are not clearly posted in local offices than similar firms in Vietnam.

- ***Many SMEs have surprisingly little difficulty with land access, possibly because they largely operate from their homes; however, titling takes too long.*** Land access and security is a major policy concern in Myanmar, particularly for many agricultural communities, areas affected by conflict, and very large businesses. However, in most states/regions, SMEs report adequate land or property ownership to provide confidence for long-term investment. Seventy-eight percent of businesses in the MBEI survey operate on property that is owned by the owner of the enterprises. Fifty-six percent of businesses operate on family property, while 28% operate on property purchased from another party. Only 22% of businesses operate on property that is leased from government (5.2%) or from another private party (16.7%). Opportunities for improvement remain, however. The land titling process takes about 90 days after a firm submits all supporting documentation, which is a lengthy waiting period by international standards.

- ***Low quality infrastructure is leading to lost business hours and spoiled products.*** Quality of infrastructure is a severe concern for businesses in Myanmar. In particular, firms express dissatisfaction with road quality and electrical power (only 49% of firms say these features are good or very good). Firms are more positive about the telephone (66% report good or very good) and Internet (54% report good or very good). However, even these

infrastructure features have problems. The median firm experiences 20 hours of lost telephone and Internet coverage, and 20 hours of lost electric power in the past month; and the median firm claimed to have lost 7 days of business transport activity due to flooded roads. These types of road and power outages can cost firms tremendous amounts of money in lost and spoiled products (see Section 3.5 for details).

- ***Access to vital information necessary for business is extremely low, and major improvements in government transparency are still necessary.*** In general, businesses have very limited access to important planning and legal documents provided by the government. Only 3.6% of firms report having access to the state or region budget, and only 4.3% of firms report having access to new investment plans. Among the application documents reviewed for this study, the easiest to access were standard application forms for fulfilling regulatory processes, yet only 26.9% of firms had access to these forms. This lack of government transparency is likely to reduce investment, as firms need to understand how to comply with government regulations and how to maximize their earnings potential in line with government investment and budget plans. Transparency provides firms with the certainty and stability necessary to do so effectively (see Section 3.6).

- ***Strong favoritism exists toward businesses with connections.*** The business environment in Myanmar remains biased in favor of businesses with connections to elite decision makers, which distorts investment patterns and reduces business productivity. Sixty-four percent of respondents claim that the government has shown favoritism in land access for businesses with strong connections, and 44.6% of firms believe that there is also favoritism in access to loans. But only 19.8% claim that there is favoritism in access to information, and only 25.2% of firms claim that there is favoritism in administrative procedures. As with informal payments, bias varies heavily by state and region (see Figure 12 for details).

- ***Qualified labor is hard to find.*** Recruitment of qualified workers, particularly elite technicians and managers, is a major problem for firms in Myanmar. Over half of respondents found it difficult to recruit manual rank-and-file workers, technicians, accountants, supervisors, and managers. Moreover, finding good workers is expensive. The median firm spends 5.4% of its operating budget on labor recruitment. Taken together, these results imply that it is difficult and expensive to find qualified applicants (see Section 3.9).

- ***Business owners' concerns about crime and security are hurting business prospects.*** Myanmar businesses feel strongly that the risk of physical harm and damage to property remains high. Only 37.5% of respondents believe that their local security situation is good, while only 44.9% of respondents believe that if government staffers violate the law, they will be disciplined. An extremely high 11.2% of all respondents were victim of a crime in the past year.

The data contained in the MBEI provides government, businesses, and other stakeholders with a valuable resource for improving economic governance and thereby boosting Myanmar's future prospects for economic growth. The MBEI serves as a diagnostic tool for both Union and state/region governments in Myanmar to better understand local economic governance. The next step is to facilitate discussions between government, businessess, and civil society in order to identify solutions that will improve Myanmar's business environment by working to address the challenges outlined in this report. In addition to providing lawmakers with insights for future policy and administrative reform, the MBEI also provides businesses and investors with a source of information for making investment and expansion decisions. Finally, it can also be a resource for donors and civil society organizations as they seek to support economic and governance reforms. Ultimately, the MBEI is designed to be a resource for improving Myanmar's business environment and contributing to sustainable and inclusive economic growth.

Only 3.6% of Myanmar firms report having access to the state or region budget, and only 4.3% of firms report having access to new investment plans.

1 Introduction

1.1. Why Economic Governance Matters in Myanmar

Myanmar faces major challenges to achieving inclusive economic growth throughout the country. In the past decade, the government of Myanmar has undertaken a number of important economic reforms to liberalize the economy and spark new economic growth. Fundamental changes in investment promotion, monetary policy, and other areas have helped lay the groundwork for new economic activity. The resulting economic growth, however, has failed to reach all corners of the country. In many states and regions, poverty rates remain high, and inadequate employment opportunities prevent widespread economic improvement. As Myanmar's Southeast Asian neighbors have demonstrated, addressing these problems requires government measures to ensure that local business and environment improve and that a robust and dynamic private sector is able to flourish in all of Myanmar's states and regions.

The current Myanmar government has recognized business environment reform as a major policy priority and a key element of future economic growth. In its 2015 manifesto on economic policy and again with the release of its 12-point economic policy in 2016, the National League for Democracy (NLD) government has reiterated its commitment to providing a more attractive and stable business environment. These documents called for new economic growth built upon a competitive and vibrant private sector. Among the government's flagship achievements in this respect have been passage of the 2016 Myanmar Investment Law and the 2017 Companies Law, increased investment in education, new measures to combat corruption, and the development of a digital registry for companies. In 2018, the government further reinforced this commitment with the release of the Myanmar Sustainable Development Plan (MSDP), an overarching strategy for achieving sustainable and inclusive economic growth by 2030. Pillar two of the MSDP specifically emphasizes the importance of a robust private sector and the improvement of Myanmar's business environment. These and other measures point to a continued commitment on the part of the Myanmar government to promoting reforms that encourage business growth.

Research has shown that business activity is a fundamental building block of local economic growth.

Academic research has shown that business activity is a fundamental building block of local economic growth. Scholars have demonstrated that subnational economic development is most likely to occur in educated regions with a concentrated group of entrepreneurs who run productive firms (Banerjee and Duflo, 2005; La Porta and Shleifer, 2008). It is an obvious point, but one that can be easily overlooked when scholars and practitioners take a bird's eye view of local economic development, weighing poverty alleviation, inequality, and unemployment measures in their decision making. Importantly, decisions made by businesses in the localities influence all of these measures. Businesses do not include just glitzy multinational corporations or lumbering state-owned enterprises

(SOEs). They run the gamut from small farms to food stands and market stalls, to mom-and-pop operations, to small- and medium-size enterprises, to high-tech startups and global champions. These are the actors that risk capital in long-term plans, employ workers, innovate with new goods and services, and pay the bulk of tax revenue used to fund public goods and redistribution programs.

Weak or confusing economic governance structures often inhibit the ability of Myanmar businesses to thrive and contribute to growth. Unclear business licensing procedures complicate business planning, inadequate infrastructure reduces the attractiveness of investing, and small and medium enterprises (SMEs) lack the capital to expand and integrate into regional supply chains. Furthermore, opaque and overlapping governance structures often make it difficult for local administrators to implement procedures consistently across states and regions. While some business regulatory functions reside with Union ministries, others fall to state/region- and township-level offices. As a result, local economic governance in Myanmar is at times inefficient and poorly understood by many of the stakeholders impacted by it.

The Myanmar Business Environment Index aims to identify constraints in Myanmar's business regulatory environment and provide a tool for identifying reform opportunities that spur growth. The MBEI is an Economic Governance Index (EGI), or a specialized instrument pioneered by The Asia Foundation to measure the performance of local authorities and to assess the local business environment through quantitative indicators. EGIs have been used in Indonesia, Sri Lanka, Bangladesh, Cambodia, Mongolia, and Vietnam, and the tool has become widely accepted by diverse governments to understand economic growth, attract investors, and engage in public-private dialogue. In Myanmar, The Asia Foundation carried out extensive desk research, expert interviews, and focus group discussions to adapt the EGI model to the specific Myanmar context and to find ways to best measure these constraints through survey and administrative data.

The objective of the MBEI is to help government, businesses, and stakeholders understand economic governance in Myanmar and foster reforms that address business challenges and support economic growth. By benchmarking constraints and opportunities in local economic governance across Myanmar's states and regions, the MBEI aims to help Union and subnational governments identify promising policy and administrative reforms and to equip local authorities to consider the social and environmental impacts of business activities in their economic planning. Ultimately, the MBEI is intended to help create a stronger business-enabling environment that is conducive to sustainable and inclusive economic growth.

The report is divided into four chapters. Chapter 1 is organized around critical questions for first-time users of an economic governance index. First, we explore the meaning of economic governance and the approach economists and management scholars have used to frame the key issues. Next, we briefly describe the MBEI and the features of governance that it measures. Third, we summarize our methodological approach to create the index. Fourth, we describe the legal framework for economic governance in Myanmar and provide justification for our decision to measure the concept at the township level and present results at the state and region level. Chapter 2 details national-level findings that apply to all firms in the country and describes in detail the variance across Myanmar's states and regions in economic governance. Chapter 3 provides state and region diagnostics to help guide policy and administrative reform of economic governance. We also make comparisons across states and regions. Finally, Chapter 4 provides policy considerations that emerge from the MBEI analysis.

For those interested in the nuts and bolts of the process, we detail the mechanics of the MBEI methodology in Appendix A. Here, we explain how we 1) collect data, using a nationally and locally representative survey of nearly 5,000 businesses, administrative data from the census and statistical yearbooks, and on-site observations of township offices; 2) construct theoretically informed subindices; and 3) calibrate those subindices, using weights to arrive at the final MBEI scoring of states and regions. Appendix B details the motivation behind all 101 indicators used in the index, providing each subindex ranking and descriptive data on all indicators at the respondent and national levels. Appendix C describes in detail the conjoint analysis used to explore business perceptions of environmental issues in Myanmar.

The Myanmar Business Environment Index aims to identify constraints in Myanmar's business regulatory environment and provide a tool for identifying reform opportunities that spur growth.

1.2. What is Economic Governance?

Economic governance refers to the set of activities policy-makers and administrators can take to ensure a suitable environment for private business activity.

Economic governance refers to the set of activities policy-makers and administrators can take to ensure a suitable environment for private business activity. Technically speaking, economic governance is not synonymous with "business environment." The business environment consists of many factors, not all of which are under the immediate influence of government. For example, proximity to large markets is an important aspect of a company's business environment, but it is not directly under the government's control. To some extent, depending on the circumstance, the same is true of businesses' access to finance. By contrast, administrative regulation and inspections are a feature of economic governance because this element of the business environment is wholly under the control of government. Economic governance therefore refers to those elements of the business environment that governments are in a position to provide.

Experts and academics have disaggregated economic governance into several key areas or themes. In Avanish Dixit's lecture as president of the American Economics Association, he defined economic governance as "the processes that support economic activity and economic transactions by protecting property rights, enforcing contracts, and taking collective action to provide appropriate organizational infrastructure" (Dixit, 2009, p. 5). The definition neatly summarizes nine separate realms of international academic scholarship that demonstrates the correlation between government institutions/policies and business performance. In creating the MBEI, we have tried to adapt these broader findings from the economic, management, and political science literature to the Myanmar context. In this section of the report, we walk through the major components of economic governance in a country and connect them to current research on Myanmar.

1.2.1. Property Rights

Businesses benefit from property-rights institutions that protect them from state expropriation of land, capital, or intellectual property (North, 1981 ; Acemoglu and Johnson, 2005; Johnson et al., 2002). Property rights cannot simply be promised by fiat; they must be ensured by cross-cutting institutions that check the power of the state, provide for representation of the business community in decision making, and allow businesses to appeal state actors' decisions in independent courts. A great deal of work has shown that within states, subnational governments that protect property rights experience greater business entry and investment growth since businesses feel more confident taking long-term risks.

In Myanmar, access to land and land tenure security are the fundamental property rights affecting the performance of businesses. Land management in Myanmar is a notoriously thorny issue governed by a variety of old laws, along with several more recent laws and policies developed under the Thein Sein government. For example, this includes Myanmar's National Land Use Policy, adopted in January 2016. Land rights affect the types of investments a business will undertake, their profitability, or whether a business can even begin operations at all (Leckie and Simperingham, 2009; Guyitt, 2014). Important studies have demonstrated the threats to welfare and to poverty alleviation that insecure property rights have caused in Myanmar (Myanmar Center for Responsible Business, 2018). Insecure tenure of land leads to uncertainty, which means that businesses will be reluctant to pursue investments that may greatly improve long-term profitability because they are not sure if they will be able to reap the future profits. Taken to the extreme, potential entrepreneurs sometimes shy away from even starting a business if they think the government can simply take away their land.

1.2.2. Contracting Institutions

Businesses benefit from reliable contracting institutions that assist in settling business disputes with other non-state entities. An independent legal system that allows small businesses and minority shareholders to defend their rights is essential for business growth (Djankov et al., 2008). Without the ability to uphold contracts, businesses will be forced to depend on social enforcement, relying on family, friends, and local notables to shame vendors who refuse to deliver or customers who fail to pay. This situation will limit the scope of potential business partners to those in a firm's immediate social network. Only with external enforcement possibilities will firms be willing to do business outside

BOX 1

What Is Economic Governance?

Economic governance refers to measures taken by governments to support economic activity and transactions. It is generally understood to consist of nine key areas. With respect to each of these, governments have a key function to play through the creation of institutions, design of policies, and implementation of those policies.

1. **Property Rights:** Facilitating access to, and protecting the security of, property vital for business activity, including land, equipment, and intellectual assets.
2. **Contracting Institutions:** Providing institutions, such as courts and arbitration centers, that help enforce contracts and adjudicate disputes between business actors.
3. **Regulatory Institutions and Post-Entry Regulatory Procedures:** Monitoring and regulating commercial activity in compliance with the law.
4. **Corruption:** Preventing the use of public office for private gain.
5. **Transparency and Access to Information:** Providing access to public information relevant to business activity.
6. **Infrastructure Quality:** Ensuring adequate quality infrastructure for conducting commercial activity.
7. **Labor Quality and Recruitment:** Ensuring the availability of an adequate skilled labor workforce.
8. **Policy Bias:** Ensuring a fair competitive environment for all businesses.
9. **Environmental Health:** Preventing environmental degradation from hindering commercial activity.

of their social network, allowing for greater expansion and growth. The law-and-finance-nexus literature has further shown that credit markets function best in regions with better legal protections (Levine, 1999). Because contracting institutions require independent courts and arbitration centers, which are rarely decentralized, subnational differences in this factor are actually quite rare in the developing world.

In Myanmar, businesses face substantial challenges in regard to law and order. Judicial reform has been the Myanmar government's stated priority in recent years. In 2018, it adopted its second Judicial Strategic Plan, aimed at bolstering judicial independence, promoting professionalism, and ensuring accountability and integrity in the judiciary. Nonetheless, Myanmar currently ranks 188 out of 190 countries on the World Bank Doing Business Report 2019 ***enforcing contracts*** indicator. In survey data, most businesses claim to not trust the court system and to try to avoid it if possible, even when they have serious disputes with clients and business partners. Few businesses engage in commercial activities outside of a narrow range of partners within their immediate locality, and survey research indicates that this is because they distrust the available formal means of dispute resolution. An additional source of uncertainty caused by the Myanmar legal environment is threat of crime and violence. Businesses express concern about break-ins and theft of equipment, which increase their business risks and raise costs since businesses take on additional security expenses (Than, 2016). Importantly for our project, the threat of crime on business activity varies heavily by state and region.

1.2.3. Regulatory Institutions and Post-Entry Regulatory Procedures

Businesses benefit from efficient regulatory structures. Due to the prominence of the World Bank's Doing Business Index and its more recent subnational versions, regulatory burden has become a focal point of economic development policy. Theoretically, regulations are meant to protect the public by ensuring labor safety, safe products, and sanitary food quality, and to limit environmental damage. In practice, however, regulations can tie up businesses in red tape, thereby reducing productivity and limiting their expansion. Regulations have been shown to raise entry costs, limit entrepreneurship, and protect inefficient monopolies. Djankov and colleagues (2002) identified a strong correlation between the costs and time of starting a business and the size of the informal economy. Subsequent microlevel studies have shown that registrations of new companies and of new corporate entities are higher when entry and other more general regulatory obstacles to business are lower. This is especially true in industries with higher nonregulatory obstacles to entry—for example, more expensive equipment or other inputs—and where technology or global demand shifts have occurred.

Myanmar businesses may incur regulatory and administrative holdups and expenses while they are starting their operations, which we call "entry costs," or continuously after operations have begun, which we refer to as post-registration regulation.[1] The World Bank Doing Business Report 2019 ranks Myanmar 152 out of 190 economies (in the bottom 25%) on their ***starting a business*** measure. However, the Doing Business methodology focuses on sizable limited liability companies in Yangon, omit-

A garment manufacturer in Hlaingthaya Township

ting the vast majority of smaller enterprises outside the industrial capital and neglecting the wide subnational variation in the country. In fact, in the World Bank's enterprise survey, respondents reported that regulation was far less of a burden in getting started (World Bank, 2014). Once operations begin, businesses must renew licenses, obtain forms and supporting documentation, comply with regulations, and undergo regulatory inspections. These obligations, although important, can often be arbitrary and impose significant burdens on businesses. For example, Myanmar is ranked 155 out of 190 countries in the World Bank's ***paying taxes*** indicator. This implies that the process of dealing with administrative requirements (in this case taxes) is cumbersome, time consuming, and inefficient.

1.2.4. Informal Payments

Businesses benefit when there is a reduction in corruption, or the *use of public office for private gain*. Scholars distinguish between two general basic forms: petty and macro-corruption (Ackerman, 1978; Lederman et al., 2005). Petty corruption consists primarily of the informal fees incurred by individual citizens as they go about their normal activities. It also occurs when businesses must pay informal fees, above and beyond legally stipulated service fees, to facilitate regulatory compliance or receive public services. Macro-corruption takes place at the highest levels of national and local governments and consists of activities that are not directly observed by average citizens although they certainly have an impact on general welfare. Macro-corruption commonly includes such activities as 1) accepting kickbacks on the issuance of government procurement contracts (e.g., for construction, equipment, or technical services), 2) taking bribes for policies that favor particular economic actors, and 3) allocating limited resources (including natural resources, telecommunications spectrums, export or production quotas, and high-ranking positions) on a nonmarket basis that benefits family, friends, or those with close relationships to the policymakers.

Informal payments negatively affect Myanmar business performance in many ways. Informal payments raise the costs of doing business, lead to worse public services when less efficient providers are improperly selected in procurement contracts, and create costly policy uncertainty (Olken and Pande, 2012). Reducing corruption has been a priority of Myanmar's reform-era government, most notably with the passage of the 2013 Anticorruption Law and subsequent formation of an Anticorruption Commission for reviewing complaints about bribery and other malfeasance (see Box 8). Nonetheless, the NLD government has continued to emphasize the need for improvement. The country is currently ranked 130 out of 180 countries on Transparency International's Corruption Perceptions Index 2017. By contrast, however, the World Bank enterprise survey reported that informal payments were not a significant obstacle for firms in Myanmar (World Bank, 2014), arguing that fees are relatively infrequent and low.

1.2.5. Transparency and Access to Information

Businesses benefit from transparency and access to information. Businesses need access to local budgets, land and infrastructure plans, and legal documents that are necessary to run their businesses. Transparency has enormous benefits in its ability to reduce the risk and uncertainty for investors—allowing them to engage in long-term planning—to predict legal and macroeconomic changes that may affect their business, and to reduce adjustment costs and the need for self-insurance (Aizenmen and Marion, 1993). Transparency has important direct and indirect effects on investors' decisions to expand their operations (Drabek and Payne, 2002). Information on land and provincial planning may be legally available to all, but accessing that information can often be problematic. This can have a detrimental effect on the growth of the private sector because firms cannot take advantage of provincial initiatives. When changes in the legal regime are not readily accessible, a firm may operate successfully for several years, only to find itself on the wrong side of the law simply out of ignorance. In most cases, such ignorance will cost the firm little, but there is always the potential for an unscrupulous official to exploit asymmetric information about the legal code to his/her advantage. Conversely, a firm may be eligible for savings, investment opportunities, or tax refunds but never takes advantage of them because it is unaware of these benefits (Malesky, McCulloch, and Nguyen, 2015).

Lack of transparency can also affect investment through its impact on predictability, or the ability of firms to forecast and thus build new developments into their business plans (Hollyer et al., 2011). Laws and regulations may or may not be implemented in a manner that allows for such planning. With transparency, firms

can understand the decisions that are made and how they will be implemented. This knowledge gives them a better chance at predicting the direction and risk of long-term strategies and increases their ability to make informed investment decisions (Gelos and Wei, 2005). Transparency can also affect investment indirectly through its impact on the equitable use of subnational resources. Indeed, a lack of transparency can lead to severe inefficiencies in such resources—inefficiencies that represent more than a simple transfer of resources from one party to another. Take, for instance, the issue of state and regional planning. The impact of infrastructure and land-conversion plans is limited if the details are available to only a select few insiders. One of the reasons this impact may be limited is because of the limited transparency of the real estate market. Only a few knowledgeable insiders know the location of future infrastructure projects and industrial zones. These insiders can then profit by buying the land ahead of time while other investors in real estate must make large conjectures based on small bits of information.

Myanmar firms can make more informed business decisions when they have access to up-to-date information on new government plans, policies, and regulations. The Myanmar government has recently taken small steps to improve transparency in general. For example, Union and state/region governments have begun publishing Citizens' Budgets—nontechnical documents aimed at conveying public finance decisions to the general public—as a step toward fiscal transparency (Deshpande, 2018). Citizens' Budgets encourage greater openness about financial decisions and greater opportunities for citizens to participate and influence expenditure decisions. The 2018 MSDP also proposes using more public and open tendering processes for government contracts, such as a new "project bank" for publicizing new state/region-level infrastructure projects. While these are important measures, World Bank's enterprise survey data suggests that many Myanmar SMEs have few sources of information on rules and regulations.

1.2.6. Infrastructure Quality

Businesses benefit from reliable, quality infrastructure. Transportation infrastructure includes traditional measures, such as roads, bridges, airports, and deepwater ports. High-quality infrastructure improves business productivity by reducing shipping and transaction costs, limiting space needs for warehousing if rapid delivery of inputs can be assured (known as just-in-time management), and lessening the risk of damaged and spoiled products (Démurger, 2001; Fedderke et al., 2006). Connectivity also matters. Poor linkages between highways, rail, and ports can lead to major delays in shipping times and possibly damaged or wasted goods. Telecommunication infrastructure, including adequate telephone coverage and Internet bandwidth, continues to gain importance, helping businesses connect with suppliers and customers, expand potential markets, engage new partners, and acquire new skills and technology (Röller and Waverman, 2001). Commodity producers in emerging markets now regularly use technology to stay abreast of rapid changes in pricing and weather that affect the bottom line.

Myanmar faces significant infrastructural challenges. The government of Myanmar recognizes that businesses require improved infrastructure, and the 2018 MSDP emphasizes, in particular, electricity, roads, and ports. To be fair, states and regions currently spend large portions of their budgets on infrastructure, often focusing on physical infrastructure such as roads and bridges (Shotton et al., 2016). Nevertheless, road quality in both urban and rural regions, poor connectivity between major types of goods transportation (in particular, road to rail and road to port), low capacity airports, and limited clean water access remain key infrastructure obstacles (Economist Corporate Network, 2017). Power and access to electricity remain major concerns. For example, the World Bank's Doing Business Report 2019 has Myanmar ranked 144 out of 190 countries on access to electricity (around the 25th percentile). Again, the infrastructural challenges vary heavily both within and across states and regions (Economist Corporate Network, 2017) and appear to be most problematic outside of Yangon and Mandalay.

1.2.7. Labor Quality and Recruitment

Businesses benefit from labor policies that provide for skills training and ease of recruitment. Having access to a skilled labor force can affect the costs of doing business and the quality of the firm's final product. Labor policies ultimately affect a firm's quality of human capital; the higher the quality of workers, the more productive a firm will be. Mismatches in the labor market affect both worker and firm: workers end up in jobs that are not suitable for them, preventing them from maximizing their

wages, and firms are less productive and have to spend more on training workers. Reasonable and efficient labor policies are therefore an important component of a healthy business environment. In their paper on Latin America, Acemoglu and Dell (2010) further find that about half of the within-country variation in levels of GDP per capita is accounted for by education. They tie these income benefits to Total Factor Productivity growth among businesses.

Myanmar has made notable changes to improve local labor markets but can do much more. In the past decade, the Myanmar government has undertaken a number of wide-reaching changes with respect to basic education, including reforming the national curriculum and increasing the portion of the Union budget allocated to education. The NLD government has also placed considerable emphasis on promoting technical and vocational training as incorporated in the 2018 MSDP. Nonetheless, serious challenges remain. According to an ILO survey, businesses in Myanmar report that around 60% of their production workers are low skilled and cite poor education as the greatest obstacle to business success. Low educational quality forces businesses to engage in-house training; this is quite risky, however, as many newly trained employees choose to leave. The ILO further finds that the average labor turnover rate is 57% for garment producers and 39% for food processors. This means that an average factory loses about half of its workforce annually (Bernhardt et al., 2017). While the introduction of a minimum wage law in 2013 and new rules for severance pay in 2015 may eventually reduce turnover, retaining high-quality workers remains a major challenge for many Myanmar-based businesses.

1.2.8. Favoritism in Policy

Businesses benefit from a level playing field and a fair competitive environment. Bias toward large or politically connected businesses undermines the benefits that meritocratic economic competition provides consumers. Competition lowers the price of goods and services, leaving consumers better off. That said, favoritism toward certain firms, for example because of personal connections, reduces these benefits. Favored firms may therefore be less efficient, produce inferior goods, and set higher prices than competitive businesses. This hurts consumers and is an impediment to growth and poverty reduction.

Myanmar has significant problems with bias in administration. Myanmar's history of state-controlled industries has meant that SMEs have long faced an uneven competitive field. The elephant in the room, of course, is Myanmar's long history of rampant cronyism, which has allowed government officials to show favoritism toward businesses with connections to the military and government. In the reform era, the Myanmar government has sought to unwind its state-owned enterprises, yet this process has been a gradual one. Nonetheless, ensuring a level playing field for all businesses in Myanmar remains very much a work in progress.

1.2.9. Environmental Health

Businesses benefit when environmental quality is suitable for their commercial activity. This is especially true for businesses that rely on a clean, pollution-free environment for their products and services, such as firms in agriculture, food processing, tourism, and other services. Complying with environmental regulations is essential for both businesses and citizens. Poor environmental quality affects the health of firm workers and citizens, leading to lower productivity at work. Some businesses are likely to pursue environmentally damaging behavior if left to their own devices. Local governments must therefore ensure that firms comply with the regulatory conditions established in the law.

Myanmar faces significant challenges relating to environmental compliance. The negative environmental impact of new business activity has been the subject of much attention from government and civil society in Myanmar. A 2015 Asian Development Bank Report notes that "the lack of a comprehensive and coordinated environmental framework, enabling institutional and legal structures, expertise, and greater capacity for natural resource management and funding" is among the country's outstanding challenges (Raitzer et al., 2015). With this in mind, the Myanmar government has enacted a number of new laws and policies in recent years related to environmental protection. The most notable legislation was the adoption of new Environmental Impact Assessment (EIA) procedures in 2016, which aimed at preventing and mitigating negative environmental and social impacts. While these measures are an important step, implementing them remains a work in progress.

BOX 2

The Vietnam Provincial Competitiveness Index

The Vietnam Provincial Competitiveness Index (PCI) report is part of an ongoing collaboration between the Vietnam Chamber of Commerce and Industry and the U.S. Agency for International Development. Since 2005, the PCI report has been produced annually in both Vietnamese and English. The PCI has a similar structure to the MBEI but differs in terms of the areas and indicators covered, focusing on governance issues that are critical to the Vietnamese reform context. Vietnamese policy-makers and the private business community have capitalized on the report's insights, and the PCI has played a part in the dramatic changes that have enhanced business development and growth in Vietnam. Over the past decade, the PCI has influenced policy priorities and reform choices, generating momentum for policy-makers to improve reform efforts and improve the daily work and management of local officials. Key achievements of the PCI include the following:

1. **Improved Governance:** A steady increase in governance across all 63 provinces. The 2017 PCI captured the highest median score achieved since the beginning of the project on the core index, a consistent measure that does not vary over time. Only one province has failed to demonstrate average governance improvements since 2005. In addition, scores have converged over time. The 16th and 48th ranked provinces are moving closer and closer, which is a result of increased learning among lower-ranked provinces.

2. **Business Growth:** Research has shown that improvements in the PCI are correlated with increases in business activity and economic growth. A summary of research on the relationship between the PCI and growth can be found at http://eng.pcivietnam.org/economic-governance-in-vietnam-reaches-all-time-high/ (April 16, 2018).

3. **National Policy Reform:** National and provincial leaders use the PCI as an oversight and monitoring tool. The national government has issued multiple documents on improving economic governance on indicators measured by the PCI, including measures of bribery and transparency. Most recently, the Prime Minister's office issued Decision 19/NQ-CP, entitled "The Tasks and Solutions to Improve the Business Environment and Enhance Provincial Competitiveness."

4. **Provincial Policy Reform:** Most localities have targeted ameliorating PCI indicators as the basis for activities to improve the provincial business environment. During the party committee congress of provinces and cities of the last term of 2015–20, 13 provinces and cities included the PCI as a target for improvement in the Provincial Party Committee documents. Since 2005, every province has issued a local action plan on how to improve PCI scores. Many have issued more than one. In order to improve the business environment using PCI survey data through June 2016, provinces and cities have promulgated 315 documents on the PCI, including "Resolutions of the Provincial Party Committee" and "Resolutions of Provincial People's Council."

5. **Media Coverage:** Google trends searches reveal that over one million newspaper and blog posts have been written about the PCI or have used the PCI to analyze local economic issues. For a sample of these articles see the PCI website, at http://eng.pcivietnam.org/category/event-news/.

6. **PCI Diagnostics:** The PCI research team has conducted 350 workshops around the country with local officials, briefing them on their individual scores and on how to improve subnational governance. The workshops have been attended by nearly 52,200 local leaders.

See Malesky et al., 2007, for further details on the PCI.

1.3. MBEI Focus and Methodology

The Myanmar Business Environment Index measures economic governance as experienced by domestic firms in Myanmar's service and manufacturing sectors. The MBEI does not purport to cover all business sectors in Myanmar, nor does it measure all aspects of Myanmar's business environment. The MBEI includes services (e.g., retail, banking, hospitality) and manufacturing (e.g., food or garment production); however, it does not cover the primary sector (agriculture, mining, forestry and fisheries).[2] Furthermore, it is focused on capturing the perspectives of domestic businesses rather than foreign enterprises operating in Myanmar. For example, the MBEI measure of land access does not include foreign-owned agribusinesses in Tanintharyi Region, nor does it include domestically owned mining operations in Kachin State. Rather, the MBEI is focused specifically on domestic firms in the service and manufacturing sectors, most of which are SMEs located in cities and towns throughout Myanmar.

The MBEI is designed specifically to measure governance rather than overall market size or attractiveness. The purpose of the MBEI is not to assess the overall attractiveness of Myanmar's business environments. Rather, the MBEI is focused specifically on one element of the business environment—that is, government activities to provide the institutions and policies that facilitate business success. As we argued above, governance can be improved in the short and medium term and is linked to business performance and growth.

1.3.1. Themes and Indicators Covered by the MBEI

MBEI scores cover ten facets of governance, which relate to key themes in economic governance. We chose the features of economic governance that were most important to the Myanmar business context and then selected measures to track performance on these concepts across Myanmar's states and regions. We discuss these dimensions chronologically around the issues that business managers encounter as they move through the business life cycle from entry to land acquisition to decisions about expansion and growth. Specifically, a state or region that is considered to perform well on the MBEI is the one that has 1) low entry costs for business startup, 2) easy access to land and security of business premises, 3) limited time requirements for bureaucratic procedures and inspections, 4) minimal informal payments, 5) sufficient and well-maintained physical and telecommunications infrastructure, 6) a transparent business environment and equitable business information, 7) minimal crowding out of private activity from policy biases toward state, foreign, or connected firms, 8) limited pollution and environmental damage, 9) sound labor training policies, and 10) fair and effective legal procedures for dispute resolution and maintaining law and order.

The ten MBEI subindices are built upon 101 indicators relating to specific features of economic governance. Table 1 below provides a more precise list of the individual, actionable policy indicators that comprise each of the subindices in the MBEI. Each of these indicators is described in more depth in Appendix B below, and the methodology of their selection and incorporation in the index is described in Appendix A. As we describe in more detail in Appendix A.1, the MBEI is composed of two types of indicators: 1) perceptions-based data that is drawn from a nationally representative survey of nearly 4,800 firms in all fourteen states/regions and Nay Pyi Taw and 2) hard data collected from administrative records or recorded from observations in the field.

The ten MBEI subindices are built upon 101 indicators relating to specific features of economic governance.

1.3.2. Brief Methodology

The index is produced in a three-step sequence, referred to as the "three Cs." These include the following: 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 MBEI as the weighted sum of ten subindices with a maximum score of 100 points. The research design also has a number of important design elements that make the results easily translatable into local governance reforms. This section provides a brief overview of this process, while Chapter 2 provides a full discussion of the methodology.

COLLECTION – The Asia Foundation collected both survey and non-survey data for inclusion in the MBEI. First, the survey instrument reflected the key issues covered by the subindices and incorporated input from discussions with businesses and policymakers. It included

BOX 3

What Is the Focus of the MBEI?

Economic governance refers to measures taken by governments to support economic activity and transactions. Broadly speaking, it is just one component of governance generally, comprising all the functions of government that provide a suitable business environment. It is generally understood to consist of ten key areas. With respect to each of these areas, governments have a key function to play.

Some findings of the MBEI may seem surprising or counterintuitive; it is therefore important to keep in mind the population and subject matter on which the MBEI focuses. The MBEI does not measure all aspects of the Myanmar business environment (e.g., access to finance), nor does it survey the experiences of all businesses in Myanmar (e.g., agribusinesses). Specifically, the MBEI covers the following:

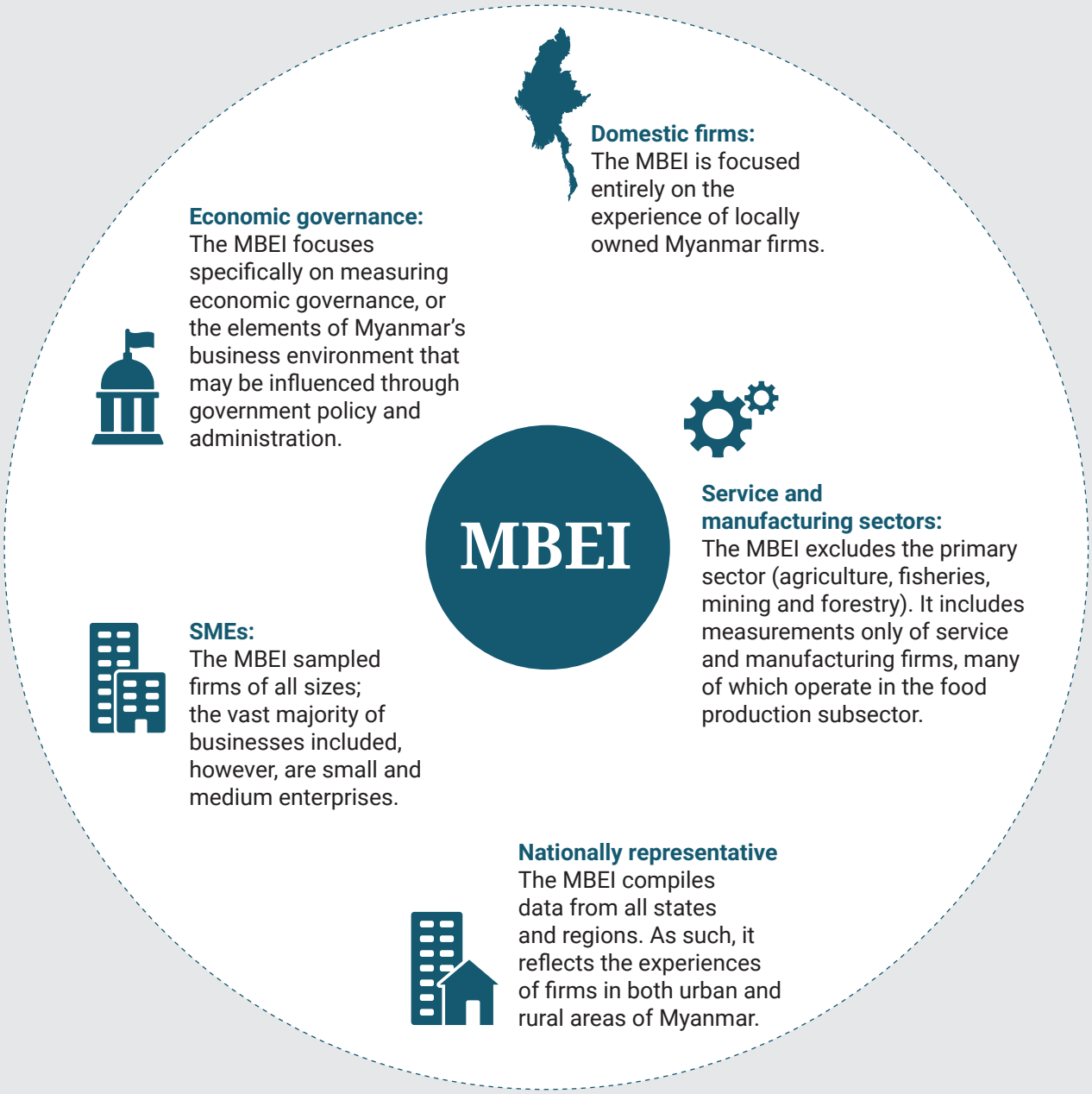


TABLE 1
List of All MBEI Indicators by Subindex

Key
Survey data
Observational or administrative data

Subindex 1: Entry Costs

- Firms waiting over 3 months to be legal (%)
- Number of total documents for firm to become fully legal
- Median days to get operating license (CDC)
- Median days to get operating license (DAO)
- Median days to get DICA registration certificate (DICA)
- Had difficulty with any administrative document (%)
- DAO licensing efficiency (1-3 points)
- DAO required documents (0-6 points)

Subindex 2: Land Access and Security

- Owns land and has a title
- Length of title acquisition (days)
- No obstacles in acquiring land or expanding premises
- No or low risk of expropriation
- Received fair compensation in case of expropriation
- Firms have done land procedures AND have not encountered any difficulties
- Low perceived rental risk
- DALMS licensing efficiency (Form 15, 1-3 points)
- DALMS required documents (Form 15, 0-5 points)

Subindex 3: Post-Entry Regulation

- Less than 10% of time spent understanding and complying with regulations
- Number of inspections for all agencies (count)
- Government officials are effective
- Firm does not take many trips to finish registration
- Paperwork is simple
- Fees are publicly listed (%)
- Helpfulness of junior staff (GAD, 1-5 points)
- Helpfulness of senior staff (GAD, 1-5 points)
- Helpfulness of junior staff (DAO, 1-5 points)
- Helpfulness of senior staff (DAO, 1-5 points)
- Helpfulness of junior staff (DALMS, 1-5 points)
- Helpfulness of senior staff (DALMS, 1-5 points)

Subindex 4: Informal Payments

- Percentage of firms that believe they do NOT have to pay informal charges
- Share that pay UNDER 2% of revenue in bribes
- Share that usually know amount of bribe in advance
- High expected delivery of service if bribe is given
- Commission is NOT necessary to win procurement contract
- Number of corruption cases per firm

Subindex 5: Infrastructure

- Roads are good or very good
- Telephones are good or very good
- Electrical power is good or very good
- Median hours lost of telephone, fax, and internet
- Median hours of lost power in last month
- Median number of days road blocked in a landslide
- Internet is good or very good
- Population share with electricity
- Population share with TV
- Population share with a telephone

Subindex 6: Transparency

- Access to planning and legal documents: state/region budget; township budget; Union laws and regulations; implementing documents of Union ministry; legal documents at state/region level; new infrastructure plans; public investment plans; land use allocation plans and maps; planning for the development of local industries and sectors; forms for fulfilling regulatory procedures
- Low frequency of changes in laws and regulations at the Union level (%)
- Low frequency of changes in the regulations at the local level
- GAD documents with information posted
- DAO documents with examples provided
- DAO documents with information posted
- DALMS documents with Form 15 examples provided
- DALMS documents with other examples provided
- DALMS documents with information posted
- Level of information posted in one-stop-shops (0-5 points)

Subindex 7: Favoritism in Policy

- No favoritism of local authorities toward businesses with strong connections
- Favoritism in land access
- Favoritism in access to loans
- Favoritism in granting mineral exploitation license
- Favoritism in administrative procedures
- Favoritism in state contracting
- Favoritism in access to information
- Banks per 10,000 citizens
- Micro-finance institutions per 10,000 citizens

Subindex 8: Environmental Compliance

- Overall environmental quality good or very good
- Severity of pollution is acceptable or better
- In case of pollution, authorities take timely action
- Pollution does not have negative effect on a firm's business
- Guidance on environmental compliance
- State support for water saving
- State support for waste recycling
- Percentage of the population with improved sanitation
- Percentage of the population with improved water sources

Subindex 9: Labor Recruitment

- Median share of business costs spent on labor training
- Labor recruitment easy: manual rank-and-file workers
- Labor recruitment easy: technicians
- Labor recruitment easy: accountants
- Labor recruitment easy: supervisors
- Labor recruitment easy: managers/finance manager
- Share of population completing primary education
- Share of population completing middle school education

Subindex 10: Law and Order

- If official violates law, he will be punished (share agree)
- If staff violate law, they will be disciplined (share agree)
- Legal system will uphold property rights and contracts
- State courts judge economic cases by law
- State court resolves economic cases quickly
- Court judgements are enforced quickly
- Legal aid supports businesses
- Judgement by the court is fair
- Security situation is good
- Victim of a crime last year
- Crimes per capita

twelve modules that were organized by topic, with a final set of control questions included to assess the circumstances of the interview. Second, this "soft" data was then combined with objective or "hard" data, gathered from observations of township offices that were recorded by our field team, statistical yearbooks, and other administrative sources available from government ministries. Observational data was collected by our field team, which visited local township offices and recorded information on the type of information available to businesses, the assistance provided in local offices, and the waiting periods to complete procedures. These observations were recorded on scales that were comparable across townships. The hard data was used to address perception and anchor biases in responses. After all, many SMEs may not have an adequate understanding of other locations to rate their home state/region on a five-point scale.

MBEI survey data is built upon a nationally representative survey of 4,874 private, domestic firms drawn from a sample frame supplied by the Ministry of Labour, Immigration and Population (MOLIP). To focus on local economic governance, we limited our population of interest in two important ways. First, we excluded foreign firms since they are concentrated in only a few states and regions, have limited comparability, and face different regulatory rules and procedures from most domestic firms. Second, we excluded all firms with employment sizes smaller than four employees, according to the MOLIP dataset. This decision was necessary because the sample frame did not include a measure of formality, but we worried that fully informal firms have too little interaction with government to answer nuanced questions about administrative and regulatory procedures. We needed firms that had engaged in some of the processes. To proxy for formality, we dropped these micro-businesses. These decisions left us with a sample frame of 60,000 firms, which we used to select target businesses through a two-stage randomization process that ensured representative samples at the national, state/region, and township levels. For details on the sampling strategy, see Appendix A.2 below.

Each indicator was chosen to provide actionable policy information that can easily be tracked and monitored by local administrators and businesses over time. The MBEI team does not want to simply report that an abstract concept such as transparency is low; rather, we seek to provide clear information on policy levers that can be used to increase transparency at the state/region and township levels. For instance, the MBEI tells leaders how many of their businesses report that operating license fees are publicly posted in local DAO offices and how many businesses are able to easily access local budgets and cadastral maps.

CALCULATION – MBEI scores are calculated based upon 101 indicators that function as the combined building blocks of the ten subindices. This method used the existing literature on the business environment as a guide and incorporated discussions with policy-makers and economic analysts familiar with the Myanmar context. Considerable effort was made to ensure that these subindices corresponded with previous research on the obstacles to private sector entry and growth in Myanmar. Improvement on these subindices is seen as critical for Myanmar continuing to develop and prosper (see Appendix B for a full discussion of the motivation behind the selection and measurement of each indicator).

To create subindices, each indicator was standardized to a scale of one to ten, where 1 is the lowest score reported by a respondent and 10 is the highest. This decision is critical because it implies that we are normalizing the MBEI scores around the best practices already found in Myanmar. Thus, the MBEI directs state/region governments to improve their performance, not against some ideal and possibly unattainable standard of good governance, but rather against the best performance already practiced by their peers within the same national political framework. For example, while the MBEI scores for states and regions range from 53 to 65, any state/region, in theory, could attain a perfect score of 100 by adopting all existing best practices already found in Myanmar. After indicators were rescaled, a weighted average was taken to create the subindex. Weighted averages were employed to better incorporate hard data when available. To limit perception biases, survey data received a weighting of 60%, whereas hard data received 40%.

MBEI scores are calculated to allow for separate analyses of distinct subgroups. Importantly, all subindices were created at the level of the respondent firm. That is, each firm had a unique governance score created by its survey answers and township-level observation and administrative data. This approach allows us to aggregate individual respondent answers

to whatever level of governance we deem to be necessary for a particular research goal. While the MBEI focuses on aggregate performance at the state/region level, we can also generate separate economic governance scores at the township level, by sector of the firm, by gender of the business owner, and by a range of other features that allow us to track inequality in the application of economic governance.

CALIBRATION – Final MBEI scores are calibrated using weights that reflect the relative importance of each topic to key economic outcomes. A simple summation of the ten subindices yields an unweighted index with a maximum possibility of 100 points. While this is clearly the easiest and simplest method of calculating the final MBEI, it is inappropriate as a policy tool for the simple reason that some subindices are more important than others in explaining private sector development. Hence, it is important to reweight subindices based on their actual contributions to firm satisfaction with governance private sector development. To do so, the research team used multivariate regression analysis to determine how each of the subindices influenced the key economic performance variables that researchers and practitioners in Myanmar have deemed the most important gauges of private sector development. In particular, we looked at the relationship between the MBEI and average business confidence in local leaders, performance of the business in the past year, and willingness of the business to expand its operations.

Weights are applied in order to incorporate the relative contribution of each subindex to key economic outcomes. After removing the influ-

BOX 4

Local Economic Governance and Conflict in Myanmar

Decades of armed conflict have left Myanmar among the most conflict-affected countries in Southeast Asia. Active or latent conflicts affect at least 11 of Myanmar's states and regions, and as many as 118 of its 330 townships. Many of these conflicts have deep roots, dating from Myanmar's early days of independence. Over the years, they have drawn in a variety of armed organizations and deeply influenced the lives of civilians across the country. They have resulted in thousands of casualties, political instability, human rights abuses, and economic insecurity in countless Myanmar communities.

In addition to inflicting deep social and political wounds, subnational conflict takes an additional toll on communities by throttling economic growth. Conflict influences the subnational business environment in a number of ways, many of which are tied to the government's inability to encourage and promote private commercial activity. It reduces economic opportunity not only by threatening security but also by preventing infrastructure development, inhibiting access to judicial systems, and reducing land access and security. In Myanmar, all of these are challenges which businesses face that are intimately bound up with years of subnational conflict.

The impact of armed conflict on business activity in Myanmar is a subject in need of further research. In Myanmar, it is a topic which has proved difficult to penetrate, largely for security reasons. A handful of studies have focused on the intersection of business and conflict in Myanmar. Research has helped to understand the important political and human rights issues related to business activity in mining, forestry, and other sectors involving resource extraction. The MBEI does not delve deeply into many of Myanmar's conflict-affected areas. Prior to sampling, several townships were removed from consideration due to concerns about the safety and security of the survey field team. While the impact of subnational conflict on local economic governance remains a particularly important question in Myanmar, it is not one which can currently be fully explored through the MBEI.

ence of structural variables on these measures (such as distance from markets and the industrial sector), we were able to determine which subindices were most strongly associated with our three outcome variables. In essence, we learn which subindices provide business with confidence that their business leaders are making good decisions that aid their performance, with actual business performance measured by profitability, and with the prospects for investment measured by willingness to expand. This final measure connects our index to the possibility of future growth and job creation.

Regression modeling is used to generate weights for the ten subindices. Regression outcomes were then rounded to deliver basic classes of weights, shown in the final column of Box 5. Subindices that have the largest association with private sector growth—Environment (subindex 8), Labor Recruitment (subindex 9), and Law & Order (subindex 10)—receive the highest weight class of 20%. Correspondingly, those that are not strongly correlated with private sector development outcomes receive the lowest weight class of 2.5%. These include Land Access (subindex 2), Transparency (subindex 5), Infrastructure (subindex 6), and Favoritism in Policy (subindex 7). The medium-weight class of 10% is reserved for either average correlations across the three outcome variables or a large substantive effect on one outcome (e.g., profitability) but a minimal relationship with the other two. This includes Entry Costs (subindex 1), Post-Entry Regulation (subindex 3), and Informal Payments (subindex 4).

Workers assemble a scaffolding at a construction site in Yangon

BOX 5

MBEI Subindex Dimensions and Weighting

Various elements of economic governance contribute in varying degrees toward business success. The MBEI therefore employs a weighting regime to take this into consideration. Weighting the various components of Myanmar's business environment is unavoidably a contentious exercise since each expert has his or her own prior beliefs about which subindices are most important. These dissenting views are often well informed but based on widely different experiences with business or government. For example, one business may believe that land access, labor, and infrastructure are crucial to success, while another will cite other factors such as law enforcement or entry costs. Because it would be impossible to manually construct a weighting scheme from these myriad views, the MBEI seeks to use the most objective method possible to construct subindex weights and document this process with transparency. The following weights were developed based on MBEI survey responses using regression modeling:

Subindex	Indicators	Dimensions (Weight within Subindex)	Weight in MBEI (%)
Entry Costs	8	1. Survey Data (60%) 2. Hard and Observational Data (40%)	10
Land Access and Security of Tenure	9	1. Survey Data (60%) 2. Hard and Observational Data (40%)	2.5
Post-Entry Regulation	12	1. Survey Data (60%) 2. Hard and Observational Data (40%)	10
Informal Payments	6	1. Survey Data (60%) 2. Hard and Observational Data (40%)	10
Infrastructure	10	1. Survey Data (60%) 2. Hard and Observational Data (40%)	2.5
Transparency	19	1. Survey Data (60%) 2. Hard and Observational Data (40%)	2.5
Favoritism in Policy	9	1. Survey Data (60%) 2. Hard and Observational Data (40%)	2.5
Environmental Compliance	9	1. Survey Data (60%) 2. Hard and Observational Data (40%)	20
Labor Recruitment	8	1. Survey Data (60%) 2. Hard and Observational Data (40%)	20
Law & Order	11	1. Survey Data (60%) 2. Hard and Observational Data (40%)	20

2

Myanmar's Emerging Economic Governance Framework

2.1. Government Decentralization in Myanmar

Myanmar's 2008 Constitution marked an important turning point toward greater state and region involvement in economic governance.

Myanmar's 2008 Constitution marked an important turning point toward greater state and region involvement in economic governance. Among the many notable features of the new constitution was the creation of fourteen states and regions and one Union Territory, Nay Pyi Taw, consisting of the nation's capital city and surrounding townships. Under the new constitution, each state and region has a parliament (Hluttaw) with legislative powers and an executive power, or government, led by a chief minister and cabinet of ministers. Schedule 1 of the Constitution outlines the respective roles and responsibilities of the Union government, while Schedule 2 defines the legislative and administrative roles and responsibilities of the state and region governments. Schedule 5 further outlines the revenue-raising powers of the state and region governments, including the capacity to impose taxes and fees on private economic activity.[3] As such, the 2008 Constitution marked an important step toward decentralization in Myanmar and the creation of new responsibilities as well as new institutions and actors at the subnational level, which share responsibility for economic governance with Myanmar's Union government.

In Myanmar, local economic governance is determined by both Union and state/region governments. On the one hand, the Union government has had an ongoing and influential role in local governance, despite changes resulting from the new constitution. Importantly, the new constitution did not provide for levels of government below the state/region and did not overhaul Myanmar's local administrative structures. Township departmental offices generally report to district offices, which in turn report to state and region departments, and these departments are part of Union ministries. On the other hand, under the new constitution, these state/region departments are also associated with a relevant state/region government minister, as per their responsibilities under the constitution. The resulting governance structure is therefore one of dual accountability, in which both Union and state/region governments are relevant to departments operating at the township level.

The extent to which a particular department is accountable to the Union or state/region government varies by state or region and even by sector. Generally speaking, there are three broad types of accountability relationships between Union and state/region governments and departments in Myanmar (Figure 1). These include the following:

1. Sole accountability to the state and region government: This is applicable to departments whose responsibilities fall wholly under Schedule 2. These departments are funded entirely by the state and region government, and they report exclusively to a state/region minister. The Department of Development Affairs, which reports to the state/region minister of development affairs, is the only department that currently meets this criterion.

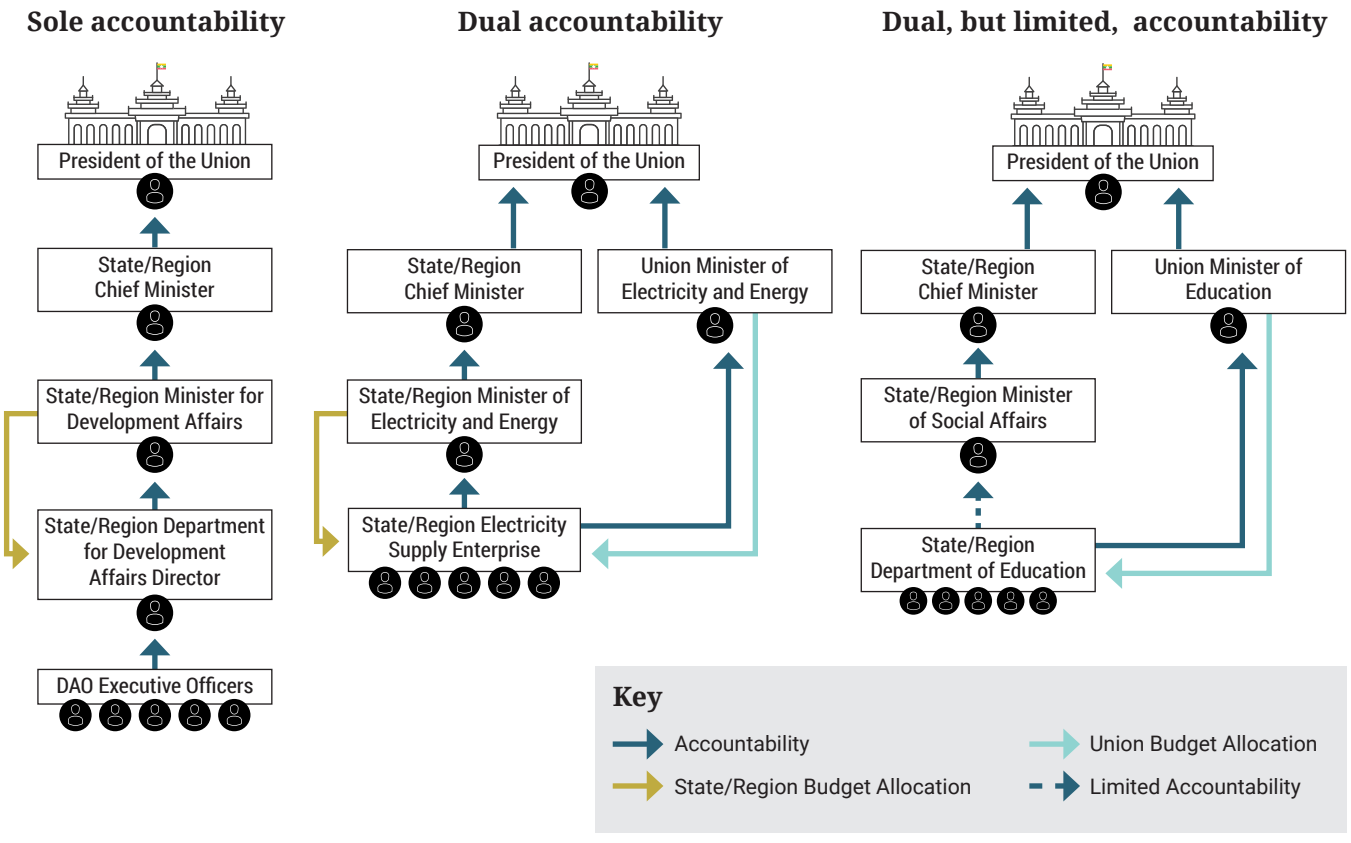
2. Dual accountability: This is applicable to departments that receive part but not all of their funding from state and region budgets, and that participate in some activities covered by Schedule 2. In such cases, state and region ministers may manage, guide, supervise, and inspect the department's work. The Roads and Agriculture Departments, Electricity Supply Enterprise, and GAD are notable examples of this type.

3. Dual, but limited, accountability: This is applicable to departments that are funded solely by the Union and are accountable to a Union ministry, but for which there is a corresponding state/region minister responsible for supervision, inspection, cooperation, and coordination of the department's work. Examples of this type include the Health, Education, and Rural Development Departments.

Within this system of dual accountability, evidence exists that departments are increasingly accountable to state and region ministers. The majority of departments for which state and region ministers are responsible are part of Union ministries. However, departments are increasingly accountable to state and region ministers (Batcheler, 2018, pp. 63–64). State and region ministers are frequently involved in the work of departments, shaping and influencing their activities and efforts. This is true also of departments with limited accountability to state and region ministers. Even in these cases, evidence points to state and region ministers playing an increasing role in human-resource decision making, policymaking, and planning and budgeting. To be fair, this trend is neither inevitable nor irreversible; however, it points to a greater opportunity for policymaking at the state/region level, which may impact economic governance in Myanmar and the business environment that companies face.

FIGURE 1

Accountability Relationships in Myanmar Administration



2.2. Economic Governance in Myanmar

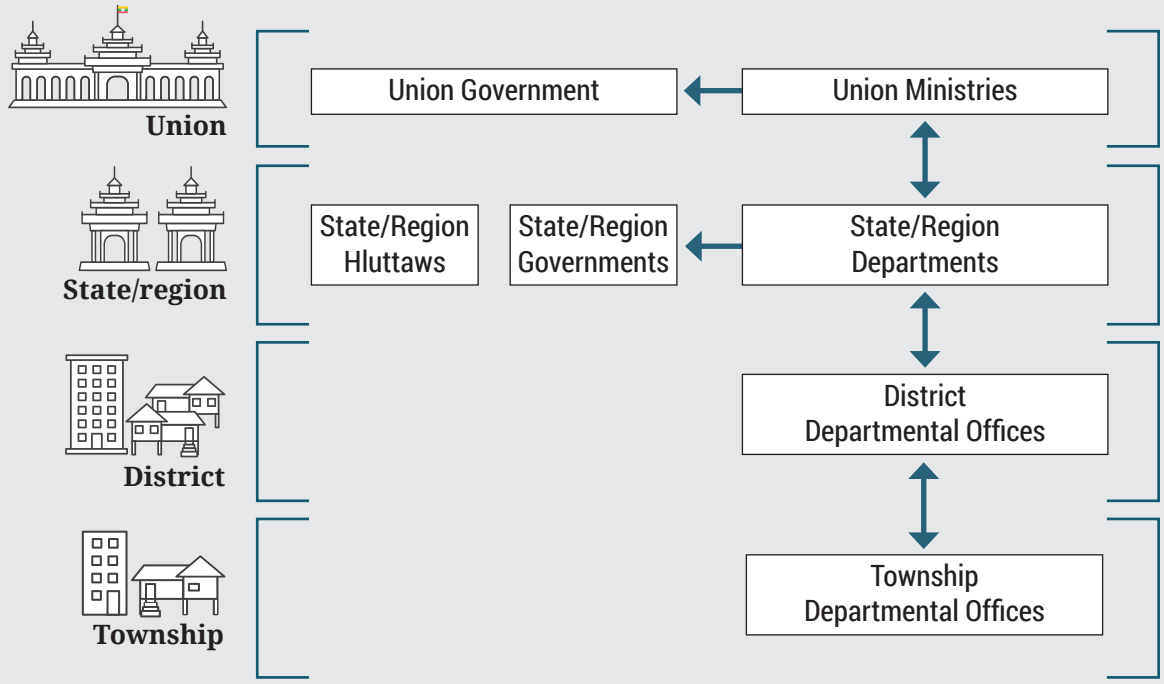
Economic governance is administered at the township level through a wide variety of sectoral and multi-sectoral departments.

Economic governance in Myanmar is determined by a variety of government institutions at both the Union and state/region levels. Myanmar has a history of strong central government whose influence grew during many decades of military control, yet in recent years state and region governments have increasingly played a role as well. Under this system, Union and state/region parliaments draft legislation, while Ministers and their appointees are broadly responsible for policy and implementation. Implementation occurs through cross-sectoral offices like the GAD and DAO as well as a variety of ministries relevant to particular business sectors. For example, hotels and travel agencies may be licensed by both a cross-sectoral office and the Ministry of Hotels and Tourism. Myanmar has a system of courts at the state/region and Union levels, although relatively few businesses use the court system to adjudicate disputes. As such, the policy behind economic governance in Myanmar is determined by a combination of Union and subnational government institutions.

Economic governance in Myanmar is shaped through multiple levels of subnational administration. Below Myanmar's Union and state/region governments are district- and township-level administrative offices tasked with implementing policies relevant to business. Importantly, the order and efficiency with which these offices administer economic policy at the local level can have a significant impact on business environment. The township-level administration plays arguably the biggest role in local economic governance in Myanmar because most business-government interactions take place at this level.[4] They include the granting of permissions and licenses, revenue collection, regulation enforcement, service provision, and other functions. Indeed,

FIGURE 2

Administrative Levels in Myanmar

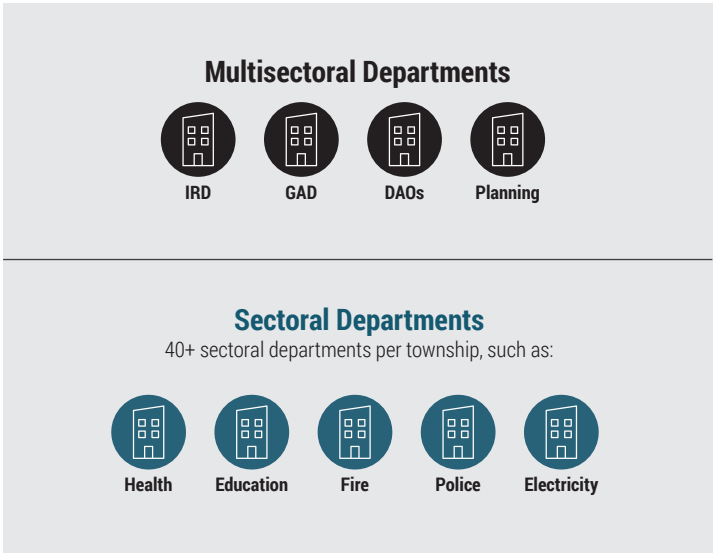


businesses have very little contact with officials beyond their township and little expertise on the economic services that government provides (Arnold et al., 2015; Bissinger, 2016).

Economic governance is administered at the township level through a wide variety of sectoral and multi-sectoral departments. The township-level departments with which businesses interact largely reflect the Union and state/region government structures described above (see Figure 3). Departments such as the DAO, GAD, and Internal Revenue Department (IRD) have remits across multiple sectors and have regular contact with businesses. As such, they are present in all townships and have the largest role in economic governance, generally speaking. Sectoral departments such as the Department of Forestry, Department of Fisheries, and Department of Livestock implement policy related to their relevant ministries (see Box 6). Due to the variety of departments with relevance to different business activities, administration of economic governance is often fragmented at the local level.

FIGURE 3

Township Department Offices



Parasols for sale in Bagan, a popular tourist destination

BOX 6

Township Level Authorities in Myanmar

- **General Administration Department:** The GAD's primary role in economic governance is licensing and certification, including for restricted goods (such as alcohol or property) and for activities such as land transfers and construction. The GAD is also responsible for collecting land, excise, mineral, and irrigation taxes. In addition to these functions, the GAD is also able to shape economic governance through its position as the most powerful township authority, charged with coordinating across all department offices, organizing interdepartmental meetings, and overseeing the collection of population registration data.

- **Development Affairs Organizations:** DAOs are the primary governance actors in urban areas, performing a wide range of functions across economic sectors. One key function is the issuing of operating licenses, which fall into two broad categories: non-exclusive business operating licenses and auction licenses, which only a limited number of businesses are able to obtain. Auction licenses are a significant source of revenue for DAOs, with the organizations collecting other revenues, such as property tax. In collaboration with other departments, DAOs also approve construction permits. Additionally, DAOs provide a broad range of infrastructure, such as roads, sewers, garbage collection, water supply, and street lighting, which shapes the context in which businesses work.

- **Department of Agriculture Land Management and Statistics:** DALMS play a prominent role in land registration and management. The department administers farmland taxes, with collection overseen by the GAD. DALMS is responsible for the registration and transfer of land and buildings in urban areas. Transfers of land are assessed by the Land Appraisal Board, which determines the value of land, after which taxes and a stamp duty are assessed.

- **Internal Revenue Department:** The IRD is responsible for the collection of commercial and income taxes, as well as stamp duties and other revenues.

- **Various Departments:** The Departments of Agriculture, Livestock, Fisheries, and Forestry each have township-level offices responsible for governing their respective sectors. Functions include, among other things, licensing and registration, taxation, and collection of fees related to commercial activity.

- **Ministry of Hotels and Tourism:** The MoHT is responsible for overseeing the tourism sector, including licensing for hotels and guesthouses, for transportation, and for tour guides and tourism companies.

- **Directorate of Industrial Supervision and Inspection:** DISI conducts inspections and registration of industrial businesses subject to the 1990 Private Enterprise Law.

- **Transport Division of Operator License Supervision and Coordination:** The department is responsible for licensing commercial vehicles that transport cargo or passengers.

For a more detailed explanation of the role of each department, please see Bissinger, 2016.

2.3. Implications for the MBEI Level of Analysis

The MBEI is designed to reflect the evolving nature of governance in Myanmar and anticipate emerging opportunities resulting from increased decentralization. Determining the level of analysis is one of the first and most important steps in any EGI. In Myanmar, this task is particularly complicated by the country's evolving legal framework with respect to government decentralization, its multiple levels of administration (e.g., Union, state/region, district, township, village tract, and village), and the various offices with which businesses interact (i.e., township Development Affairs Offices, General Administration Department offices, and branches of Union ministries). The MBEI therefore aims to reflect the cooperative roles of Union and state/region governments in determining laws and policies, the various layers of administration through which this process is implemented, and the multiple offices relevant to various business activities.

The MBEI collects data about business experience at the township level and presents this data in aggregate form at the state and region level. The MBEI is designed this way for several reasons. The MBEI aims to capture the impact of government policy and administration on Myanmar businesses. Although Myanmar's Union government has authority over broad economic policy and expenditure on public services in Myanmar, policy is also implemented through a cascade of administrative offices at the subnational level. The MBEI also aims to capture the degree to which economic policy is effectively administered at these lower levels, in part because most businesses in Myanmar interact with government administration below the state/region level. Business licensing and regulation often occurs at the township level, or in Yangon, Mandalay, and Nay Pyi Taw through multi-township CDCs (Ninh and Arnold, 2016). That said, townships have little authority to alter policy in Myanmar. The MBEI therefore presents data at the state/region level because of the important and growing role of state/region government in policymaking and administration in Myanmar. Furthermore, because many rural townships have too few businesses to provide statistically reliable estimates, aggregating to the state/region level increases the sample size and precision of the evaluation.

The MBEI is designed to reflect the evolving nature of governance in Myanmar and anticipate emerging opportunities resulting from increasing decentralization.

Early evening activity as workers return home

3

The State of Economic Governance in Myanmar

With such a tremendous repository of data and over 100 separate measures of governance to choose from, it is challenging to narrow our focus to only a few key policy messages. To organize our analysis, we focus on a few key observations for each of the ten governance topics or themes identified in the subindices.

3.1. Entry Costs

Seventy-nine percent of businesses possess an operating license from a township authority or CDC, 15% of firms remain fully informal, and only 6% of firms possess a registration certificate from DICA.

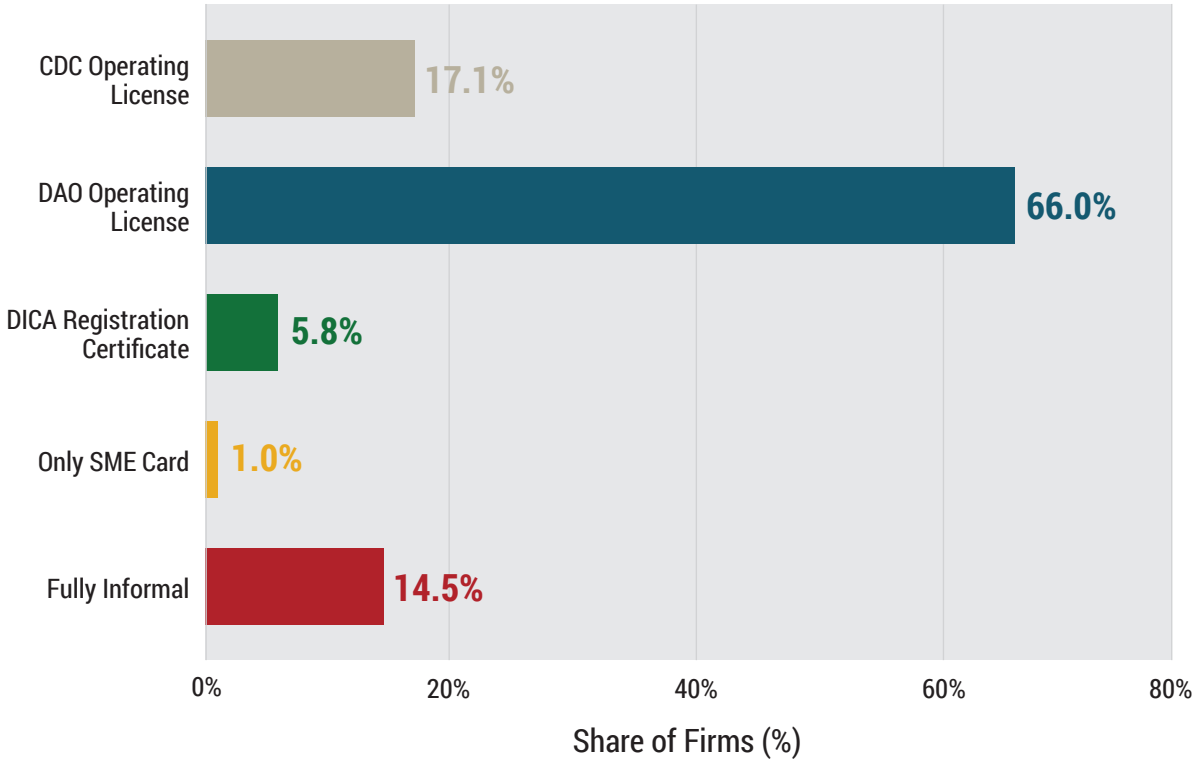
Business entry costs—and particularly business registration—have received great attention in recent years from business and government in Myanmar. In some instances, policy-makers in Myanmar have done an excellent job working to streamline registration and licensing procedures to start a business in Myanmar (Trautwein, 2014). For example, efforts have been made to improve registration certification at DICA and even to open an online portal for business access and registration. Similar efforts have also been made to improve licensing at some DAOs throughout the country, which have endeavored to limit the constraints and waiting periods that are necessary to receive operating licenses.

Businesses in Myanmar have three main ways to formalize their operations. These include 1) obtaining an operating license at the township DAO, 2) obtaining an operating license at the CDC in large municipalities, and 3) obtaining a company registration certificate at the national DICA office (Bissinger, 2016). In addition, some townships have begun to offer an SME card, which is not equivalent to formalization but is designed to allow business access to specialized services and provides a listing of smaller operations in the locality. Some businesses have treated this card as a registration certificate. As Figure 4 shows, the vast majority of businesses in our sample have obtained the township-level operating license (66%), a further 17% in Yangon, Nay Pyi Taw, and Mandalay possess an operating license from the municipal CDC, and only 6% of operations possess a DICA registration certificate, either as their only document (1%) or in combination with other entry documents (5%). Finally, 15% of businesses are fully informal, possessing no license or registration documentation for their business activities.

The period of time required to formalize a business varies depending upon the formalization procedure. Our data shows that the median firm in Myanmar requires less than a day to obtain an operating license from the CDC, and about a week to obtain one from the township DAO. DICA registration certification takes about 30 days for businesses in our sample; this longer waiting period is likely because the relevant businesses are bigger and in more complicated industries, and they are located far from DICA offices in Yangon. All in all, 60% of Myanmar businesses claim that they have all the required documentation to be fully legal within three months of starting their registration or licensing procedures, and only 9.3% of firms complain of difficulties in obtaining the necessary documentation. Visits by our research team to township DAO and GAD offices confirm this

FIGURE 4
Level of Business Formality

Registration Documents Held



Figures don't add up to 100% due to possibility of multiple responses by businesses.

analysis. On a score of 1–3, the median state received a three, indicating that DAOs in the locality receive applications, process licenses, and provide guidance and examples on how to complete procedures. Having these services close to home with proper guidance is helpful for most small businesses to complete the activities efficiently.

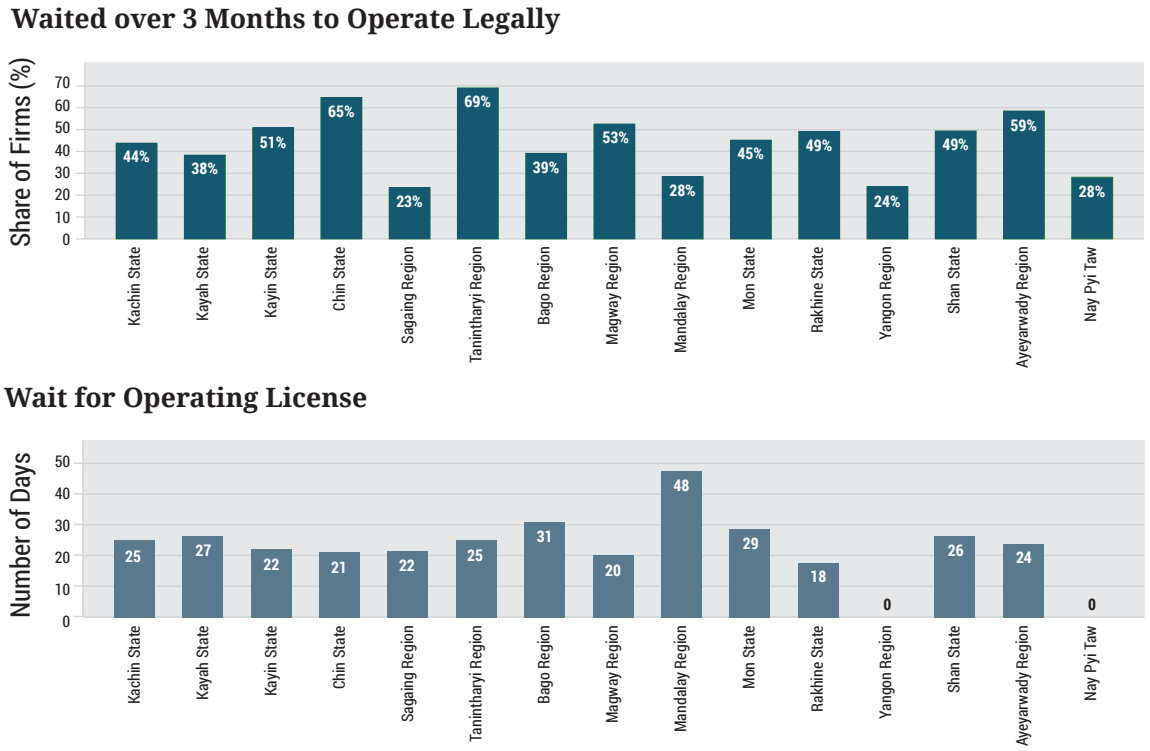
As a point of comparison, Myanmar businesses require significantly more time than businesses in Vietnam to complete all required documentation. Ninety-seven percent of Vietnamese private sector businesses report having all required documentation within three months, and 88% report having all required documents within a month.[5]

In Myanmar, long waiting periods to acquire an operating license are less about the application processing than the large number of supporting documents needed to begin the process. As previously noted, waiting periods—once an application is submitted correctly and in full—are relatively short. However, in the median state/region, about five documents are required before a firm can even apply to receive a DAO operating license in the township. The multiple documents include fire safety certification, health certification, and signatures of neighbors. This number is similar whether we rely on firms reporting from our survey or on information collected by our research teams when they visited each locality. Obtaining these documents is more costly than the process of application.

Variation across states/regions in time costs is tremendous (Figure 5). In Sagaing Region, the location with the lowest entry costs overall, only 23% of firms wait over three months to be fully legal, less than three documents were required on average by township DAOs, and the median firm received its operating license 21 days after application. By contrast, in Tanintharyi Region, 69% of firms wait over three months to be fully legal, and in Mandalay Region, firms wait nearly 48 days to receive their operating licenses.

In Myanmar, long waiting periods to acquire an operating license are less about the application processing than the large number of supporting documents that are needed to begin.

FIGURE 5
Entry Costs



3.2. Land Access and Security

Seventy-eight percent of businesses operate on land that is owned by the owner of the enterprises.

Land access and security is notoriously complex and problematic in Myanmar. Land access in Myanmar is complicated by a long history of state control, land transfers to private companies, and protracted armed conflict in various parts of the country. A great deal of research has studied the severe issues with land access and formalization for individual citizens. There is concern that many citizens have trouble obtaining enough land to farm and that, even when they do, the complications and expenses of the titling process remains problematic (Leckie and Simperingham, 2009; Guyitt, 2014). Important studies have also highlighted the threats to welfare and poverty alleviation that insecure property rights have caused in Myanmar (Myanmar Center for Responsible Business, 2018). It is important to remember, however, that this research has largely focused on the perspective of individual citizens, farmers, and workers, rather than of businesses.

For SMEs outside of areas directly affected by conflict, MBEI data suggests that concerns about land are perhaps less dire than for farmers or for companies that are larger or operate in other sectors. Seventy-eight percent of businesses in the MBEI survey operate on land or property that is owned by the owner of the enterprises. Fifty-six percent of businesses operate on family land, while 28% operate on land purchased from another party. Only 22% of businesses operate on land that is leased from government (5.2%) or from another private party (16.7%). Of those who operate on land that they own, 69% have a formal land title for the primary piece of land that their business operates on. Possession of the title was verified by our interviewers, who showed the business owner or manager a show card illustrating the precise depiction of a land document. The vast majority of businesses filed Form 15 at DALMS to formally title their land. Seventy percent of firms report that they encountered

no difficulties in fulfilling procedures for land formalization. Furthermore, 95% of firms who had obtained their title report felt little fear that their land would be expropriated by government through eminent domain or by private actors through conflicting land claims. Similarly, 91% of businesses that are renting or leasing are unconcerned about changes in rental contracts that may injure their businesses. Of course, it is possible that smaller businesses in service and manufacturing have slim land needs and operate mostly out of their homes; nonetheless the above optimism about land security is consistent throughout the country.

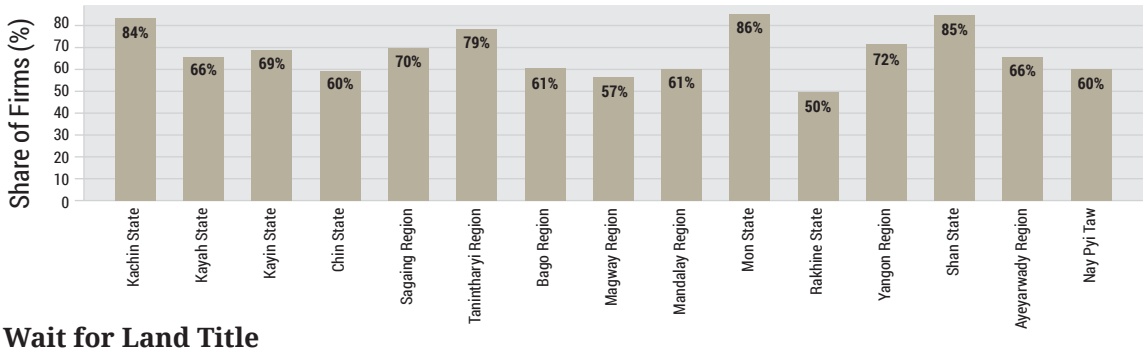
Land titling is a particular challenge for businesses and presents an opportunity to improve economic governance. Although firms perceive titling to be free of difficulties, for the median firm, this process took about 90 days after it had submitted all supporting documentation, which is a lengthy waiting period by international standards. By comparison, acquiring a land use rights certificate in Vietnam takes 25 days on average (Malesky et al., 2018). Given the nascence of Myanmar's cadastral service and the complications caused by overlapping ownership claims that need disentangling, 90 days is perhaps not unreasonable, but there is certainly room for improvement. Another concern relates to the rare cases when businesses have observed expropriation in their township. In these cases, only 19.7% of respondents believe that the occupants received fair market compensation for their lost property.

Lack of transparency with respect to land laws and procedures presents opportunities for improvement. Of the 30% that did report difficulties in formalizing their land title, the largest categories of concern were the length of waiting periods (56%), the lack of clarity about fees (27%), and the lack of clarity about procedures (23%). These problems were confirmed by our research team through on-site observations of the processes. On a three-point scale rating the availability of titling procedures and the quality and clarity of guidance about those procedures, the median state received a score of 1.58, indicating that many townships are not doing enough to help entrepreneurs through the complicated procedures. Moreover, the median state requires at least three supplementary documents (e.g., Forms 103, 105, and

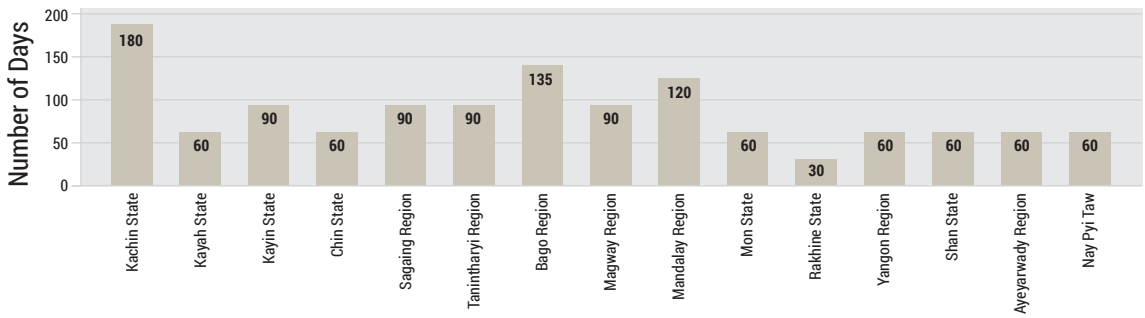
FIGURE 6

Land Access and Security

Possess Title for Owned Land



Wait for Land Title



106) and letters from other ministries in order to acquire the title, which adds to confusion and slows down the process.

Mon State has the largest portion of businesses operating on titled land (86%), while Rakhine State has the smallest portion (49%).

Issues related to land tenure and security are serious across the entire country. Variation across states/regions and townships is more limited than in relation to entry costs, and different states/regions excel at different measures. In terms of the share of SMEs operating on titled land, Mon State has the best record with 86%, compared to only 49% of operations in Rakhine State. While several locations (Mon State, Nay Pyi Taw, Chin State, Yangon Region, Shan State, Ayeyarwady Region, and Kayah State) have been able to fulfill land title applications in 60 days, procedures are extremely slow in Kachin State (180 days) and Bago Region (135 days). In Sagaing Region, 88% of firms reported that they had no difficulties in obtaining their land titles, compared to only 55% in Chin State.

3.3. Post-Entry Regulation

Compared to neighboring countries, post-entry regulation in Myanmar is not overly burdensome, but inspections are frequent and fees are unclear.

Post-entry regulation is correlated with economic welfare. According to our econometric analysis to develop the weights, reducing post-entry regulations is an important reform for increasing business satisfaction, performance, and expansion possibilities. Because of its strong correlation with these factors, post-entry regulations account for 10% of the weighted MBEI. Such procedures include regulatory inspections to monitor labor safety, fire certification, and environmental compliance. They also include interacting with administrative offices to pay taxes, renew licenses, and obtain construction permits for factory expansions.

Compared to neighboring countries, post-entry regulation in Myanmar is not overly burdensome, but inspections are frequent and fees are unclear. Overall, the findings with respect to post-entry regulation in Myanmar are mixed. As Table 2 shows, firms in Myanmar spend much less time dealing with post-entry regulations than operations in Vietnam (94% vs. 68%) and they find paperwork to be much simpler than for Vietnamese firms (70% vs. 52%). They also report very similar evaluations of the effectiveness of bureaucrats (77% vs. 72%) and requirement for agency visits (59% vs. 52%). Firms in Myanmar, however, are twice as likely to face regulatory inspections and are much

TABLE 2

Comparison Between Myanmar and Vietnam on Post-Entry Regulations

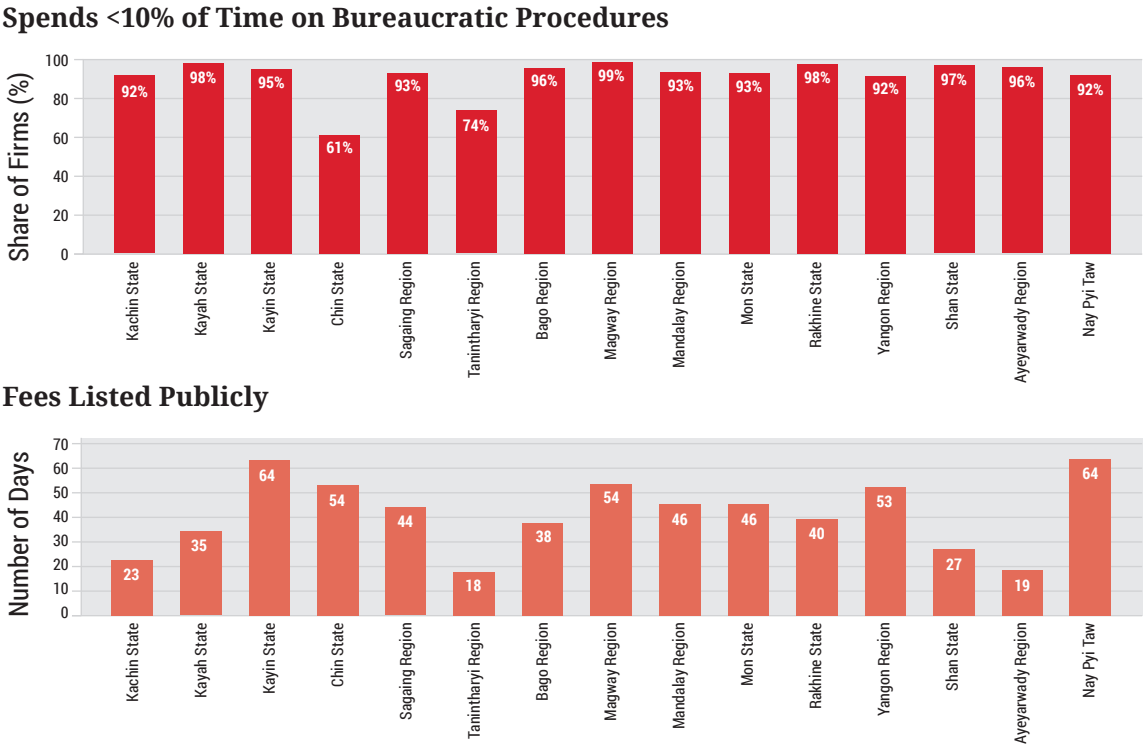
Variable name	Myanmar	Vietnam	Kayin State	Chin State
Less than 10% of time spent understanding and complying with regulations	94.0%	68.4%	95.02%	61.1%
Number of annual inspections for all agencies (average)	2.13	1	2	1.6
Government officials are effective	77.2%	72.1%	86.7%	60.9%
Firm does not take many trips to finish registration/licensing	59.5%	54.6%	79.4%	53.2%
Paperwork is simple	69.7%	52.3%	86.7%	70.7%
Fees are publicly listed	42.6%	91.8%	63.7%	53.6%

more likely to complain that regulatory fees are not clearly posted in local offices (42% vs. 92%) (Malesky et al., 2018).

Post-entry regulation varies greatly across Myanmar's states and regions (Figure 7). To illustrate this point more effectively, Table 2 presents the scores from the highest and lowest ranked states on the Post-Entry Regulations subindex. More than 95% of respondents in Kayin State report spending less than 10% of their time on bureaucratic procedures, 87% report that governments officials are effective and paperwork is simple, and 64% report fees as publicly listed. By contrast, scores in Chin State are significantly lower on all measures. The only place where Chin State marginally outperforms Kayin State is on the average number of inspections experienced by businesses.

FIGURE 7

Post-Entry Regulations



3.4. Informal Payments

Informal payments present a serious challenge for businesses and one that the Myanmar government has recognized as an important priority. The World Bank enterprise survey, however, reported that informal payments were not a significant obstacle for firms in Myanmar (World Bank, 2014). The report argued that informal fees were relatively infrequent and low. After talking with firms individually and in focus groups, we were skeptical of that analysis and asked numerous survey questions related to informal payments. Of course, given Myanmar's long history of military control and favoritism toward military-backed businesses, it is important to note that survey respondents may be reticent to speak freely about sensitive topics such as informal payments. For this reason, we were careful to use the appropriate vernacular terms for small bribes, such as informal fees, tea money, and gifts, in the

hopes that this approach might reduce underreporting. Moreover, in order to further reduce the effects of social desirability bias, we used several shielded-response questions described below.

Our findings generally confirm the World Bank's assessment that for many businesses informal payments are infrequent and that they are also small. Seventy-four percent of firms report that informal payments are not common for firms like them, and 79% spend less than 2% of their annual revenue on informal payments. By way of comparison, 60% of firms in Vietnam say informal payments are common, and only 50% pay less than 2% of revenue in informal payments. In regard to informal payments in procurement, 68% of firms that participated in public tenders claim that commissions are not necessary for winning government contracts. Of course, this does mean that a third of firms believe it is necessary, which points to unfairness in the process.

Seventy-four percent of firms report that informal payments are not common for firms like them, and 79% spend less than two percent of their annual revenue on informal payments.

The MBEI uses a list experiment to confirm low frequency of informal payments (see Malesky et al., 2017, for a review of the methodology in detail). As the wording below shows, respondents were randomly divided into two groups: those who received "form A" and those who received "form B." Both forms contained a list of four common activities related to business licensing and registration, such as "Searched for information . . . on website." However, only form B contained an activity related to bribery: "Paid informal charge to expedite procedures." Form A contained a placebo clause: "Traveled to Europe to observe registration processes," which no respondent answered. The interviewer and researcher were not aware which form a specific firm had received, and the firm was asked to identify only the number of activities it had participated in. As a result, respondents could reveal critical information without fear, thus removing the threat of firms lying in order to avoid incriminating themselves. The difference in means between the forms should provide the share of firms that participated in the sensitive activity—in this case, paying informal charges. As can be seen in Table 3 below, using this shielded technique, we find that less than 2% of firms in Myanmar made informal payments during their licensing or registration treatments. By comparison, when a similar list experiment was employed in Vietnam, it revealed that over 30% of firms made informal payments during licensing or registration (Malesky et al., 2017).

Despite the low level of informal payments this research demonstrates, variation does exist between localities, as can be seen in Figure 8. In Chin State, where informal payments are the most severe according to the subindex

BOX 7

List Experiment Question for Bribes During Registration/Licensing

8. Please take a **thorough look at the following list of activities** that firms normally need to do to register/license their business.

- Search information about business registration/licensing procedures on the website of state and region.
- Hired a broker/facilitator to help complete procedures.
- [Randomize, so that 50% of firms receive this option]
  Paid informal charges to relevant officials to expedite the procedures.
- [Randomize, so that the other 50% of firms receive this option]
  Traveled to Europe to observe registration practices there.
- Hired a lawyer/law firm to advise procedures.

Please **do not** indicate any one of these activities specifically, we are only interested in the total number of activities you may have utilized.

How many of the above activities did you engage in when registering/licensing your business?
(Please check ✓ the number of activities)

Number of activities
☐0 ☐1 ☐2 ☐3 ☐4

TABLE 3

Share of Firms Making Informal Payments During Licensing or Registration (from List Question)

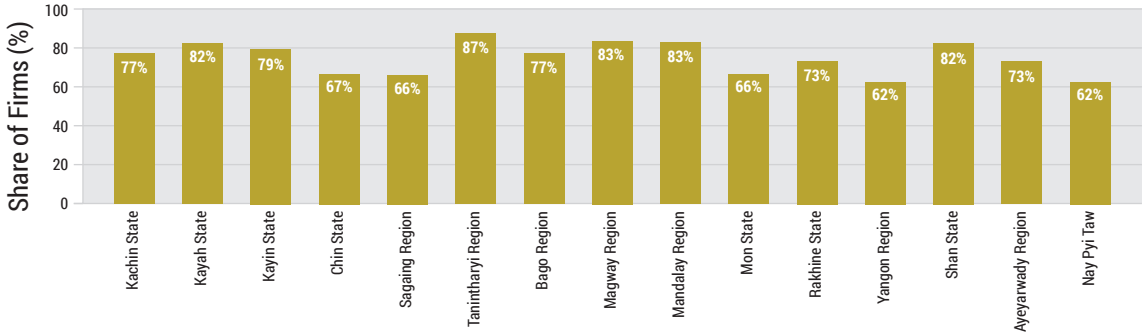
Form	Mean Activities	[95% Confidence Interval]		Minimum Activities Reported	Maximum Activities Reported
A (Informal Payment Treatment)	1.191	[1.17	1.21]	0 (87%)	4 (4%)
B (Europe Placebo)	1.173	[1.15	1.19]	0 (87%)	3 (4%)
Difference	0.017	[-0.009	0.44]		

rankings, only 66% report that informal payments are not common for firms like their own, only 33% of firms pay over 2% of their annual revenue in informal payments, and only 44% say procurement is not necessary to win government contracts. By contrast in Tanintharyi Region, which ranks as the locality with the lowest incidence of informal payments at the township level, 87.4% of firms report that it is not common, 95% claim to pay under 2% of their revenue in informal payments, and 100% say it is possible to win a local government contract without paying a commission.

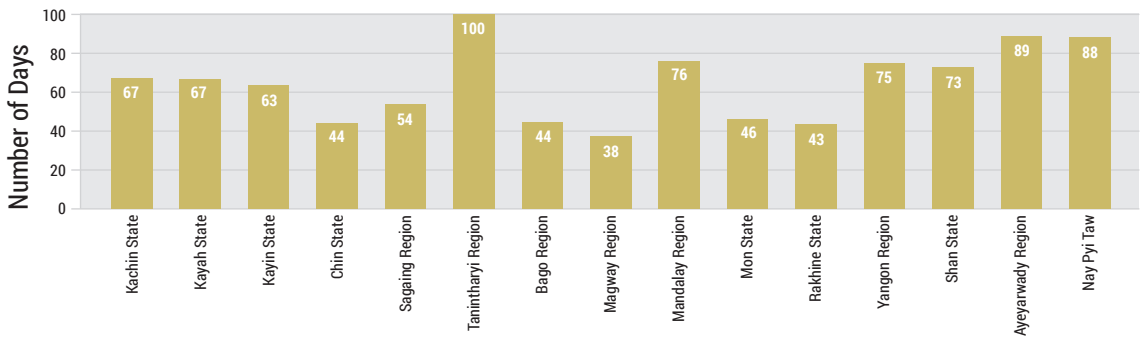
FIGURE 8

Informal Payments

Informal Fees Are Not Common



Commission Not Necessary in Procurement



BOX 8

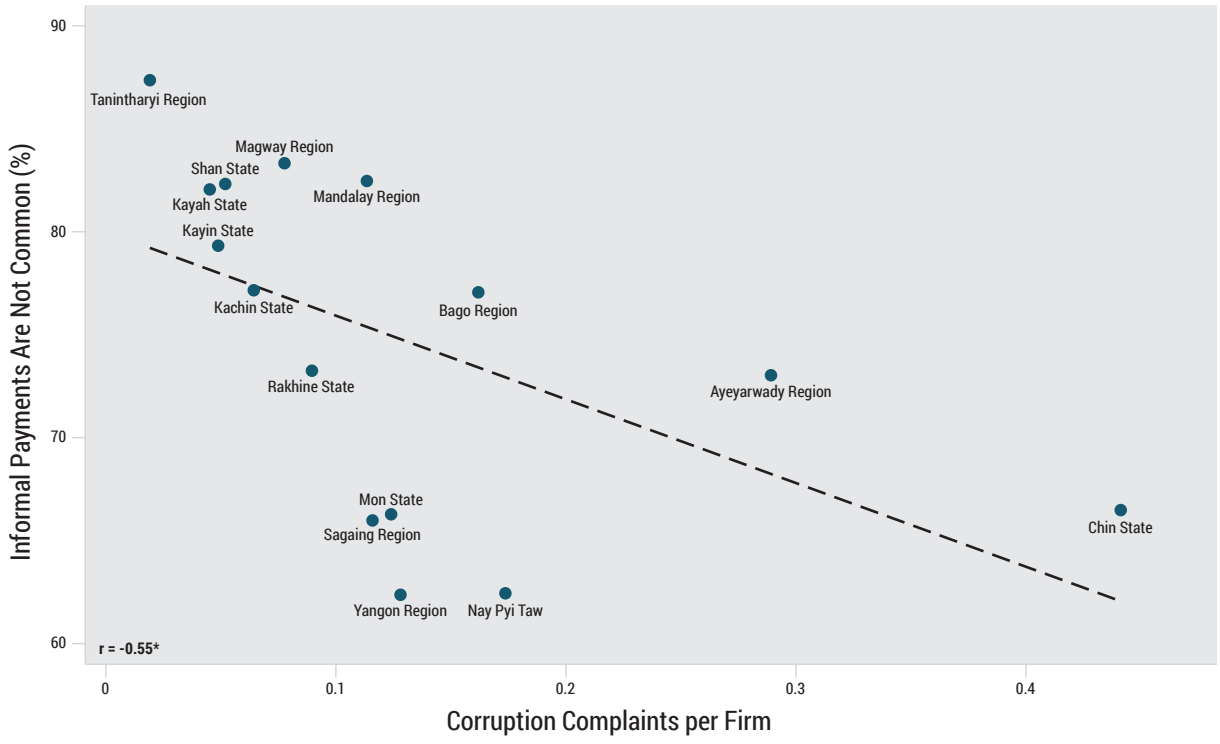
Government Efforts to Combat Corruption

The Myanmar Anticorruption Commission (ACC) was formed in 2014 pursuant to the 2013 Anti-Corruption Law aimed at curbing illegal payments to public officials. The law empowered a 15-member committee to receive and investigate complaints of corruption made against public officials. In 2018, an amendment further broadened the powers of the ACC to initiate its own investigations. According to data from the ACC website, as of February 2019, the commission had received 10,747 formal complaints, of which 95% had been addressed. While the ACC is not focused strictly on informal payments involving private businesses, it is nonetheless an important step toward addressing the negative impacts of corruption on Myanmar's business environment.

MBEI data points to a strong correlation between MBEI survey responses and the number of corruption complaints received by the ACC. Figure 9 shows the statistically significant and negative correlation between business experience with informal payments and complaints before the ACC. This correlation illustrates that firms are much more likely to report experiences with informal payments in states/regions that have a large number of corruption cases before the ACC (standardized by the number of firms in the locality). In fact, an additional complaint per firm in the state is associated with a 41 percentage point decrease in firms' optimism about corruption in their state (measured by the share of firms reporting that bribes are not common). While not definitive, this agreement between MBEI survey data and ACC data reassures us that there is concordance between business perceptions of corruption and reports of corruption to the ACC.

FIGURE 9

Correlation Between Reported and Actual Informal Payments



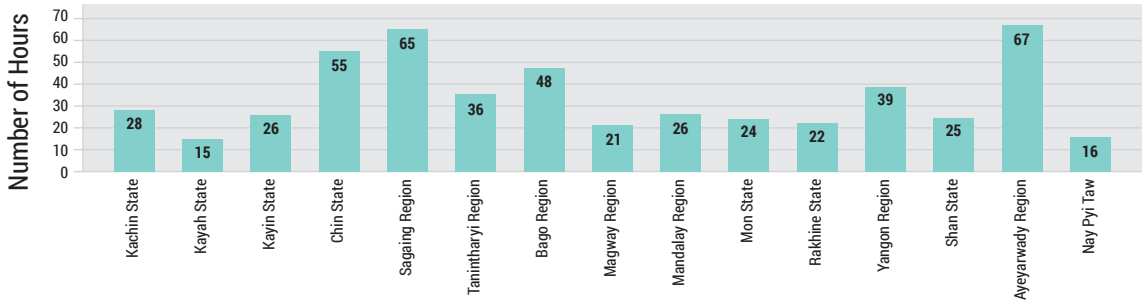
3.5. Infrastructure

Quality of infrastructure is a concern for many businesses in Myanmar. In particular, firms express dissatisfaction with road quality and electrical power (only 49% of firms say these features are good or very good). Firms are more positive about the telephone (66% report good or very good) and Internet (54% report good or very good). Even these infrastructure features, however, have problems. The median firm reported experiencing 20 hours of lost telephone and Internet coverage, and 20 hours of lost electric power in the past month. And the median firm claimed to have lost seven days of business transport activity due to flooded roads. These types of road and power outages can cost firms tremendous amounts of money in lost and spoiled products.[6]

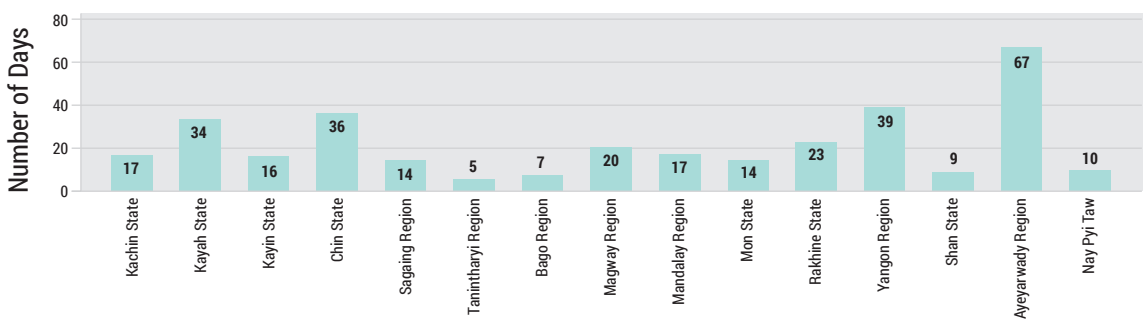
According to businesses, power and transportation infrastructure varies greatly across Myanmar. This variation is even more pronounced than that of indicators within other subindices. Nay Pyi Taw, the national capital, for instance, recorded only 16 hours of lost power in the month preceding the survey and only 10 days of road closures owing to flooding in the past year. Compare that to Ayeyarwady Region, where firms experienced 67 hours of power outage and 67 days of unpassable roads, respectively.

FIGURE 10
Infrastructure

Hours Lost to Power Outage Last Month



Days Lost to Road Closures Last Year



3.6. Transparency

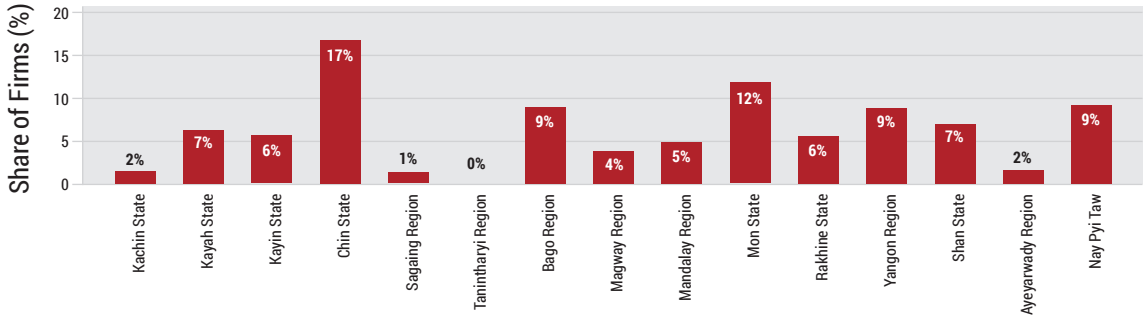
Government transparency is critically important for businesses to operate and grow. Transparency matters because firms need to know how to comply with government regulations and how to maximize their earnings potential in line with government investment and budget plans. Transparency provides firms with the certainty and the stability that are necessary to carry out those activities effectively. Transparency is an issue of interest to policy-makers and has generated a fair amount of attention. For example, Myanmar Centre for Responsible Business (2017) publishes annual reports on the transparency of local corporations. Our analysis focuses on an equally important issue: how transparent are local governments to SMEs.

The national level indicators show that Myanmar still has a long way to go to improve transparency. In general, businesses have very limited access to important planning and legal documents provided by the government. Only 3.6% of firms report having access to the state or region budget, and only 4.3% of firms report having access to new investment plans. Among the documents surveyed, the easiest to access were forms for fulfilling regulatory processes, yet only 26.9% of firms had access to these forms. The implication is that most businesses that engage in long-term planning are doing so without a fair amount of relevant information. The country generally performs better when it comes to the predictability of its laws and regulations. Firms reporting a low frequency of changes in laws and regulations at the Union level make up 71.1%, while 66.1% report a low frequency of changes to regulations at the local level. The numbers, however, also imply that over a third of the firms surveyed believe that laws and regulations change with relative

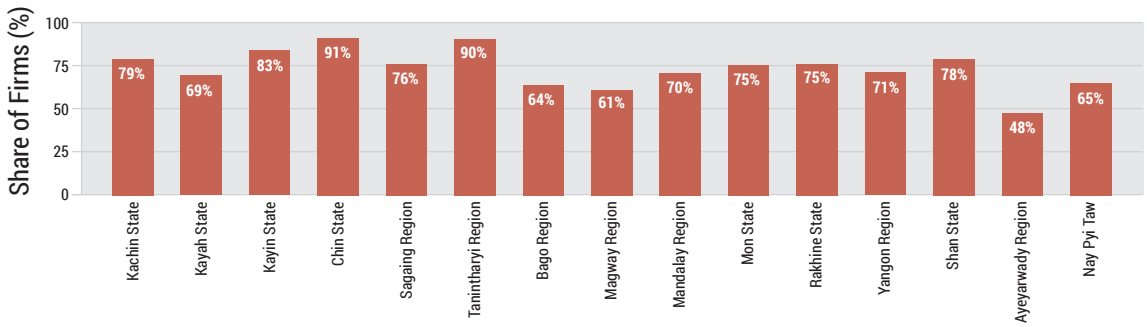
FIGURE 11

Transparency

Access to State or Regional Budget



Low Frequency of Changes in Laws and Regulations at the Union Level



frequency, making it more difficult to plan for the long-term.

Fieldwork by our research team confirms the general lack of transparency along other dimensions relevant to firms. The median state has none of the relevant GAD or DAO documents publicly posted in their township offices. Even the most transparent states/regions are insufficiently open by international standards.[7] Kachin State's performance on the observational indicators of publicly posted information and examples of relevant documents explains why it scored the highest on the transparency dimension. By contrast, Sagaing Region scores the lowest in this subindex. The primary reason for this result is Sagaing Region's placement among the two lowest scoring regions in five out of the ten ***access to documents*** measures. In addition, it is among the five lowest scoring regions for the rest of the access measures.

State and region budgets in Myanmar are a good example of where transparency is lacking. All but two states/regions, Mon State and Chin State, have scores where fewer than 10% of firms said that they had access to the budget documents. Four states and regions have fewer than 2% of respondents claiming that they have access to these documents. The indicator that measures low frequency of changes to laws and regulations at the Union level shows more optimistic results. With the exception of Ayeyarwady Region, with a score of 47.6%, the rest of the states and regions seem to be distributed relatively similarly above and below the median state. At over 90%, Chin State performs best in this category.

3.7. Favoritism in Policy

Favoritism distorts markets, hurts productive firms to the benefit of less productive firms, and ultimately hurts Myanmar's economy. International organizations are keenly aware of the importance of a level playing field for business competition and have quantified competitive distortions across countries. Myanmar does especially poorly on these measures. For example, the country ranks 185 out of 190 in protecting minority investors, according to the 2019 World Bank Doing Business Report. Our analysis focuses on states and regions within the country, allowing us to examine which states/regions do better and which ones do worse. We also focus on various aspects of competition policy bias to determine the dimensions along which favoritism takes place.

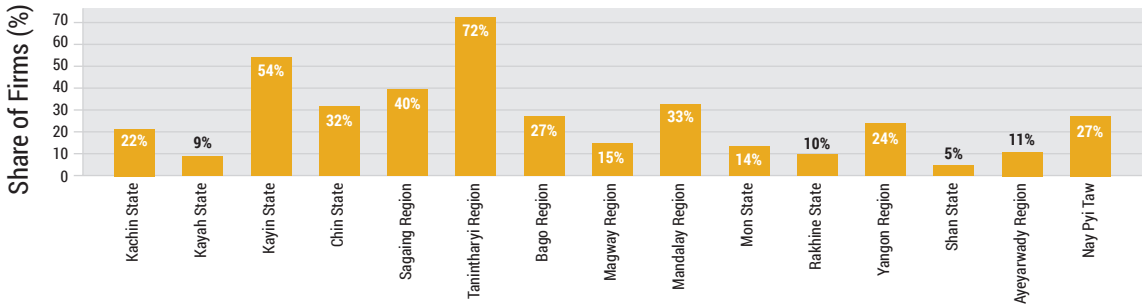
Our analysis reveals significant variation in how businesses experience favoritism, depending on the source of bias. Sixty-four percent of respondents claim that the government has shown favoritism in land access for businesses with strong connections, and 44.6% of firms believe that there is also favoritism in access to loans. But only 19.8% claim that there is favoritism in access to information, and only 25.2% of firms claim that there is favoritism in administrative procedures. The variation across indicators should not hide the fact that favoritism is rampant along most of the inputs surveyed.

There is great variation in bias across states and regions in Myanmar as well. In Shan State, the median state/region, 60.1% of firms claim that there is favoritism in land access. This indicator comes with substantial variation across states, with as little as 27.1% of firms claiming favoritism in Tanintharyi Region and as many as 83.9% claiming the same in Kachin State. Such variation is also present in other indicators. The share of firms that claim favoritism in access to loans runs from 10.4% in Kayin State to 61.9% in Rakhine State, with Nay Pyi Taw as the median location with 36.7%.

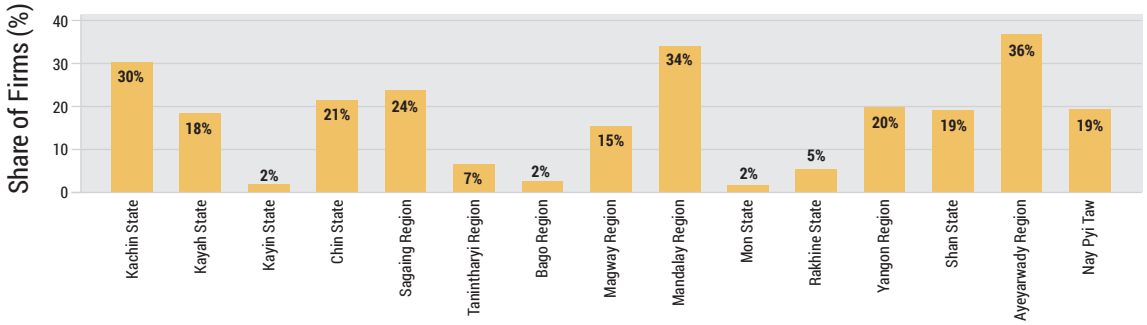
Favoritism in administrative procedures helps illustrate regional variation in Myanmar. To illustrate the tremendous variation, Figure 12 looks closely at the ***favoritism in administrative procedures*** indicator. On this favoritism metric, three states/regions score within single digits, and two score above 50%, indicative of the very large differences across states and regions. More optimistically, the second panel of Figure 12 shows that favoritism in access to information is perceived to be relatively lower than favoritism in administrative procedures. In five locations—Mon State, Rakhine State, Bago Region, Kayin State, and Tanintharyi Region—less than 10% of respondents felt there was favoritism in access to information. Only three out of the 15 locations—Kachin State, Mandalay Region, and Ayeyarwady Region—have scores above 30%.

FIGURE 12
Favoritism

Favoritism in Administrative Procedures



Favoritism in Access to Information



3.8. Environmental Compliance

Environmental compliance is among the most important subindices in the MBEI. Its weight of 20% indicates an extremely high correlation between performance on this index and satisfaction with local officials and business expansion plans. This indicator's importance likely has to do with the large share of businesses in service sectors that are injured by pollution. For example, restaurants, hotels, and other tourist businesses struggle in polluted settings. Indeed, even in manufacturing, 44% of the operations (according to MOLIP data) are involved in some form of food processing where pollution can also pose a severe hazard.

Myanmar businesses show strong preference for investment that is clean and green.

According to MBEI data, 42% of firms currently believe that overall environmental quality in their locality is good, and 84% believe pollution is at least acceptable. Nonetheless, businesses do raise some concerns. Only 41% of businesses believe authorities respond expeditiously to pollution crises, and only 33% feel that they receive appropriate guidance on environmental compliance. Furthermore, less than 10% of operations are familiar with programs to encourage water saving (8.2%) and water recycling (6.6%). As with previous criteria, local variance in environmental concerns is large. Firms in Kayah State, Nay Pyi Taw, and Tanintharyi Region are quite satisfied with both the levels of pollution and the commitment of the local governments to resolve them. In Shan State and Rakhine State, businesses are raising severe red flags about the influence of pollution on business performance.

Myanmar businesses show strong preference for investment that is clean and green. To further explore business perception with respect to the environment, the MBEI makes use of a conjoint experiment (see Appendix C). It involves asking survey respondants about their preferences regarding different types of businesses seeking to relocate in their township. We find that factors concerning the economic output of the prospective

investment do indeed play an important role in shaping the decision whether or not a business would support granting the new investor a license. For example, violations against environmental regulations that caused damage to 100 households decreased people's willingness to support the business' license application by 26%.

3.9. Labor Recruitment

Competitive labor policies are an integral part of the functioning of an economy. Ease of recruitment of workers and low costs of labor free up firms to engage in other profit-generating activities. A well-educated labor force further improves firm productivity. Myanmar is taking labor reforms seriously—for example, with the introduction of a minimum wage law (World Bank, 2018). Our analysis below allows us to disaggregate which states and regions are doing best in terms of various labor policies along these lines.

Ease of recruitment appears to be a substantial challenge for businesses throughout Myanmar. Across all the jobs we analyzed—be it manual rank-and-file workers, technicians, accountants, supervisors and managers—more than half of the firms surveyed find it difficult to recruit for these positions. The easiest position to recruit was accountants, at 42.1%. This result implies, however, that 57.9% of firms find accountant recruitment difficult. Other positions do much worse. Only 20.5% of firms find technician recruitment easy. And finding good workers is expensive. The median firm spends 5.4% of its operating costs on labor recruitment. Taken together, these results may imply that it is difficult and expensive to find qualified applicants.

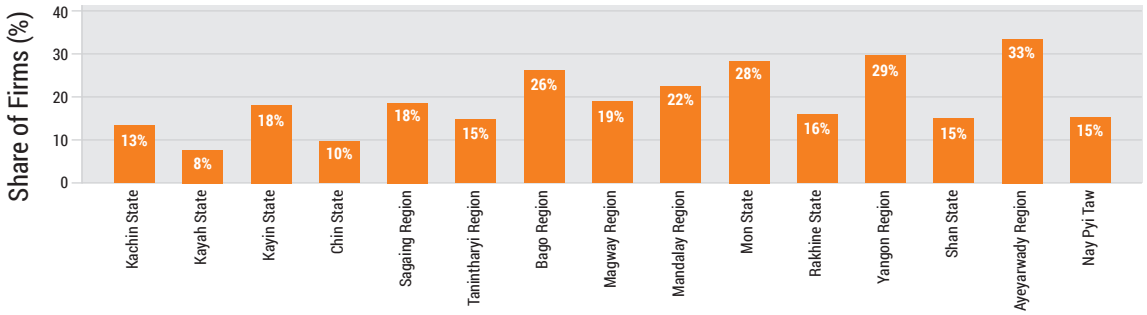
Most states and regions seem to struggle with labor recruitment. As a case in point, across all the positions we surveyed, the state/region

More than half of all firms surveyed find it difficult to recruit rank-and-file workers, technicians, accountants, supervisors, and managers.

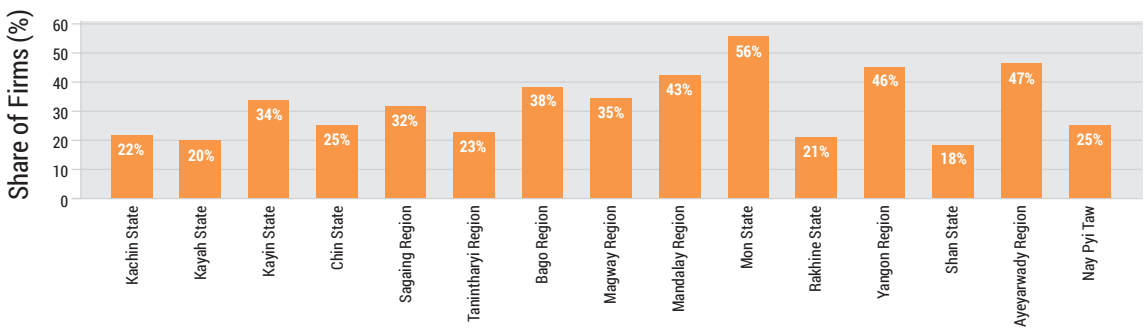
FIGURE 13

Labor Recruitment

Ease of Labor Recruitment (Technicians)



Ease of Labor Recruitment (Supervisors)



that did the best in any of these positions was Mon State, with easy recruitment at only 55.9% for supervisors. The locations that performed the best with respect to ease of recruitment were Ayeyarwady Region and Mon State, with 33.0% (for technicians) and 46.2% (for managers), respectively. The states/regions that do the worst for ease of technician and manager recruitment, Kayah State and Bago Region, have truly mediocre results, reporting only 7.7% and 8.9%, respectively.

Not surprisingly, recruitment challenges vary depending on the position being hired. Examining some indicators gives us a better sense of the difficulties of recruitment. Only five out of 15 locations—Mandalay Region, Bago Region, Mon State, Yangon Region, and Ayeyarwady Region—have a score where at least 20% of firms find recruitment of technicians easy. In Kayah State and Chin State, less than 10% of respondents found recruiting a technician to be easy. Supervisors seem much easier to recruit. But even then, in seven of 15 locations, only 25% or less of respondents report that recruiting a supervisor is easy. Only four states or regions—Mandalay Region, Bago Region, Ayeyarwady Region, and Mon State—have scores where at least 40% of respondents found recruiting a supervisor to be easy.

3.10. Law and Order

Businesses operate best in a context where laws and regulations allow the enforcement of contracts and the protection of basic property rights. Law and order are therefore prerequisites for businesses to maximize their earnings potential. Even more importantly, contract enforcement facilitates transactions beyond a business' network of family and friends. As Myanmar's private sector grows, these transactions will increase, and social enforcement will become more and more difficult. This subindex's weight of 20% indicates an extremely high correlation between performance on this index and satisfaction with local officials and business expansion plans.

The firm-level indicators for law and order show mixed results, conditional on the indicator we examine. For example, 84.3% of firms believe that the courts judge economic cases by law, and 75.5% of firms claim that they benefit from legal aid (i.e., paralegals and assistance with navigating dispute resolution procedures in their states and regions). These high numbers are likely driven by the fact that the vast majority of firms have little experience with courts.[8] However, assessments of crime and security vary tremendously and significantly influence rankings. Only 37.5% of respondents believe that their local security situation is good, while only 44.9% of respondents believe that if government staffers violate the law they will be disciplined. An extremely high 11.2% of all respondents were victim of a crime in the past year. This percentage, coupled with the results above, seems to imply that, in terms of law and order, the government is doing a better job of upholding contracts than protecting businesses from physical harm and damage.

States and regions perform vastly differently once we examine their performance on individual indicators. For example, 71.8% of respondents believe that court judgements are enforced quickly, which is the median score for this indicator. There is substantial variation around this score. The lowest score goes to Sagaing Region, where only 27.6% of firms agreed with the statement. At the other end of the spectrum, nearly everyone (91.0%) in Tanintharyi Region, the highest scoring location, agreed. Furthermore, in terms of crime and the security situation, the state and region results corroborate the firm-level results. As an extreme example, only 1.3% of respondents in Kachin State think that the security situation is good. While the median score of 37.5% is still low, the state with the highest score, Kayah State, had 80.8% of respondents think that the security situation is good, underscoring substantial differences across states/regions.

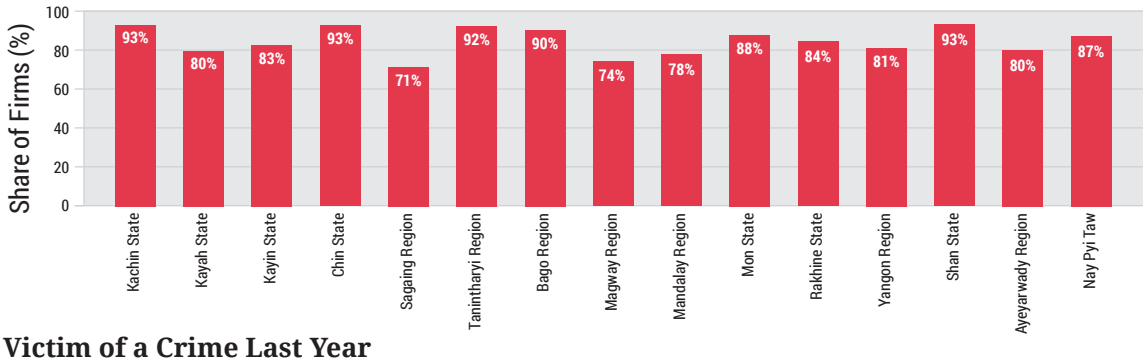
Businesses have different perceptions of contract enforcement (and legal enforcement more generally) and physical safety and security. In all 14 states and regions and Nay Pyi Taw, at least 70% of respondents believe that provincial courts judge economic cases by law. In five out of the 15 locations—Bago Region, Tanintharyi Region, Chin State, Kachin State, and Shan State—at least 90% of respondents

believe that economic cases are judged by law. While there is obviously room for improvement, the prevailing perception in all states/regions seems to be that law enforcement by the courts works reasonably well. Contrast this perception with respondents saying whether or not they were victims of a crime in the past year. In ten out of the 15 locations, at least 10% of the respondents said they were victims of a crime in the past year. In three locations—Yangon Region, Kachin State, and Chin State—at least 15% of respondents said they were victims of a crime in the past year. While the absolute numbers are not high, a one in ten chance of being a victim of a crime seems too high for most people. Moreover, this risk produces uncertainty that can potentially curtail long-term business planning.

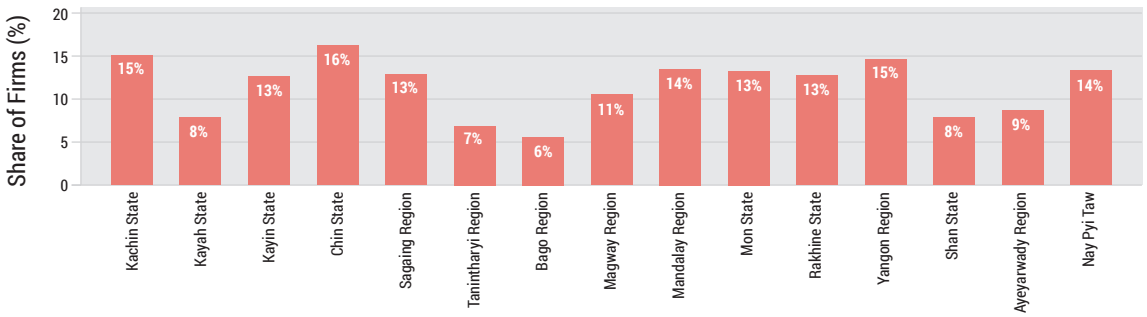
FIGURE 14

Law and Order

Provincial Courts Judge Economic Cases by Law



Victim of a Crime Last Year



Women shop for textiles at a local market

4

Economic Governance in the States and Regions

The MBEI is designed to help the Myanmar government identify opportunities to promote private business growth by improving local economic governance. In particular, the MBEI can provide an improved understanding of local economic governance within individual states and regions. Although most businesses interact with government at the township level, decision making with respect to legal, administrative, and policy changes generally rests at higher levels of government. While much of this remains centralized with Myanmar's Union government, recent efforts toward decentralization increasingly provide an opening for state and region governments to play an important role in improving the local business environment. The MBEI supports this effort by providing a wealth of information that state and region governments may draw upon to improve administration or propose policy reform. This chapter demonstrates how state and region government may use the MBEI as a diagnostic tool to assess the strengths and weaknesses of economic governance and draws comparisons between the relative performance of Myanmar's states and regions.

4.1. State and Region Diagnostics

The MBEI may be used to generate a unique economic governance diagnostic for each of Myanmar's 14 states and regions and Nay Pyi Taw. The MBEI is perhaps most immediately useful to state and region governments since they can help direct policy and administrative decisions. The insights generated through this analysis highlight areas for improvement as well as areas that must be monitored to maintain already strong performance. For example, we list the possibility of lowering crime as an opportunity for Yangon. Importantly, lower crime will provide local firms with the stability and certainty that they need to maximize profits. Furthermore, even modest improvements in crime prevention will lead to a much better MBEI governance score, as Law and Order is a highly weighted subindex. Therefore, as a tool for policy and administrative reform, the state and region diagnostics can help state and region governments prioritize areas of improvement in economic governance.

4.1.1. How to Interpret the MBEI Diagnostics

The starburst chart allows each state or region to visualize its score on all ten MBEI subindices simultaneously. Each of the ten axes in the starburst chart represents one MBEI subindex. Within each subindex a state/region receives an MBEI score of 0 to 10, which is denoted by the length of the ray on that subindex. For example, the axis for Entry Costs is directly north from the center. The further the ray extends outward from the center the stronger the state/region's score on that subindex, and a ray which extends the full distance indicates a score of 10. For each subindex, a black line indicates the median score of all states/regions on that aspect of economic governance. For example, the median score on Entry Costs is 6.25. Interpreting a state or region's starburst chart involves observing the length of each of the ten rays and its position relative to the

median for that subindex. A ray that extends beyond the median is above average (greater than half of all other states and regions) on that particular subindex, and one that is below the median is below average. For example, Yangon Region scores between 5 and 6 on Entry Cost (the exact score is 5.47), which is below-average for all states and regions. Starburst charts illustrate that a given state or region may be above-average on some aspects of economic governance and below-average on others. A larger overall shaded area—across all ten subindices—denotes a better overall MBEI score for the state or region.

States and regions may use MBEI scores as depicted in the starburst chart to assess their unique strengths and weaknesses on economic governance and identify opportunities for improvement. There are a variety of ways to draw insights from the MBEI scores for a given state or region, however one way is to conduct a SWOT analysis. The SWOT analysis highlights which subindices a state or region does well at (Strengths), which subindices a state does poorly at (Weaknesses), subindices or indicators where opportunities for improvement are especially beneficial (Opportunities), and subindices, indicators or descriptive qualities of these measures that could potentially hurt or worsen the state or region's performance (Threats). It is important to note that conducting a SWOT analysis is as much art as science, and the potential Opportunities and Threats are not limited to those mentioned here.

Strengths and weaknesses are discerned by identifying the areas of economic governance on which a given state or region is strongest or weakest. Specifically, we choose as the state or region's strengths the two indicators in which it did best relative to other states and regions. Conversely, we identify as weaknesses the two indicators that the state or region did worst at relative to other locations. It is important to note that a state or region's Strengths and Weaknesses are relative to its ranking on other subindices. We are careful to use the term ranking here rather than score because the distinction is important. A score is the raw number from one to ten points that each state or region receives for a given subindex. Its ranking, by contrast, is the order of its score when ranked from highest to lowest. Each state/region receives a ranking of 1–15, depending on its score relative to other states/regions on the subindex.[9] For example, a given state or region may be strong in two subindices where it is ranked 4th and 6th. These will be considered its strengths. Another state or region may be best at two subindices where it is ranked first and second. These will also be considered its strengths. These strengths and weaknesses are intended to help policy makers better

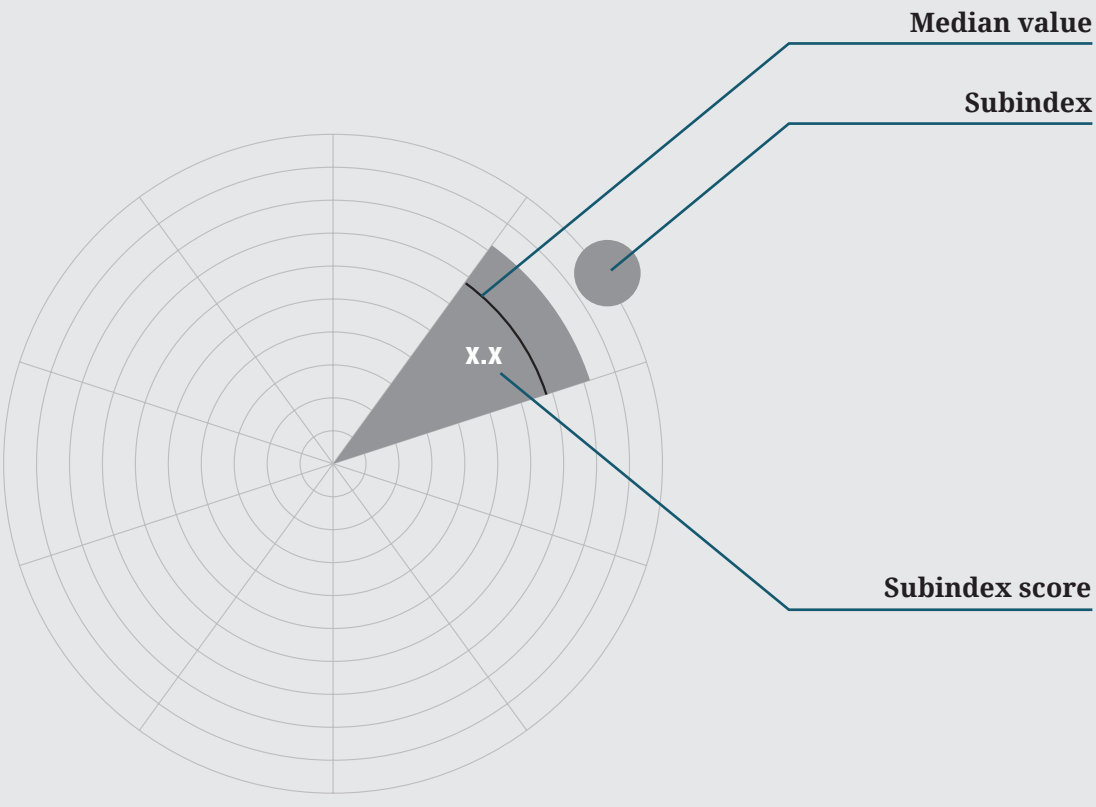
Men unload goods for transportation between traders

understand their own economic governance, and it is therefore not appropriate to compare Strengths and Weaknesses across states and regions.

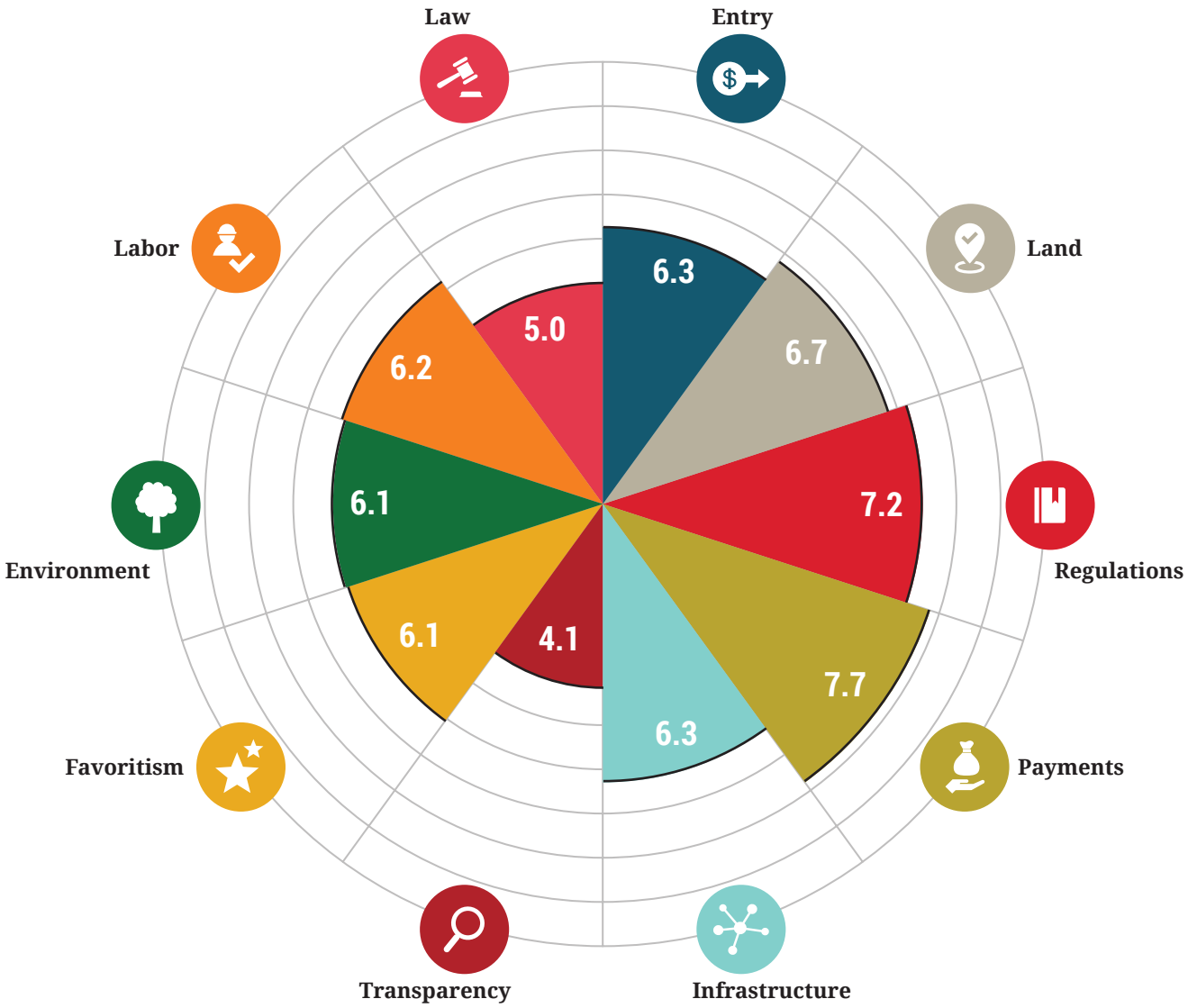
Opportunities and Threats may be identified in a variety of ways and are therefore a matter of both art and science. For example, we may see that a state or region is ranked in the middle of the pack for a given subindex, but with a slight improvement in its performance, it can potentially move into the top of this subindex and substantially increase its total MBEI score. In general, Opportunities are determined by what we deem to be important details that, if addressed, may yield large governance benefits to the state or region. Attention is especially given to subindices that have a large weight in the computation of the final index. Similarly, Threats are identified by details of the subindices or indicators that indicate potentially large negative effects to governance if the state or region were to weaken its performance along these specific areas. Similar to Opportunities, particular attention is given to subindices that have a large weight in the computation of the final subindex.

How to Read a Starburst Chart

The starburst chart allows each state or region to visualize its score on all ten MBEI subindices simultaneously. Each of the ten axes in the starburst chart represents one MBEI subindex. Within each subindex a state/region receives an MBEI score of 0 to 10, which is denoted by the length of the ray on that axis. The further the ray extends outward from the center the stronger the state/region's score on that subindex, and a ray which extends the full distance indicates a score of 10. For each subindex, a black line indicates the median score of all states/regions on that aspect of economic governance. Interpreting a state or region's starburst chart involves observing the length of each of the ten rays and its position relative to the median for that subindex. A ray that extends beyond the median is above average (greater than half of all other states and regions) on that particular subindex, and one that is below the median is below average.



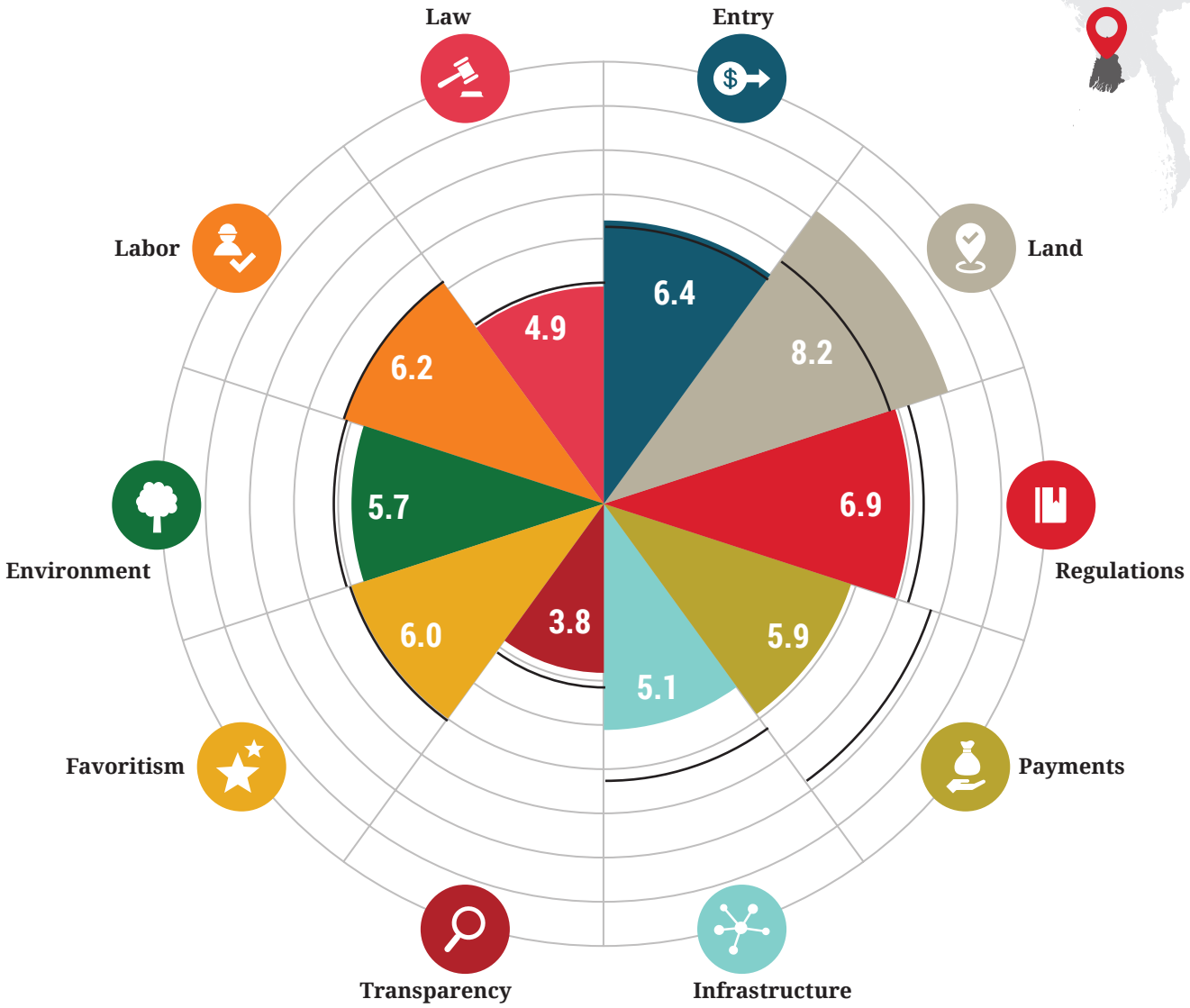
National Diagnostic



Subindices

- Entry Costs
- Land Access and Security
- Post-Registration Regulation
- Informal Payments
- Infrastructure
- Transparency
- Favoritism in Policy
- Environmental Compliance
- Labor Recruitment
- Law and Order

Diagnostic of Ayeyarwady Region



SWOT Analysis

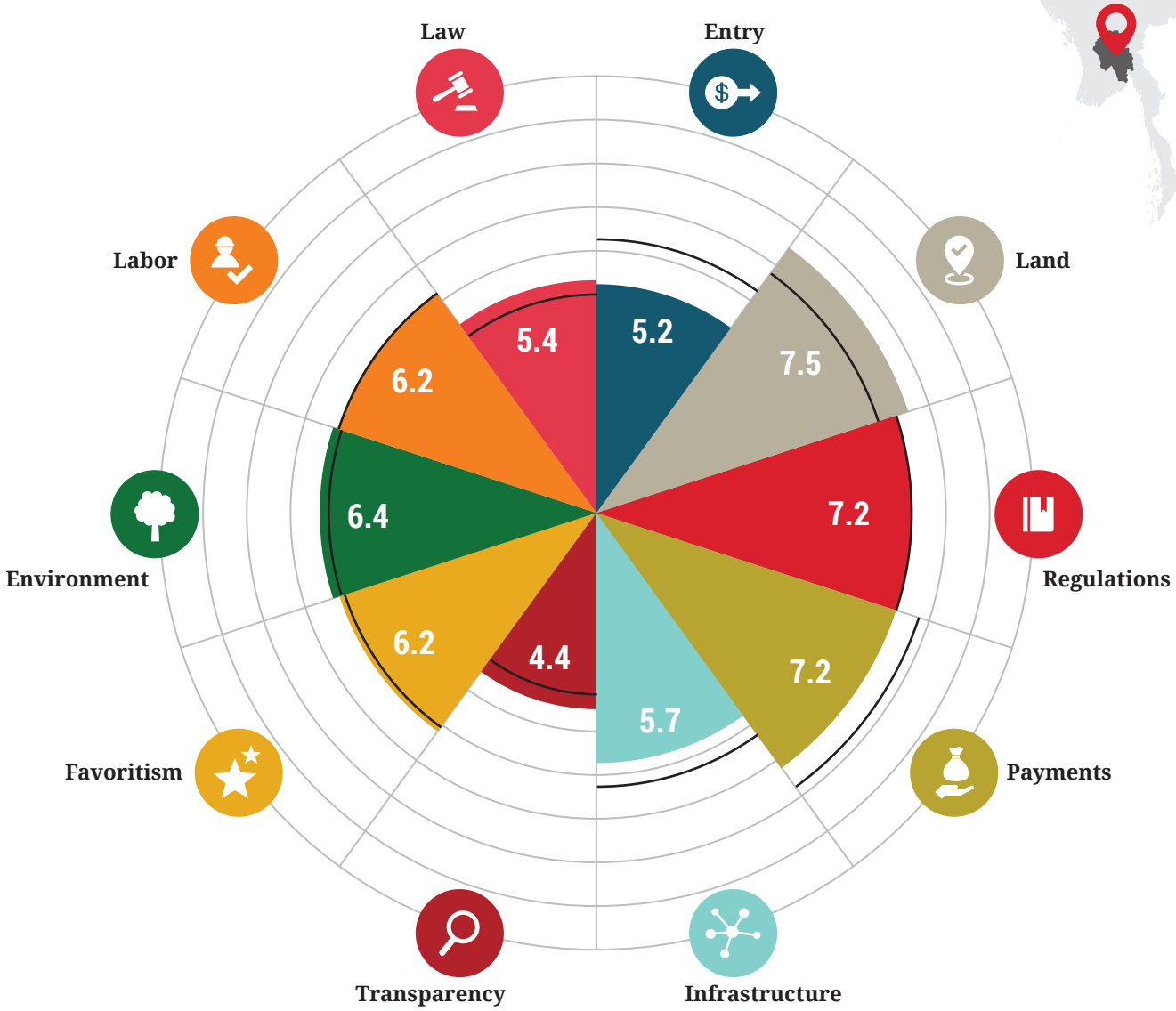
Strengths
- Land Access and Security
- Labor Recruitment

Weaknesses
- Informal Payments
- Infrastructure

Opportunities
Ayeyarwady Region ranks near the middle of the pack in Law and Order, but small improvements on this subindex could lead to large gains in the region's overall score. This is particularly relevant given Law and Order carries a large weight (20%) in the total subindex score. The high weight on Law and Order means that performance on this subindex correlates highly with business expansion and satisfaction.

Threats
Ayeyarwady Region does well on the Labor Recruitment subindex, but if it were to do only slightly worse on this measure, such a decline could lead to the region falling significantly in its overall performance. This is because many other states/regions do only slightly worse than Ayeyarwady Region on Labor Recruitment. Recruitment matters because firms need to recruit the best applicants to maximize their performance.

Diagnostic of Bago Region



SWOT Analysis

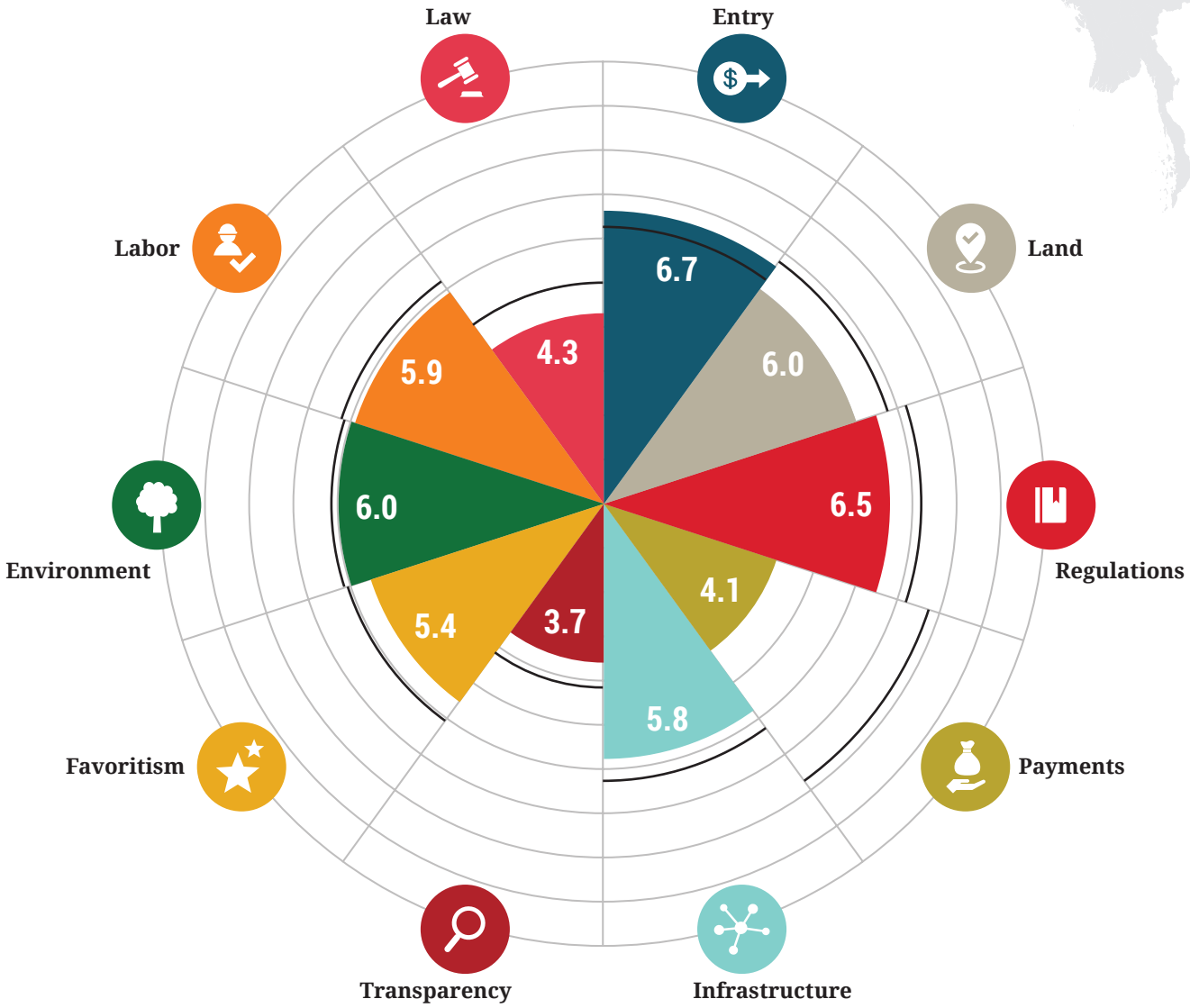
Strengths
- Law and Order
- Land Access and Security

Weaknesses
- Entry Costs
- Infrastructure

Opportunities
Bago Region's low score on Entry Costs is driven by its poor performance on several indicators, including the number of steps for DAO licensing and the number of documents the DAO requires for starting a business. In particular, some townships requires many documents or do not provide guidance on the issuance of the business operating license.

Threats
Bago Region's high score in Law and Order is driven by its good performance on the hard data indicator of crime, which is above the median. Law and order correlates strongly with business satisfaction and expansion, therefore keeping crime low is important for Bago to maintain its overall score.

Diagnostic of Chin State



SWOT Analysis

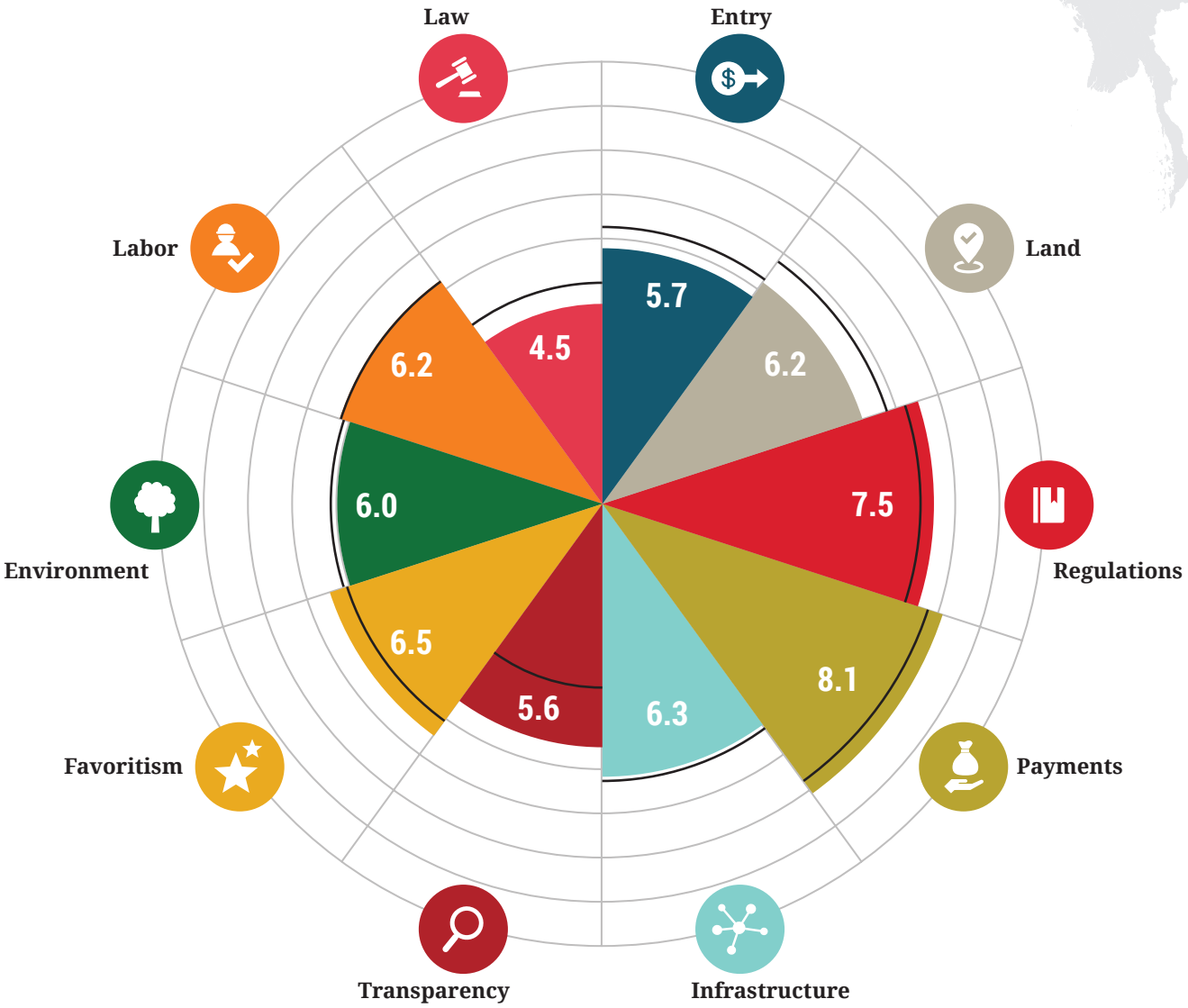
Strengths
- Environmental Compliance
- Entry Costs

Weaknesses
- Informal Payments
- Favoritism in Policy

Opportunities
Chin State's low score on Law and Order is due in part to certain townships performing especially poorly on specific indicators. In some townships, business confidence in the security situation and the reliability of courts is as low as 15% and 20%, respectively.

Threats
Chin State's low score on Informal Payments is driven by the number of ACC cases in the state. It does much worse than any other state/region. Modest improvements in reducing informal payments could lead to a large improvement in Chin State's overall performance.

Diagnostic of Kachin State



SWOT Analysis

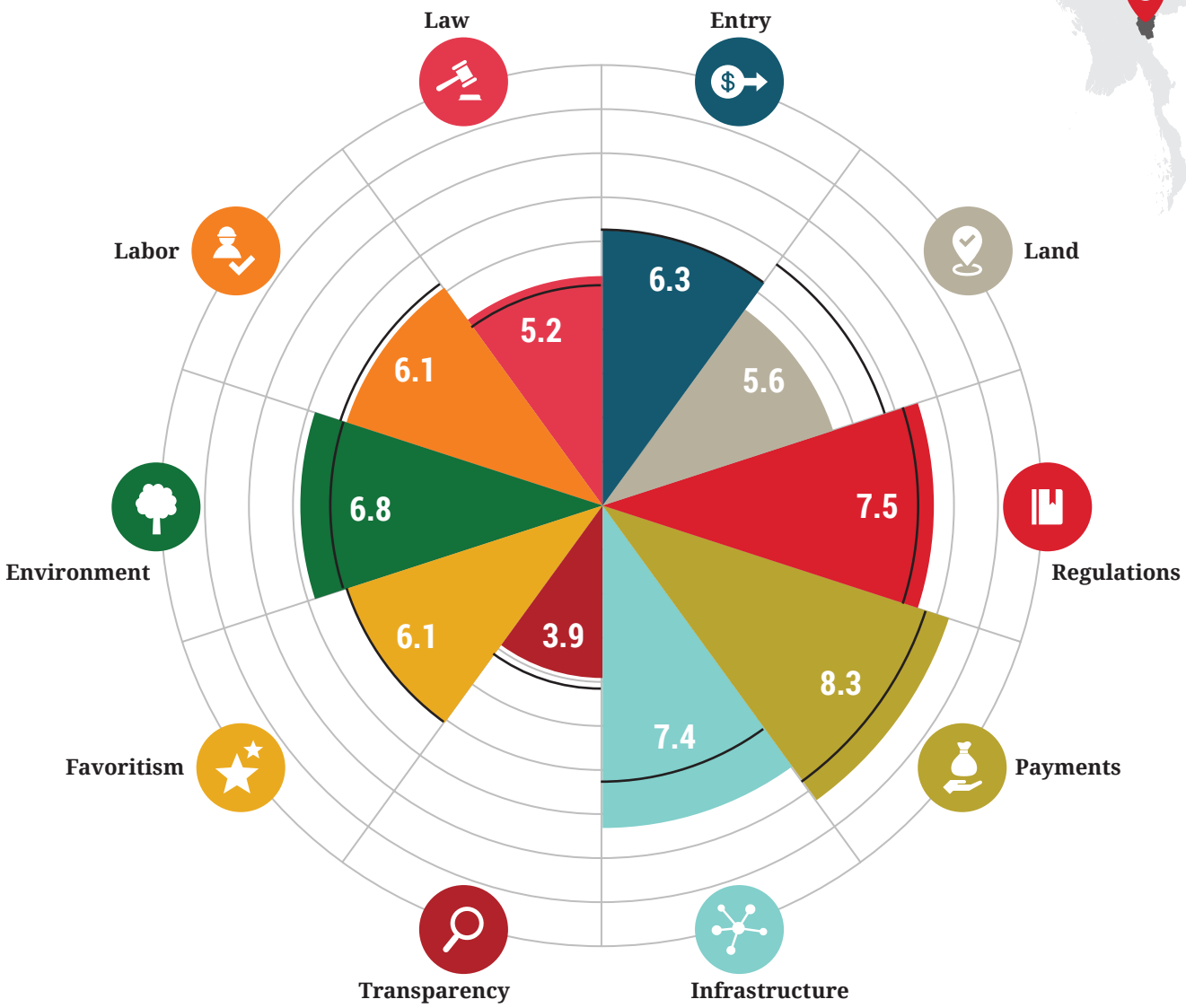
Strengths
- Transparency
- Favoritism in Policy

Weaknesses
- Law and Order
- Entry Costs

Opportunities
Kachin State performs poorly with respect to crime, the hard data indicator in the Law and Order subindex. The ability to improve on crime prevention could lead to large improvements in governance in Kachin State, particularly since Law and Order is strongly correlated with business satisfaction and expansion.

Threats
Kachin State performs very well on Transparency. Some other states/regions do better in terms of the survey indicators, but Kachin does much better than any other state regarding examples provided of relevant business documents and posted information at township offices. However, if performance worsens along these dimensions, Kachin will do much worse on Transparency overall.

Diagnostic of Kayah State



SWOT Analysis

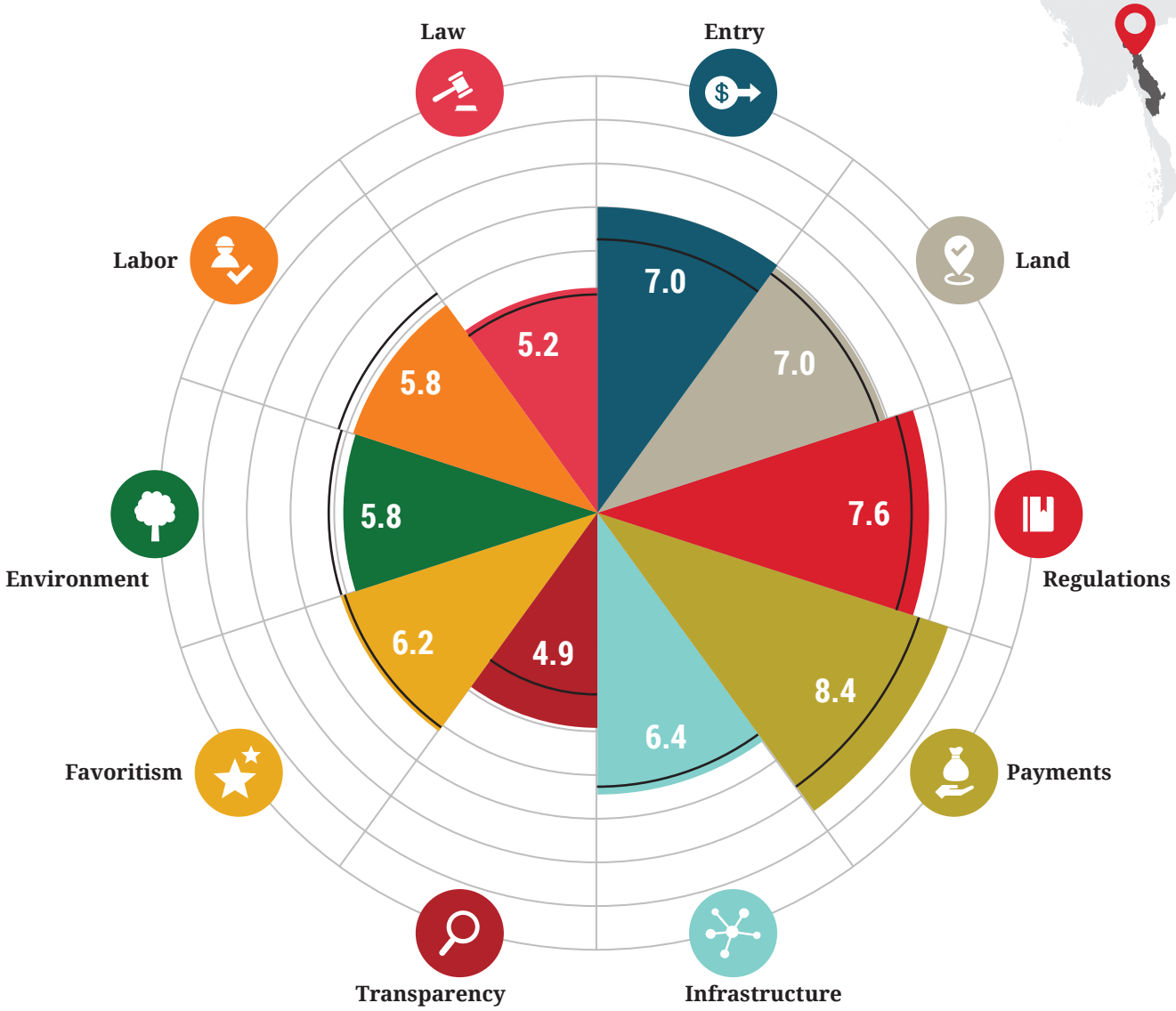
Strengths
- Infrastructure
- Environmental Compliance

Weaknesses
- Land Access and Security
- Transparency

Opportunities
Kayah State does substantially worse than other states/regions in Land Access and Security. This is due to its poor performance on the licensing services and number of documents required for Form 15 for the township DALMS. Reducing red tape at the DALMS office could improve the performance of Kayah State in this regard.

Threats
In spite of Kayah State's good performance overall, there is wide variation in the performance of townships. This is particularly true with respect to infrastructure, like roads and electricity. In some townships, as much as 90% of firms believe roads are good or very good, while in others very few firms assess them positively. Worsening road or electrical infrastructure could worsen Kayah state's overall score.

Diagnostic of Kayin State



SWOT Analysis

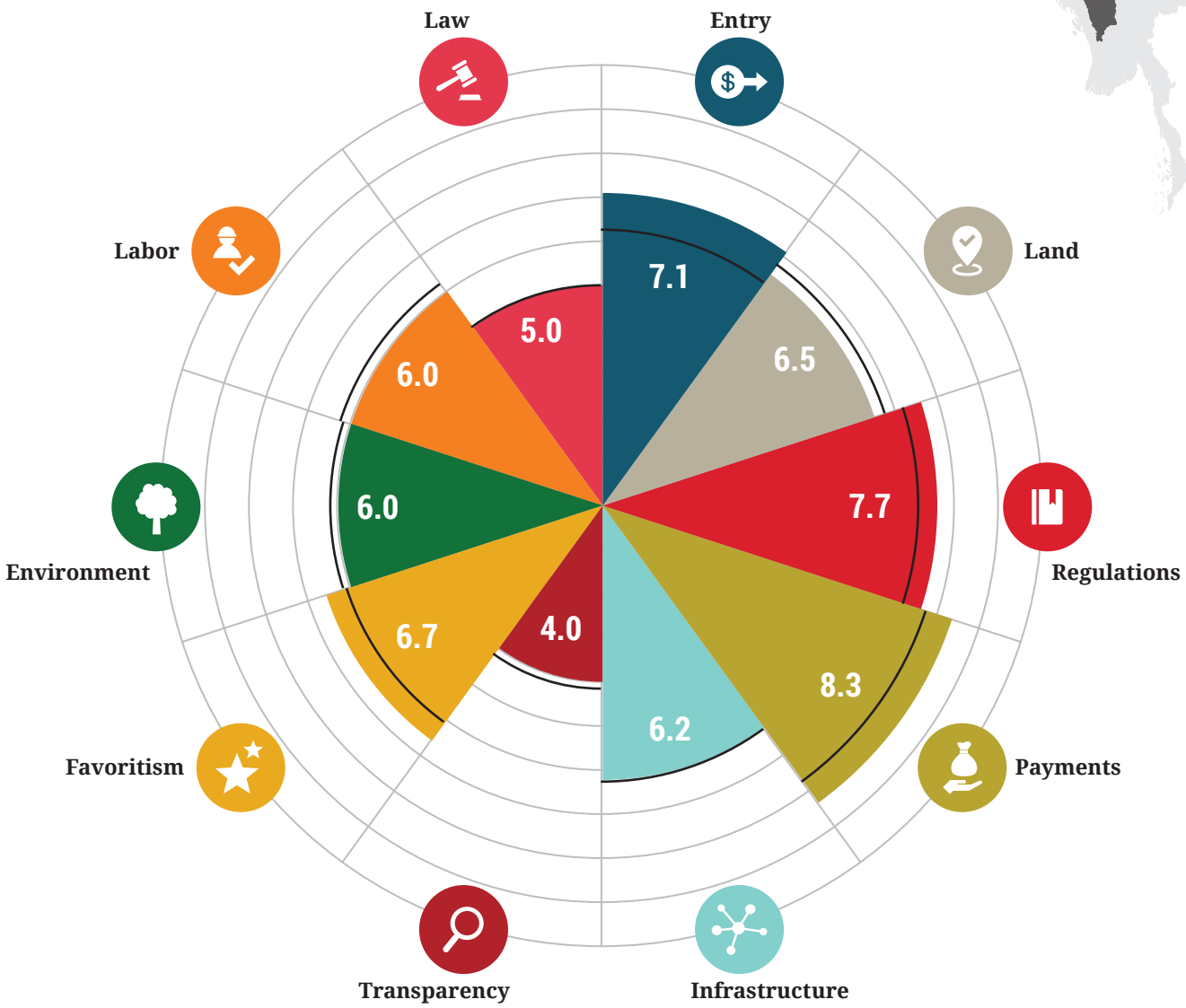
Strengths
- Post-Registration Regulation
- Entry Costs

Weaknesses
- Environmental Compliance
- Labor Recruitment

Opportunities
Kayin State does well on Post-Registration Regulation, but this result is driven by its performance on survey indicators. The township offices do relatively poorly on observational data regarding providing examples of, and providing information for, relevant documents. Improved performance by these offices would strengthen the state's Transparency score.

Threats
Kayin State's strength in Entry Costs masks substantial problems that the state may still face. About half of all firms in each of Kayin's townships say that it still takes more than three months to complete all necessary steps to be a fully legal business. A worsening of this situation could lead to firms not entering the market or less profit for firms that do.

Diagnostic of Magway Region



SWOT Analysis

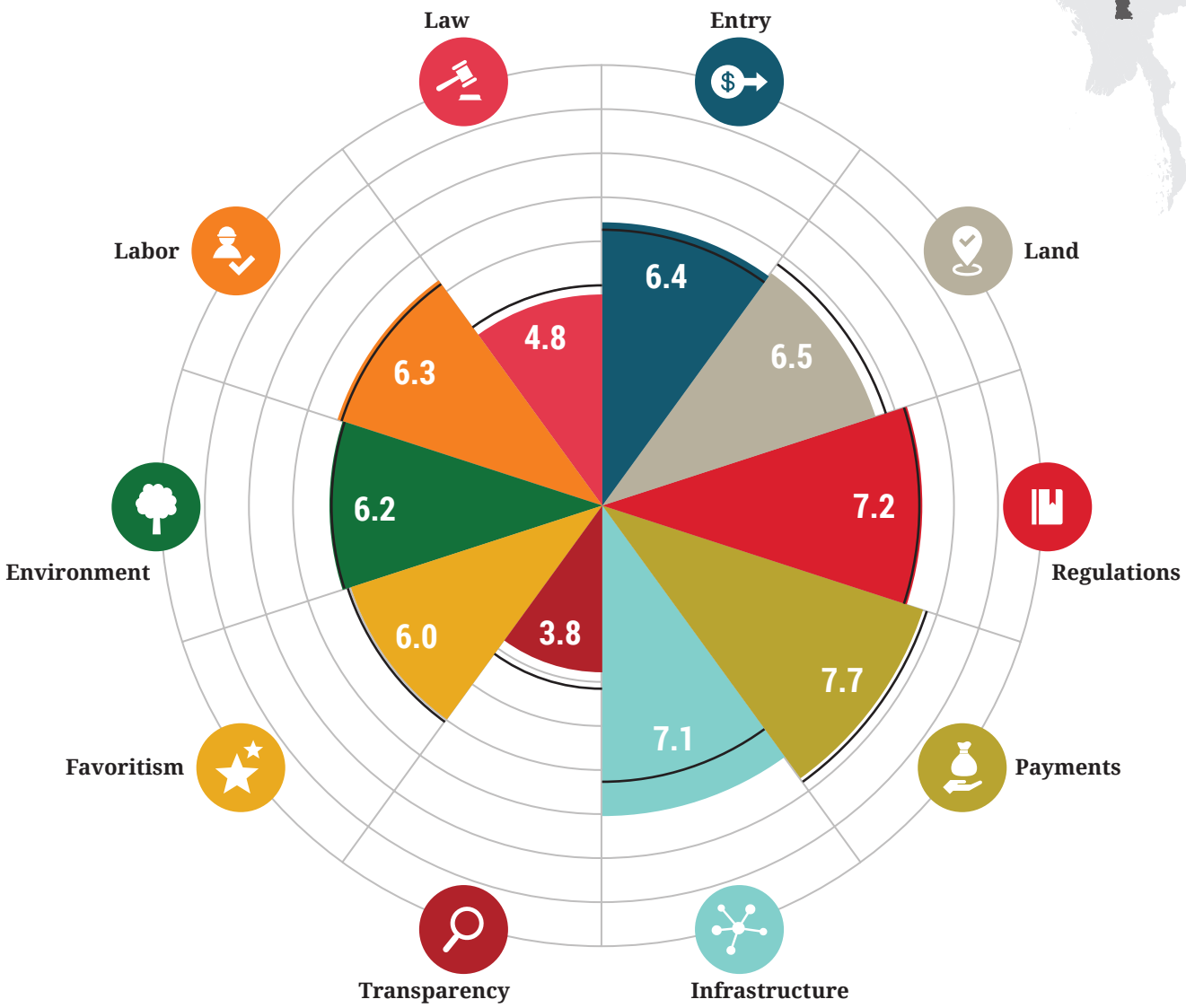
Strengths
- Entry Costs
- Informal Payments

Weaknesses
- Environmental Compliance
- Labor Recruitment

Opportunities
Magway Region's poor performance on Environmental Compliance is driven by its survey indicators. For example, only 25% of the firms in Magway claim that overall environmental quality is good, in comparison to the state/region median of 44.3%. Improvements along environmental quality are valuable because this indicator is strongly correlated with business performance and satisfaction.

Threats
Magway Region performs very well on Entry Costs (ranked 2nd), but variation in performance across townships leaves the region with low performers that may weaken its score. In some townships, firms report that applying for an operating license from the DAO or even registering with DICA takes considerably longer than average. Maintaining or even improving on this subindex matters because it is highly correlated with business performance and satisfaction.

Diagnostic of Mandalay Region



SWOT Analysis

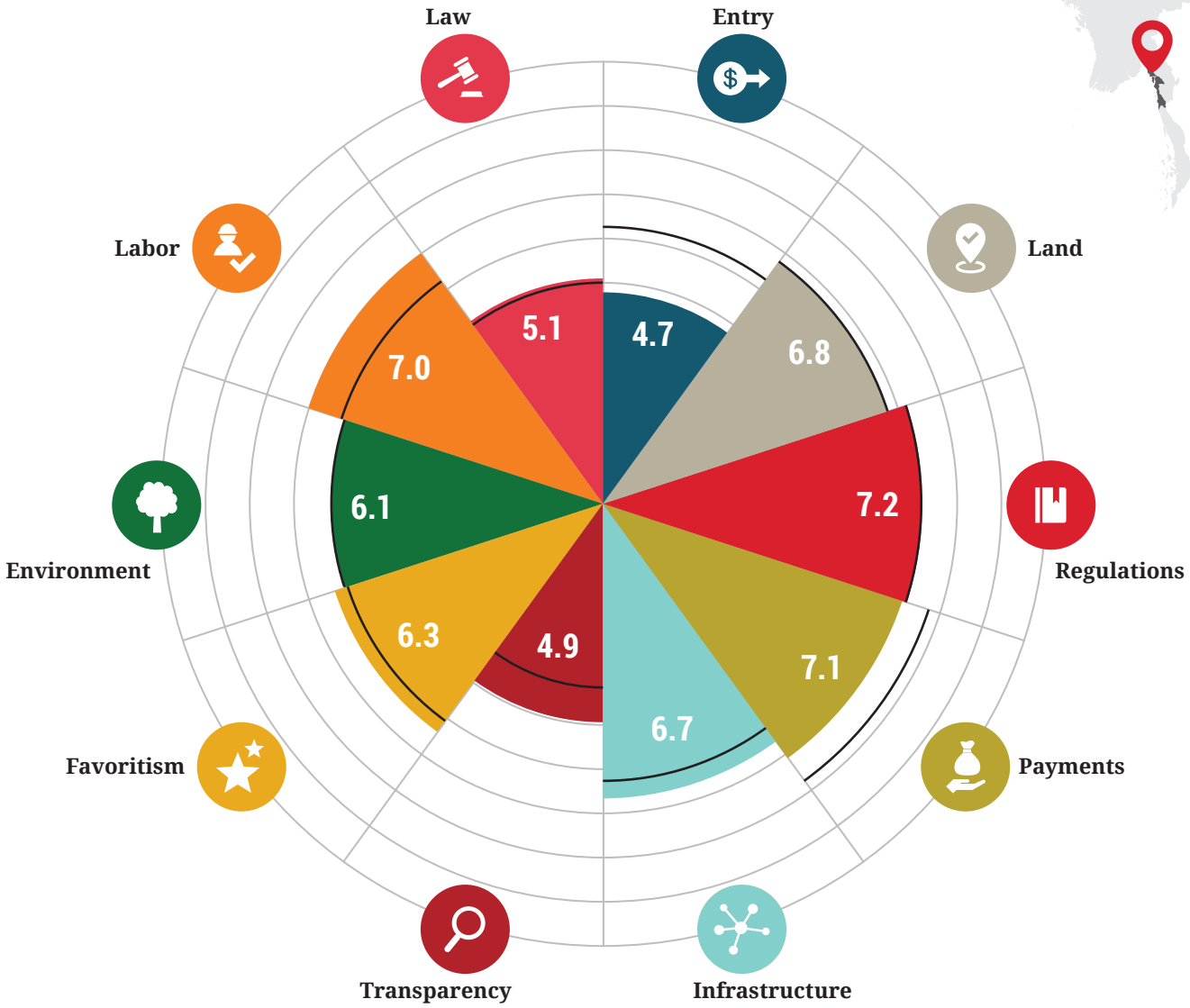
Strengths
- Infrastructure
- Post-Registration Regulation

Weaknesses
- Transparency
- Law and Order

Opportunities
Mandalay Region's below-average performance on Transparency is driven by the lack of information provided by township offices. Improvements on these measures could be relatively easy to implement and may lead to transparency improvements at low cost. However, this may be more challenging in some townships than others.

Threats
In spite of Mandalay Region's strength in Infrastructure, there is considerable variation in performance across townships. This may be due to differences between townships inside and outside of the Mandalay CDC area. The potential deterioration of infrastructure in some locations therefore presents the risk of reducing Mandalay Region's overall performance.

Diagnostic of Mon State



SWOT Analysis

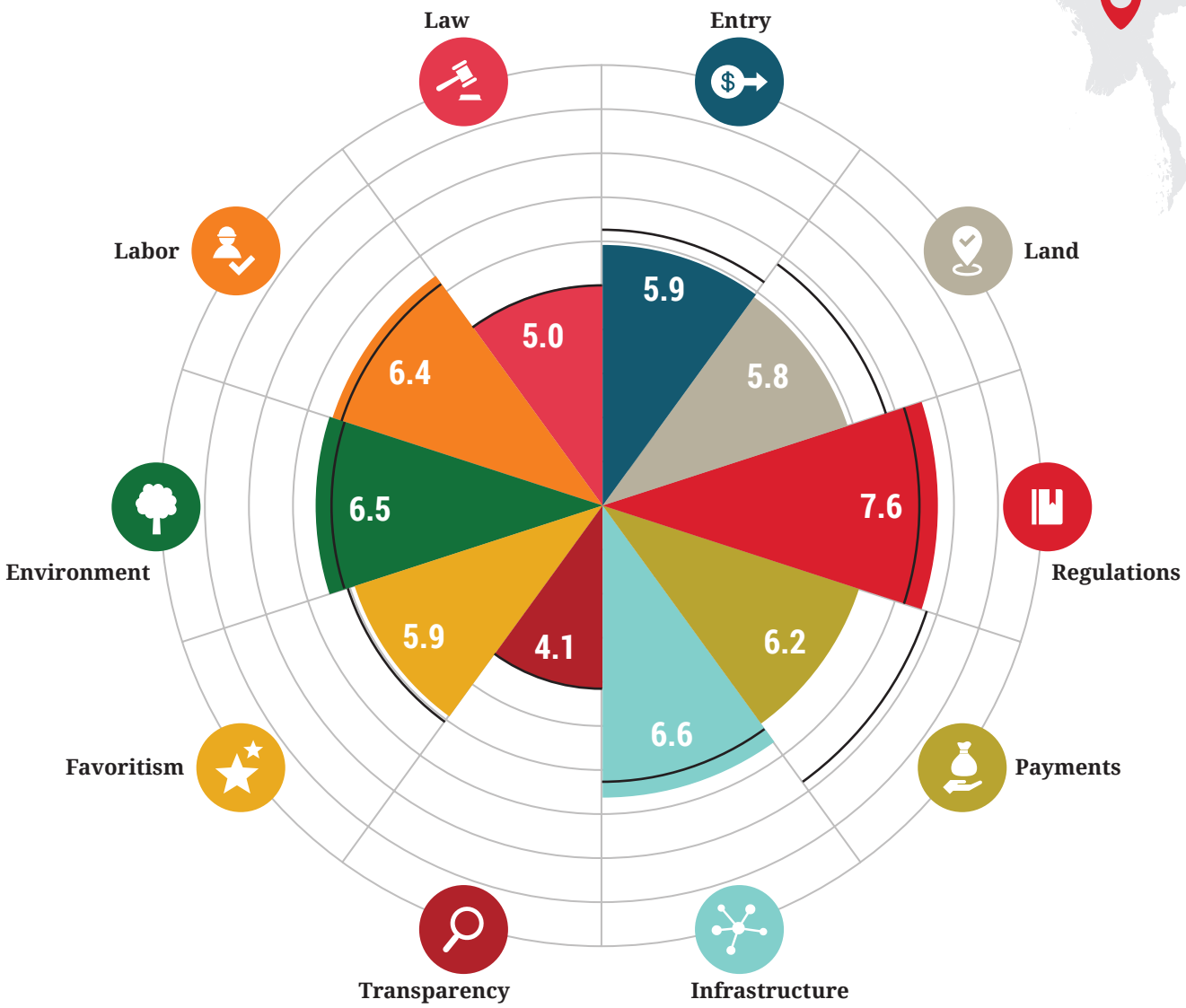
Strengths
- Labor Recruitment
- Transparency

Weaknesses
- Entry Costs
- Post-Registration Regulation
- Informal Payments

Opportunities
Mon State performs relatively poorly in terms of Post-Registration Regulation, in large part due to staff helpfulness at township offices. This is an opportunity, because improving staff helpfulness is relatively easy to do and could lead to substantially improved performance for the state in terms of providing firms with business guidance.

Threats
In spite of Mon State's good performance in Transparency, still much work is to be done. For example, in one township no firms report having access to the state/region or township budgets, while in another the same was true of Union-level documents. If performance worsens along this subindex, it may substantially hurt the state's transparency.

Diagnostic of Nay Pyi Taw



SWOT Analysis

Strengths

- Post-Registration Regulation
- Labor Recruitment

Weaknesses

- Land Access and Security
- Informal Payments

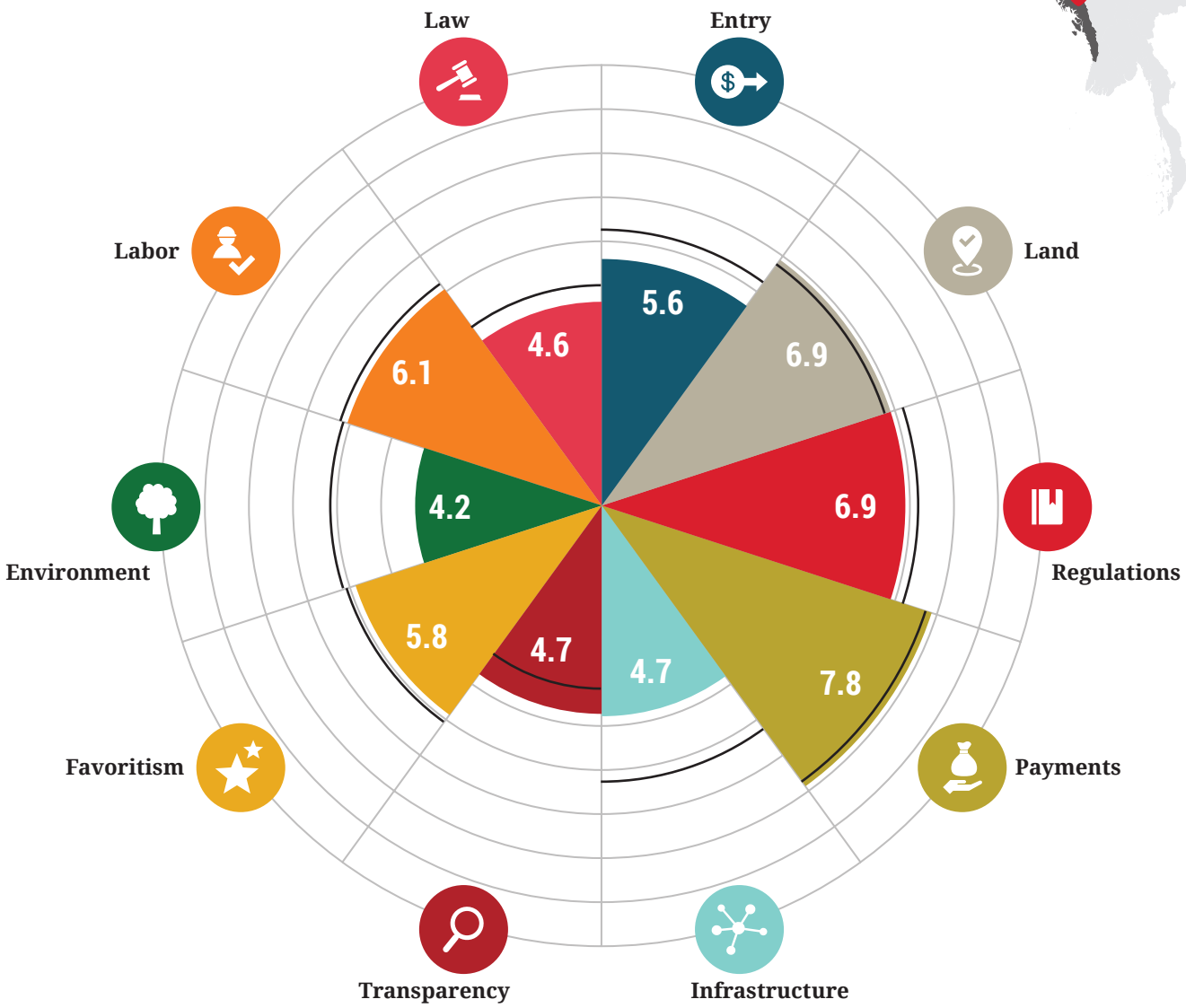
Opportunities

Nay Pyi Taw performs well overall on Labor Recruitment, yet it does worse than several other states/regions as measured by survey indicators. If Nay Pyi Taw improves on labor recruitment and costs of labor training, it could potentially move to the top of this subindex.

Threats

Nay Pyi Taw performs well on Post-Registration Regulation, however even a slight slippage along this measure could lead to a substantial drop in the rankings of this subindex. Failing to maintain or improve performance in this respect could therefore have a significant impact on Nay Pyi Taw's overall score.

Diagnostic of Rakhine State



SWOT Analysis

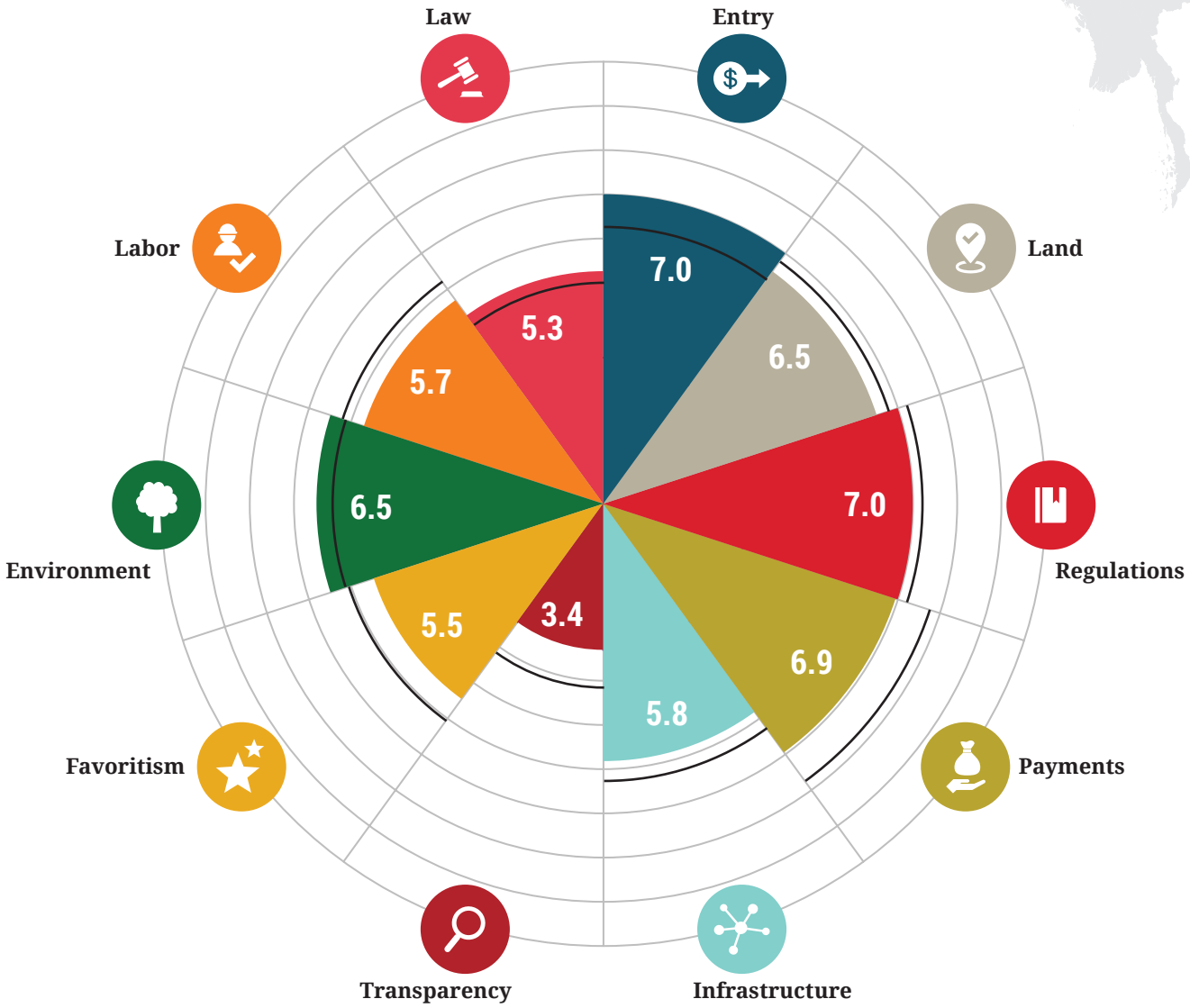
Strengths
- Transparency
- Informal Payments

Weaknesses
- Infrastructure
- Environmental Compliance

Opportunities
Rakhine State's performance on Environmental Compliance is driven by its poor performance on improving sanitation and water sources. In fact, it does substantially worse than any other state along these indicators. Improvement along these dimensions would lead to large improvements in the state's governance score since environmental compliance is strongly correlated with business performance and satisfaction.

Threats
Rakhine State performs relatively well on the Transparency subindex, but like most states and regions it is far from perfect. For example, in the townships surveyed, very few businesses report having access to the township budgets. If in addition other aspects of Transparency were to slip, this regression could threaten to further weaken Rakhine State's already modest performance.

Diagnostic of Sagaing Region



SWOT Analysis

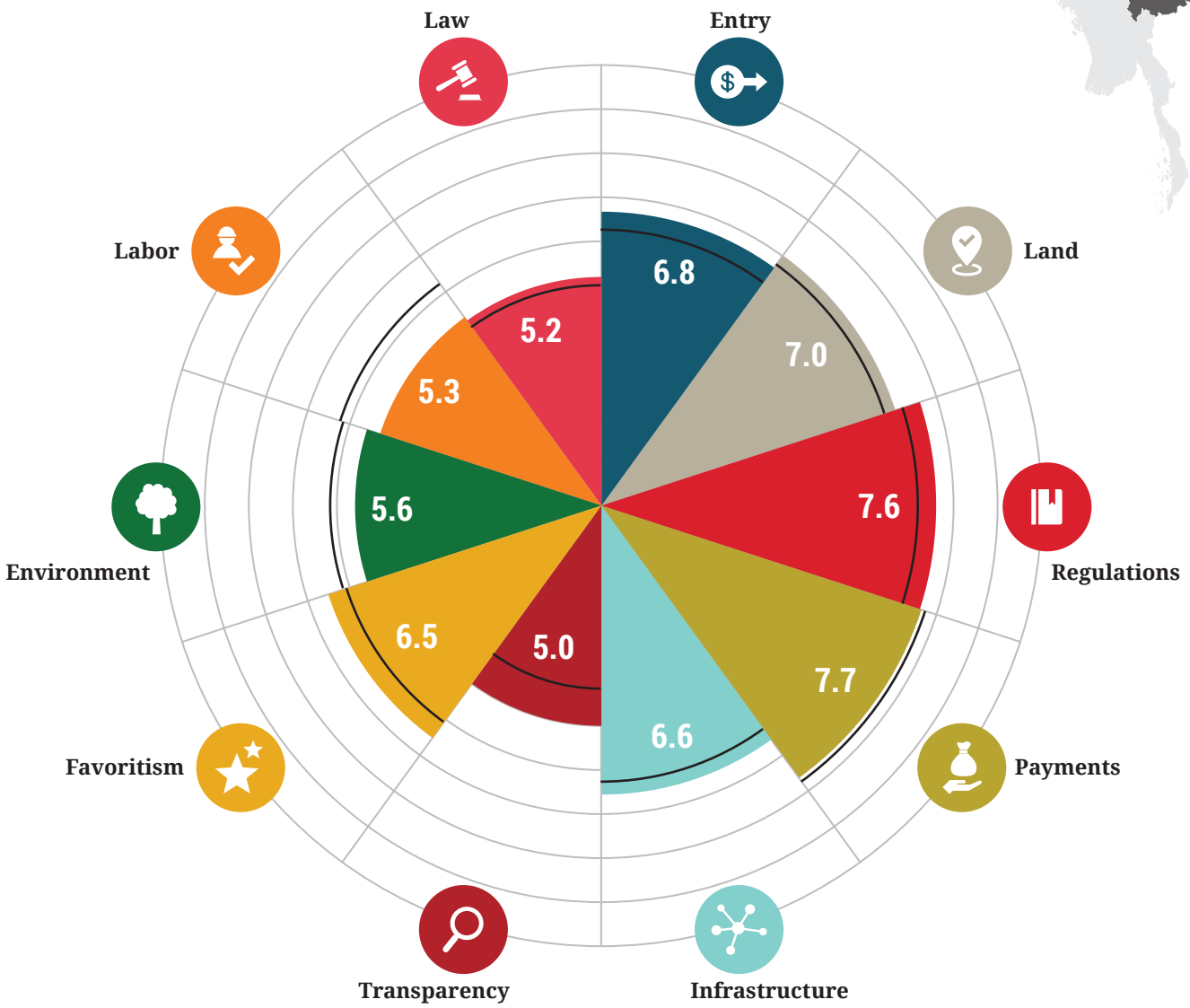
Strengths
- Entry Costs
- Environmental Compliance

Weaknesses
- Transparency
- Labor Recruitment

Opportunities
Sagaing Region ranks first among all states and regions in Entry Costs. However, in one township the reported difficulty of obtaining administrative documents was as high as 25%, meaning that there is still room for improvement. Improvements in weaker-performing townships can serve to further enhance Sagaing Region's overall performance.

Threats
Sagaing Region ranks last in Transparency, mainly due to its weak performance on the survey indicators. For example, none of the firms in all three surveyed townships in Sagaing Region report having access to the Union Ministries implementing documents. If not addressed, this poor performance could lead to Sagaing Region doing worse in terms of overall governance.

Diagnostic of Shan State



SWOT Analysis

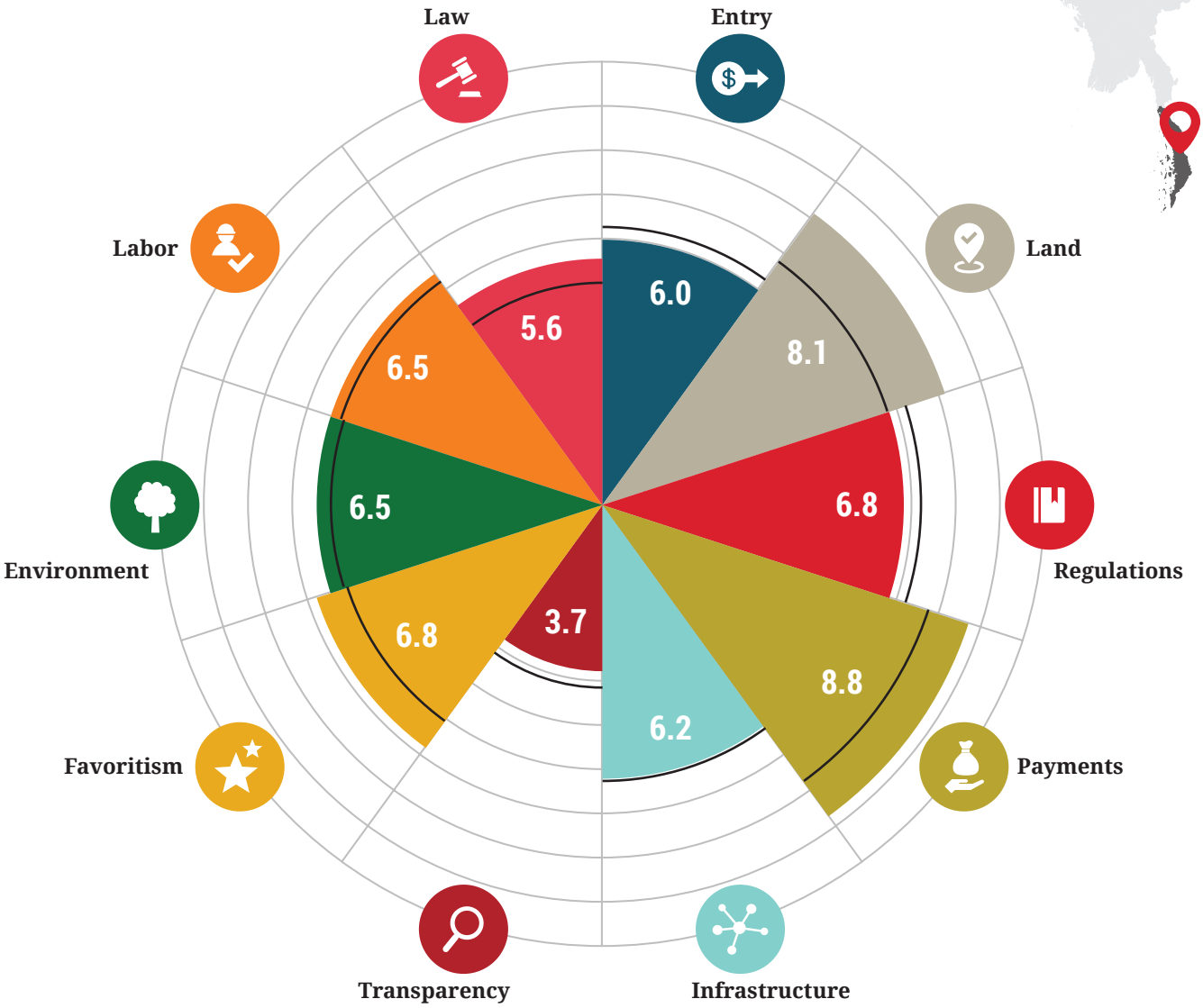
Strengths
- Transparency
- Favoritism in Policy

Weaknesses
- Labor Recruitment
- Environmental Compliance

Opportunities
Shan State scores well in Transparency, but it does relatively poorly with respect to information publicly posted and examples or relevant documents provided at township offices. Shan State has the opportunity to move to the top of states and regions with respect to Transparency, and to boost the state's overall score, if it can address issues with respect to these indicators.

Threats
Shan State's poor performance on Labor Recruitment is driven by its low educational attainment. Shan does markedly worse than any other state/region on both elementary and middle school completion rates. Education is a form of human capital, and the more educated the population, in general the more competent they will be as workers and owners of firms. Poor education outcomes, if not addressed, could continue to threaten business growth in Shan State.

Diagnostic of Tanintharyi Region



SWOT Analysis

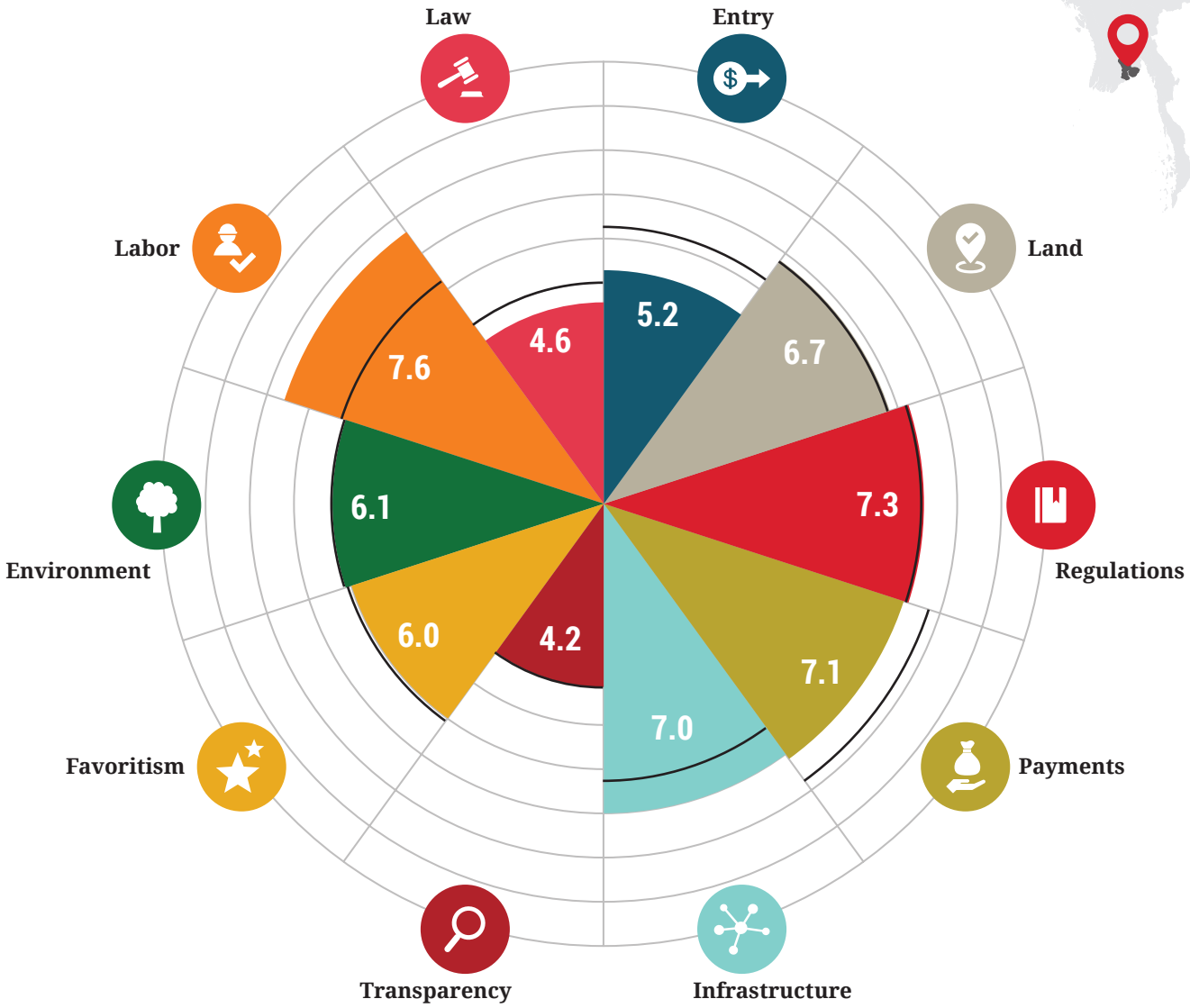
Strengths
- Land Access and Security
- Informal Payments

Weaknesses
- Post-Registration Regulation
- Infrastructure

Opportunities
Tanintharyi Region does well overall, yet it comes in last in Post-Registration Regulation. Improvements here can increase Tanintharyi Region's overall performance substantially. It lags in this subindex because it does poorly on staff helpfulness at township offices. A small adjustment in this area can garner potentially large gains to overall governance.

Threats
Tanintharyi Region tops the Favoritism in Policy subindex, but like all the other states and regions, it does extremely poorly on the number of banks and MFIs per capita. Poor access to capital is a relevant constraint for firms because they need access to money to invest further. Failure to improve along this indicator may threaten to stifle business growth in Tanintharyi Region.

Diagnostic of Yangon Region



SWOT Analysis

Strengths
- Post-Registration Regulation
- Labor Recruitment

Weaknesses
- Informal Payments
- Law and Order

Opportunities
Yangon Region does poorly in terms of crime, and its poor performance on this indicator strongly explains its poor performance on Law and Order. Improvements in this Law and Order indicator have the potential to greatly improve Yangon Region's overall index score since Law and Order is strongly correlated with business performance and satisfaction.

Threats
Yangon Region's strength in Post-Registration Regulation is driven by staff helpfulness at government offices and hard data indicators. Slippage along these indicators would lead to a substantial drop in Yangon Region's overall ranking since several other states and regions do better along survey measures of Post-Registration Regulation.

4.2. Comparisons of States and Regions

Myanmar's states and regions exhibit relatively little overall variation in economic governance compared to other countries where subnational EGIs have been conducted. Little variation means that business experience with governance is generally more homogenous and consistent than in Vietnam and Cambodia, for instance. In other words, most of Myanmar's states and regions provide adequate but mediocre economic governance, and there are few obvious superstars or laggards. Overall mediocrity may be due to the country's long history of centralized, Union-level control over policy and administration. Most of the variation in governance is within states and regions rather than across them. It is partly for this reason that this report emphasizes individual state and regional diagnostics over a direct ranking of Myanmar's states and regions. Nonetheless, a comparison of economic governance across Myanmar's states and regions does yield some interesting insights.

With respect to overall quality of economic governance, Myanmar's states and regions fall into four tiers. Although variation between states and regions is relatively muted in Myanmar, these tiers reflect distinct levels of performance as evidenced in the MBEI data. The colors in Figure 15 identify four tiers of governance, according to the rating of states and regions on the overall index. The four tiers are comprised of states and regions rated above 63, between 61 and 63, between 57 and 59, and below 57. We have selected these cut-off points because they are the locations where the tiers are relatively robust to changes in methodology. Altering the weights slightly or removing indicators changes rankings within categories but does not lead to states and regions jumping from one basket to another. This point is demonstrated in Figure 15 by the range bars depicting 95% confidence intervals around the average scores for each locality. These confidence intervals include the vari-

Most of Myanmar's states and regions provide adequate but mediocre economic governance, and there are few obvious superstars or laggards.

FIGURE 15

Margin of Error in MBEI

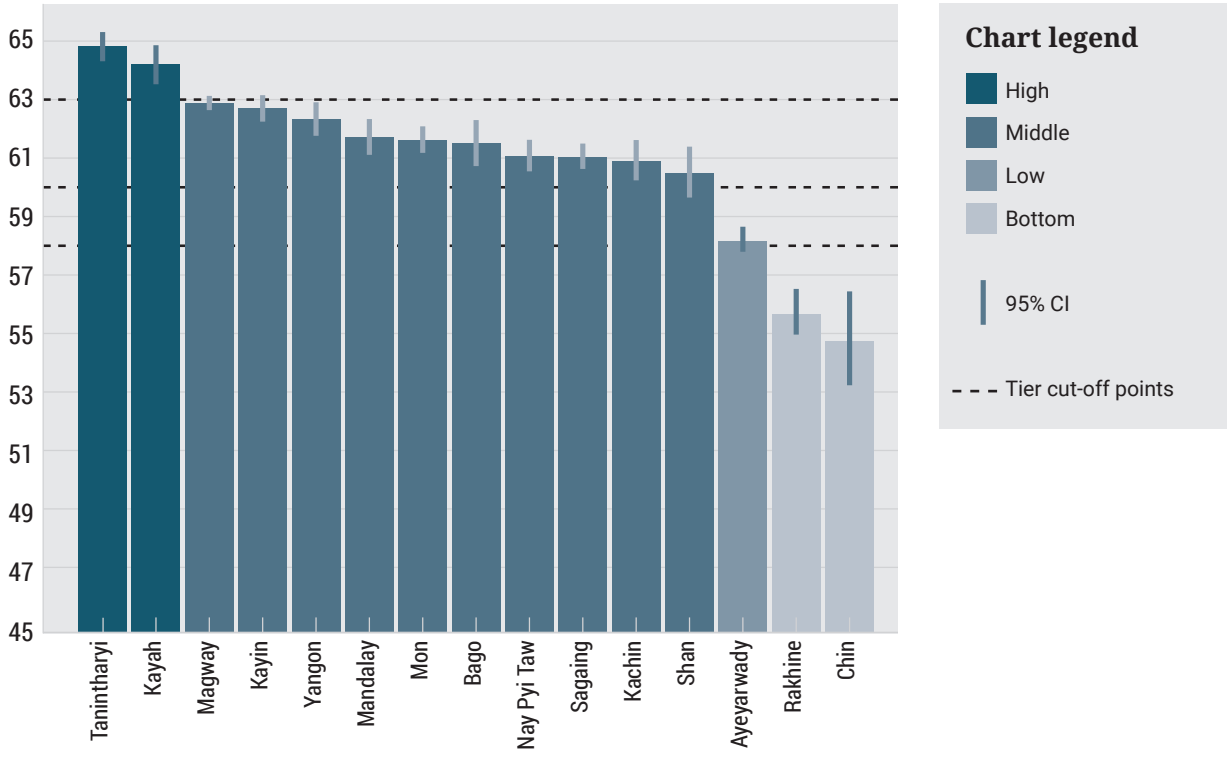
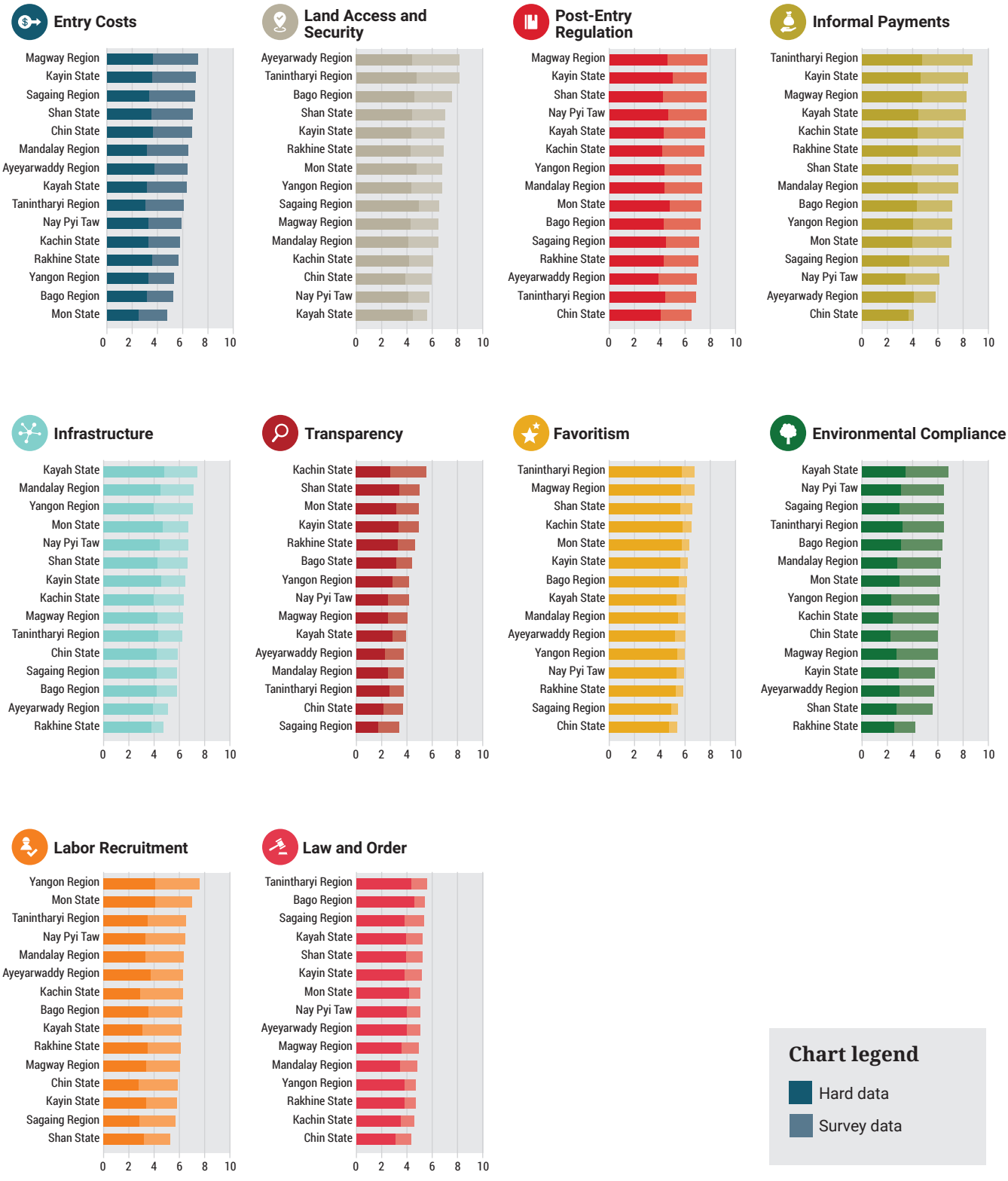


FIGURE 16

State and Region Placement in Every Subindex



ance caused by sampling error and indexing construction procedures. Although the interpretation of confidence intervals is complicated, they can best be thought of as the range of MBEI scores that are possible for each state/region if we were to re-run the entire indexing methodology over again. For instance, in repeated iterations, Kayah State's score might be anywhere between 63.1 and 65.3, with the most likely score centered around 64.2.

These tiers help distinguish between real differences in governance and those that are simply artefacts of our methodological choices. When confidence intervals overlap as they do with Yangon Region and Mandalay Region, then we cannot say for certain that one has better governance than the other. In other words, this difference is not statistically significant. If we were to repeat the index procedures again, it is highly likely that their ordering could be reversed. Nevertheless, we can say for certain that Yangon Region and Mandalay Region both have significantly better governance then Ayeyarwady Region because its confidence interval is well below the confidence intervals of the other two locations and does not overlap with them. In repeated iterations of the index, it is highly unlikely that Ayeyarwady Region would surpass the other two. Knowing this fact allowed us to choose the tiers of locations that are robust to indexing methodology.

Weighting procedures play an important role in the relative performance of each state and region. In the unweighted rankings, where each subindex is treated as equally important, there is very little difference between all states and regions in the country. Different states and regions excel and underperform at different features of governance. Thus, simply adding up the subindices produces very similar scores for every state and region. There is very little variation; differences in economic governance are flat. Figure 16 illustrates this point by depicting the highest and lowest scores achieved on each subindex of the MBEI. Notice how locations such as Chin State and Kachin State appear as the highest ranked states/regions on some criteria, but also the lowest on others. Note also the number of different states/regions receiving the highest score for a particular subindex. These states/regions represent the locations with the policies that are currently the most conducive to business success and the best places to seek for potential best practices. However, after weighting the index by the subindices that are most strongly associated with satisfaction with local government, willingness to expand business, and employment creation in the past year (see Chapter 5 and Appendix A.3), we generate the overall MBEI ranking shown in Figure 15.

Although variation between Myanmar's states and regions is relatively minor, some overall trends are observable. The two locations that measure strongest in overall economic governance are Tanintharyi Region and Kayah State, both of which border Thailand to the east. Tanintharyi Region stands out for easy access and security of land titles for SMEs, relatively low levels of informal payments at the township level, limited perception of bias toward connected companies, and high confidence of respondents in local legal institutions and law enforcement. By contrast, Kayah State ranked highly in business satisfaction with township-level road and communication infrastructure, and low influence of pollution on the agricultural, service, and food processing sectors in the state. Rakhine State and Chin State unsurprisingly have the lowest overall rankings in the index, which may result from ongoing conflicts and other challenges which command the attention of policy-makers or distract from the more mundane business-level decisions. We explore this possibility in Chapter 6.

MBEI rankings reflect the aggregate economic governance rather than the overall market or effort of individual administrators.

MBEI rankings reflect the aggregate economic governance rather than the overall market or the effort of individual administrators. When comparing Myanmar's states and regions, it is important to remember the purpose of the MBEI. The MBEI does not purport to rank the overall market nor the performance of individual administrators. Markets are largely out of control of governments in the short run, and in Myanmar, economic governance is determined not strictly by the current administrator but by a history of accrued policy and administrative decisions. The MBEI is designed to measure economic governance in Myanmar as it is experienced by domestic businesses operating in the service and manufacturing sectors throughout Myanmar. In other words, these businesses are mostly SMEs and do not reflect the experience of businesses in the agriculture, fishery, forestry, or mining sectors. Rather than point to clear winners or losers, the MBEI is designed to point to areas of economic governance in which state and region governments may focus to help grow the private sector locally.

BOX 9

Economic Governance at the Township Level

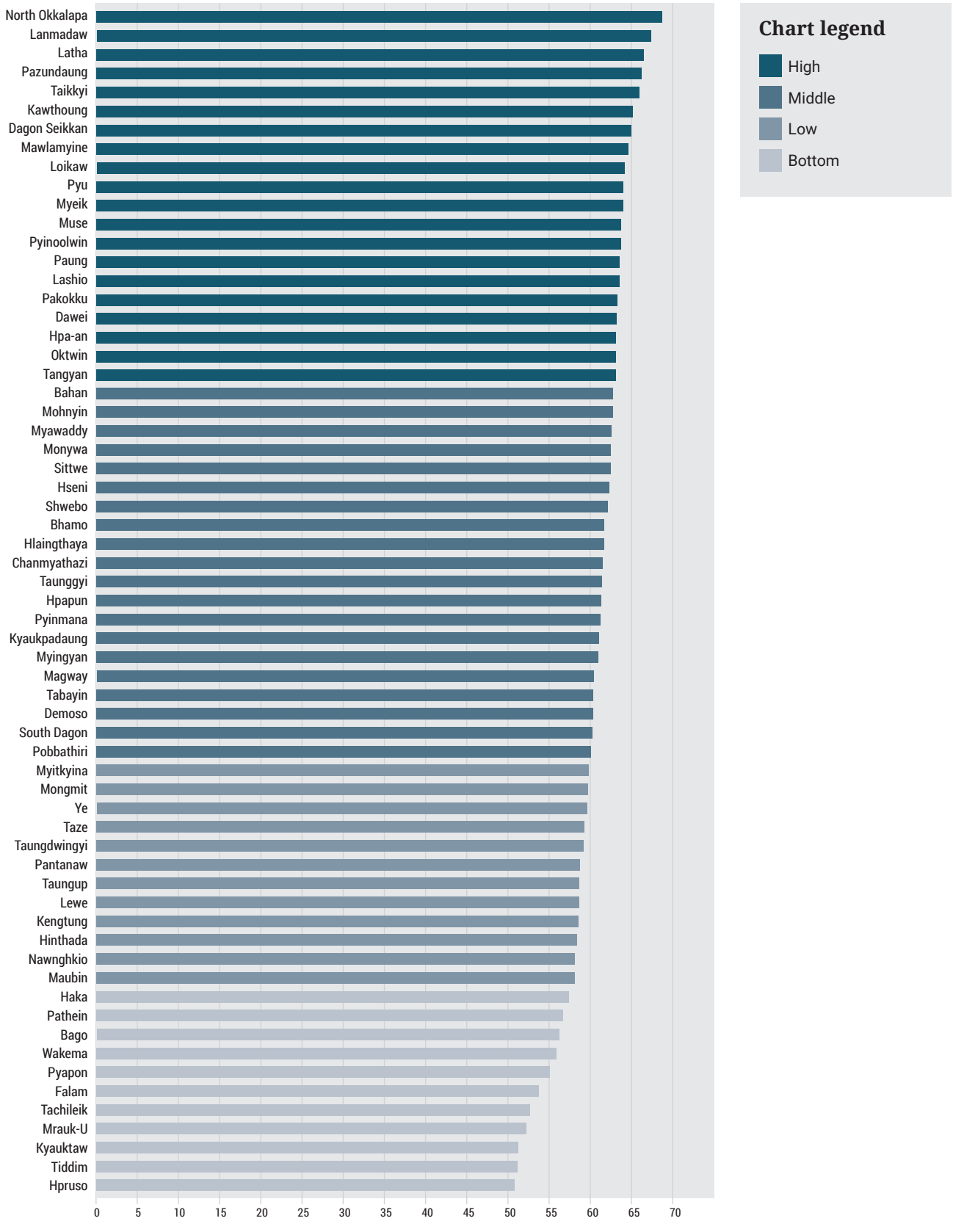
The MBEI is also able to provide governments and businesses with a township-level picture of economic governance in Myanmar. The MBEI aggregates measurements to the state and region level in order to provide subnational governments with actionable information for improving local economic governance. However, economic governance measurements are also possible at the township level within the townships randomly sampled for the MBEI. These measurements provide a more localized and granular picture of subnational economic governance in Myanmar. Indeed, this more detailed data is particularly useful in researching the relationship between economic governance and economic growth.

The following chart illustrates the composite scores of 62 township in the MBEI nationwide sample with large enough sample sizes to generate reliable estimates. Several observations stand out. First, there is greater diversity in economic governance between Myanmar's townships than its states and regions. While legal and policy decisions may rest at the Union or state/region level, businesses nonetheless experience economic governance differently at the township level. This is likely due to differences in administration and implementation. Second, overall four distinct tiers are observable. They represent statistically significant differences between township performance in economic governance. Third, many states and regions have both good and bad performing townships. Within a given state or region, townships appear both high and low in the ranking. This relative diversity in how townships perform within a single state or region is partly responsible for the overall middling scores of most states and regions. By contrast, some states/regions—notably Chin State and Rakhine State—find their sample township overall near the bottom of the ranking. This contributes to the overall low performance of these locations.

Seamstresses at work in a garment manufacturing facility

FIGURE 17

MBEI by Township



5

Governance and Economic Growth

The MBEI provides compelling evidence of the association between economic governance and improved economic welfare in Myanmar. At the heart of the MBEI is the following question: Does improving economic governance matter? Taking steps to enhance a state or region's performance on any of the 101 MBEI indicators requires a leader's valuable time and resources as well as comprehensive planning and coordination across local actors. Understanding whether such actions are worth the effort is not a trivial exercise. A large economics and political science literature demonstrates the correlation between improvements in governance and economic performance, particularly in the areas of property rights (Acemoglu and Johnson, 2005), contract enforcement institutions (Greif, 1993; Laeven and Woodruff, 2007), and regulatory institutions (Djankov et al., 2002). But do these general relationships apply to subnational governance and welfare in Myanmar? Using the latest satellite data, the MBEI provides compelling evidence of the association between business-friendly governance practices, business responses, and welfare improvements in Myanmar. This last connection is critical since it makes clear that business-friendly policies and practices benefit not just entrepreneurs but also the broader society that relies upon private sector dynamism to provide the jobs that raise household living standards.

To research this question, we sought to observe the correlation between the Index and economic performance, using econometric analysis. Statistical regressions allow us to separate out the growth generated by initial conditions (i.e., the fundamental underlying factors that contribute to growth but are very difficult or impossible to address in the short-term, such as location, market size, and human resources). In particular, we control for distance from Yangon (as a measure of proximity to markets), population density (as a measure of urbanization), and literacy (as a measure of human capital). Consequently, we hope to see whether governance practices explain why some areas outperform others or why some areas have similar economic outcomes despite having very different initial conditions. Actual improvements in these governance practices should lead to improvements in economic performance, even without significant changes in the physical and human infrastructure in a region.

The MBEI uses 2018 satellite data on nighttime luminosity as a proxy for economic activity. Measuring welfare poses a significant challenge. Gross Domestic Product (GDP), the standard measure of economic activity, is especially challenging to collect and analyze in developing countries, where the informal sector is large and institutional constraints can be severe. This is especially true at the subnational level. To avoid these problems, we take advantage of new technology and economic findings, which have shown that evening luminosity observed from satellites is an excellent proxy for economic activity (Chen and Nordhaus, 2011; Henderson et al., 2012; Bickenbach, 2016). We use luminosity measures from October 2018, collected immediately after the MBEI survey was completed.

In order to provide the clearest possible picture, we analyze the relationship between economic activity and economic governance at the township level. To increase our variation and precision, we disaggregate the MBEI to the township level, our primary sampling unit.

Because of our sampling procedures, we have reliable estimates at this level, and we can better isolate localized economic performance. The township-level MBEI is shown in Box 9 above. Using the township-level data allows us to control for the overall development of the state or region in which the townships are embedded. In other words, we are going to compare townships inside Yangon Region to one another, rather than compare Yangon Region townships to those in Chin State.[10] This method allows us to show that economic governance within Yangon Region is associated with the level of economic welfare of townships within Yangon Region.

The results show a positive relationship between economic activity, proxied by nighttime luminosity, and economic governance, measured by the MBEI. This relationship is statistically significant at the .05 level. The vertical (y-axis) shows the residual of nighttime lights after removing endowments, structural conditions, and state-level effects. The horizontal axis (x-axis) does the same thing for weighted MBEI scores. The correlation between these two variables demonstrates partial regression—the relationship between welfare and governance after netting out structural conditions. The relationship is also substantively meaningful. Just a one unit change in township-level governance is associated with a substantial increase in nighttime luminosity. In short, economic governance and economic welfare are highly correlated. Much more work is needed to determine the full causality of the relationship, but these initial estimates are impressive.

FIGURE 18

Relationship with Economic Activity

Regressions control for literacy, urban population, and distance from capital

6

Variance in Economic Governance by Subgroup

Myanmar businesses experience economic governance differently based on not only their location but also characteristics of the individual business or business owner. States and regions are just one part of the puzzle. Our econometric analysis of MBEI data reveals that only 14% of the variation in final economic governance scores at the firm level is determined by variables that are measured at the state/region level. The vast majority of variation is explained by variation within individual states and regions. In other words, two businesses within the same state or region may report quite different experiences with economic governance. Township-level factors explain an additional 30% of the variation, which makes sense. As we explained in Chapter 2 above, most day-to-day business interactions occur between businesses and administrators in offices that are located within the township, such as DAO and GAD offices. The impact of past or ongoing conflicts—for example, in areas of Shan State, Kachin State, or Rakhine State—may also explain some of the variation between townships.

Businesses may experience economic governance very differently even within a single township. In fact, 56% of variation, well over half, can only be explained by factors within townships. Two potential contributing factors raised by Myanmar experts and policy advisors relate to firm characteristics: 1) variation caused by differential treatment of economic sectors and 2) gender bias toward female entrepreneurs. This chapter explains how the MBEI sought to assess the impact of these factors on economic governance in Myanmar and the key takeaways from this analysis.

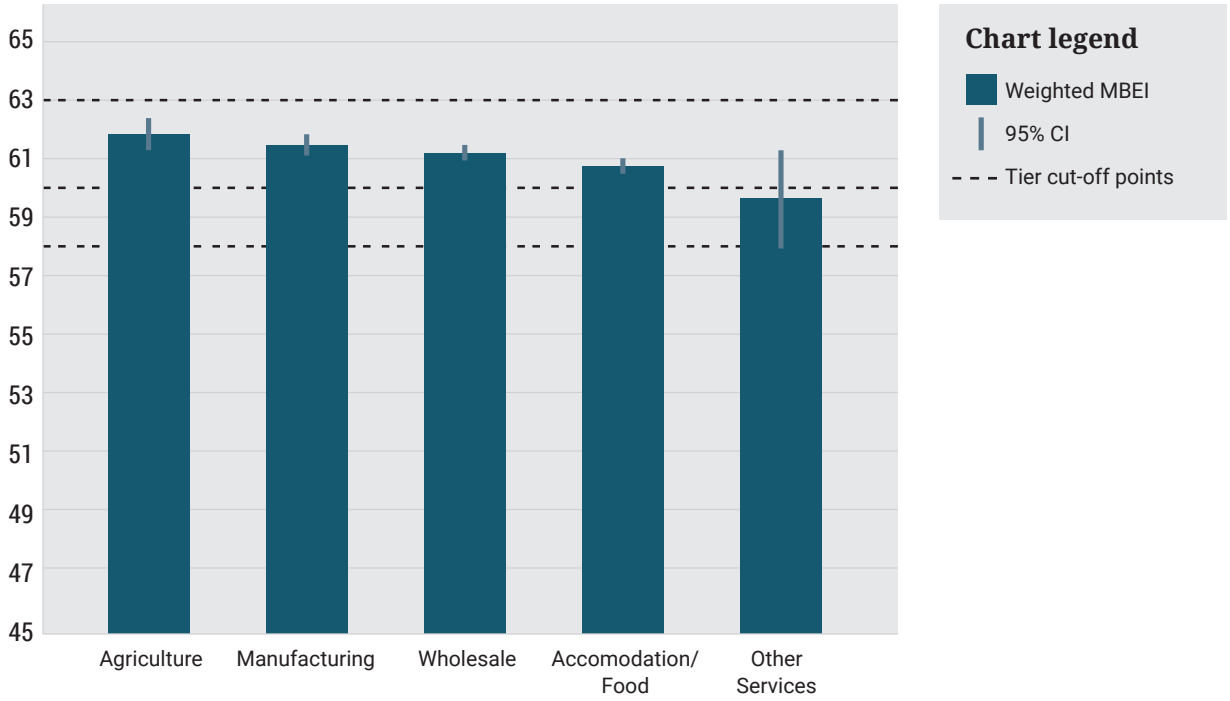
6.1. Business Sector and Economic Governance

The MBEI suggests relatively little difference in how different sectors in Myanmar experience economic governance overall. This sectoral analysis takes advantage of the fact that MBEI indicators are calculated at the firm level, allowing us to aggregate to whatever level of analysis we want. In Figure 19 we create separate MBEI scores by broad sector. While we find that firms in agriculture and manufacturing believe that they are marginally better treated than firms in whole/retail trade and other services, the confidence intervals on our estimates overlap, indicating that these differences are not statistically significant and could be simply coincidental. Further analysis of sectors further disaggregated by subsector (two-digit level) reveals a similar pattern. Economic sector and even specific industries do not matter for adjudicating overall economic governance performance.

In some cases, different sectors may experience economic governance differently with respect to specific subindices. These differences are most pronounced with respect to entry cost, post-entry regulation, land access, and competition bias. First, firms in the

FIGURE 19

MBEI by Broad Sector



Women moving sand at a construction site in Yangon

agricultural and natural resources sector face greater perceived entry costs (subindex 1) than firms in manufacturing, and both believe entry is more difficult than service sectors.[11] Roughly the same pattern is evident for post-entry regulation (subindex 3) and informal payments (subindex 4). Second, businesses in high-end services such as finance, insurance, and telecommunications (other services) are significantly more negative about their ability to acquire land than firms in other industries. Firms in food services are the least concerned about land acquisition. Third and by contrast with the other indices, firms in agricultural and natural resources are less concerned about bias toward connected firms (subindex 7) and their ability to access qualified labor (subindex 9) than other sectors. Fourth, very little sectoral variation is found in access to information (subindex 6), environmental quality (subindex 8), and law and order (subindex 10); in the case of transparency and law and order, scores are generally low across all sectors. In the case of the environment, firms are generally positive.

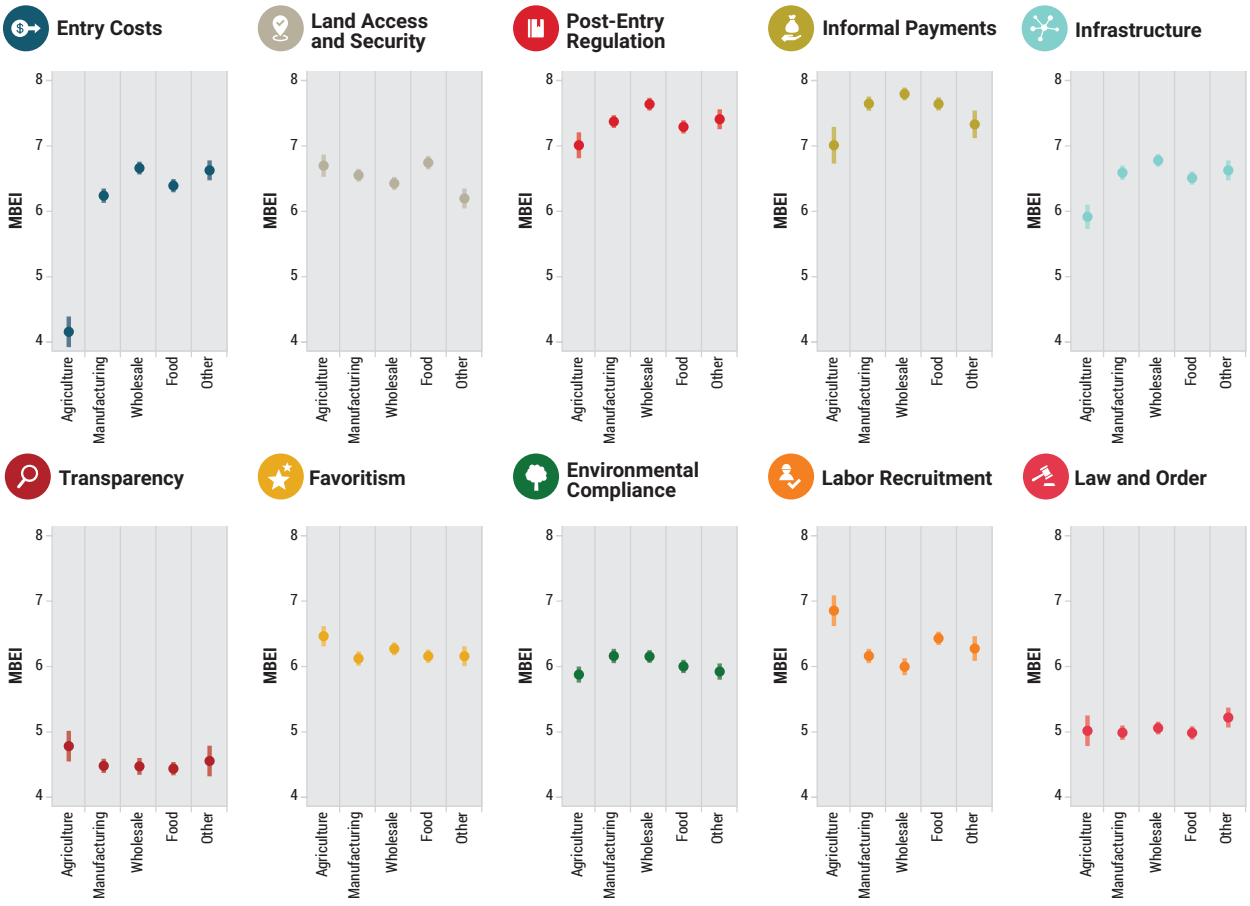
BOX 10

Sectoral Differences Within Each MBEI Subindex

An individual business may experience certain aspects of economic governance differently depending on unique characteristics of the firm, such as its size or sector. The charts below compare how businesses in five different sectors experience each aspect of economic governance. For each MBEI subindex, average scores are provided for all survey respondents within a broad sector. Average scores are depicted with a point while bars indicate 95% confidence intervals. When confidence intervals overlap, this indicates that there are no significant differences between sectors. When confidence intervals do not overlap, these differences are meaningful and unlikely to have occurred by coincidence.

FIGURE 20

Subindices by Sector



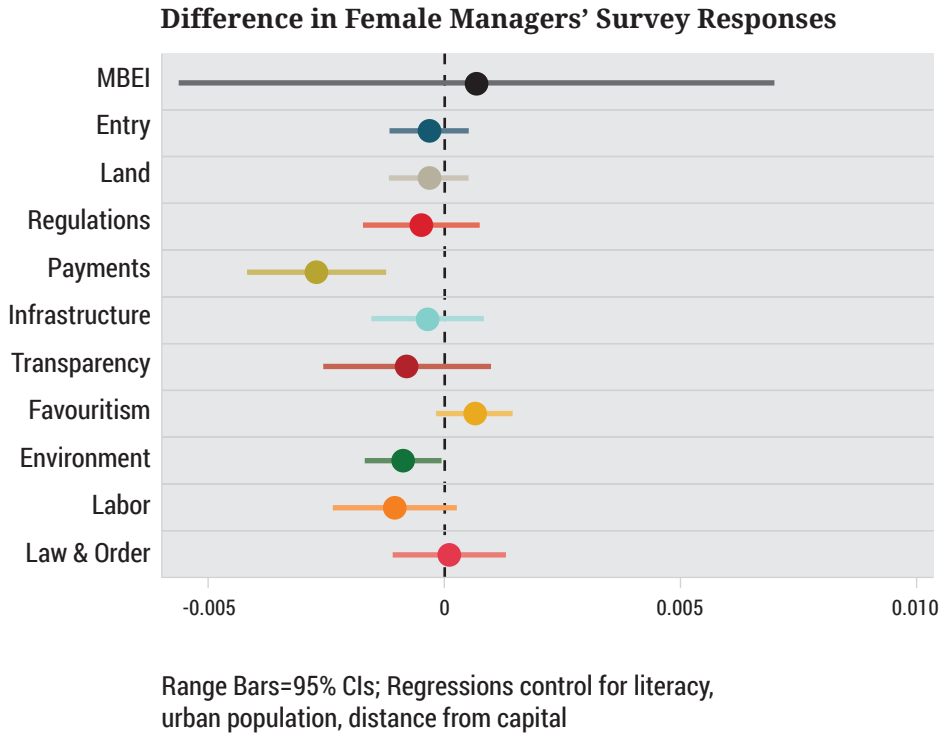
6.2. Gender and Economic Governance

The MBEI uses regression modeling to explore the relationship between gender and economic governance. Twenty-eight percent of firms surveyed for the MBEI are owned by women. To analyze variation in treatment by gender, we use our individual-level MBEI scores in an econometric regression, where we regress the overall MBEI and each subindex on the gender of the CEO/top manager. We use only the survey results rather than the hard data and observational data, which do not vary by respondent within townships. All townships, regardless of gender, receive the same score. Figure 21 provides the results of the analysis. The bar depicts the size of the difference in perceptions between male and female entrepreneurs. A score to the right of the zero line illustrates that women evaluate governance more positively, and to the left, that they perceive men as treated better. The range bars demonstrate the 95% confidence intervals. When they overlap the zero line, the estimates are not statistically significant. This is the case with the overall MBEI and nine out of the ten governance measures. Here, we observe no statistically significant differences between male and female business owners.

The MBEI did not find significant differences in how male and female business owners report their experience of economic governance. Among the ten subindices, only informal payments stand out with respect to gender. According to survey data, female entrepreneurs evaluate informal payments slightly more negatively than their male counterparts. However, the negative bias is only about 0.004 points, therefore it would hardly make a difference in township scores on a ten-point scale. While not substantively meaningful with respect to overall economic governance, this result does point to an important difference between male and female business owners that warrants further research.

FIGURE 21

Is Gender Associated with Governance?



Range Bars=95% CIs; Regressions control for literacy, urban population, distance from capital

7 Policy Considerations

The MBEI is designed as a starting point for identifying policy reforms to improve economic governance. In a broad-based survey that covers as much ground as the MBEI project, it is hard to provide pinpoint policy recommendations. Nothing can be improved without first being able to measure the underlying concept that needs reform. In this report, we have provided the measurement, but the next stage of research will require matching reform approaches to the problems that we have highlighted. Each of the 101 indicators used in the MBEI could be improved by multiple, different policy interventions. Future research is necessary to study Myanmar's high-performing states and regions, identify best practices using the 2019 MBEI as a baseline, evaluate governance interventions, and provide precise reform advice.

Improving local economic governance in Myanmar requires improved policy and coordination between Union and state/region governments as well as improved administration down to the township level. Law and policy relevant to Myanmar businesses is no longer strictly the jurisdiction of the Union government. Myanmar's system of dual accountability, in which departments answer to both Union and state/region ministers, means that policy improvements in economic governance increasingly must be achieved through coordination between Myanmar's two levels of government. Improving township-level administration is also key to improving local economic governance in Myanmar insofar as law and policy is implemented through government departments at the township level. The quality of local economic governance in Myanmar depends on the quality and efficiency of administration across the numerous township-level departments that interface directly with Myanmar businesses.

Transparency can be easily and inexpensively improved by posting relevant government documents, such as fee schedules for licenses, online or in township offices.

Several highlights from the MBEI point to key policy considerations that should be prioritized when thinking about future economic governance reforms. Efforts made to address these concerns would be the first steps at improving economic governance throughout the country. According to our research, these goals would be the least difficult to achieve (reducing informal payments and favoritism are more challenging tasks) and perhaps offer large payoffs in terms of increased business optimism and activity. For more township-specific advice, please see Chapter 4, where we provided tailored diagnostics for every state and region.

- ***Improved access to information is vital for businesses.*** In general, the business environment is Myanmar is not very transparent. Critical documents for business planning—such as local budgets, cadastral maps, and infrastructure maps—are often unavailable to the average business owner. Even more mundane pieces of information, such as fee schedules for licenses and other documents or instructions on land title applications, are often hard to find in many township offices. Lack of easy information generates bias in favor of those who have connections, creates opportunities for corruption, and makes strategic planning impossible. However, this governance deficit can be easily and inexpensively improved at the local level. National and local governments can put many of these documents online or post them publicly in government offices. For more complex documents and information, access-to-information policies can be created that lay out procedures for requesting

information from public offices and specify timelines for request fulfillment.

- ***Green policies matter for the economy.*** Most Myanmar SMEs are in business sectors that depend on green policies. Seventy percent of the MBEI sample are in services (mostly accommodation and food services), agriculture, or wholesale/retail. Regarding manufacturing, 30% of sample firms (44% of MOLIP firms) are in food processing. That means that 80% of the sample are in sectors where pollution is damaging to their business. Thus, quality environmental impact assessments clearly need to be prioritized at the national and local levels. As Myanmar expands and new industries enter and grow, clear zoning policies will be necessary to protect service and agricultural businesses from the more polluting manufacturing and natural-resource-exploiting industries. It will also be vital to estimate the cost of industrial expansion to existing service sector operations and to take those into account in licensing and zoning decisions.

- ***Public dialogue is critical to sustainable growth.*** One clear concern is how to simultaneously protect the environment while reducing regulatory procedures and inspections, which, as we have shown, are considered an obstacle to business development for many SMEs. This trade-off is a difficult one. Here, evidence has shown that consultation with the business community is critical in creating smarter regulations that protect the public interest but are acceptable to the business community. Randomized experiments have shown that public consultation leads to improved regulations, greater acceptance of those regulations by SMEs, and ultimately greater regulatory compliance (Malesky and Taussig, 2017, 2018).

- ***Poor quality local labor force and difficult recruitment is costly to businesses.*** Recruitment of qualified workers, particularly elite technicians and managers, is a major problem for firms in Myanmar. Over half of respondents found it difficult to recruit manual rank-and-file workers, technicians, accountants, supervisors, and managers. And finding good workers is expensive. The median firm spends 5.4% of its operating costs on labor recruitment. Taken together, these results imply that finding qualified applicants is difficult and expensive. Training and matching do not need to be resolved with direct state interventions, and encouraging private sector actors to provide vocational training and matchmaking may also help solve some of these critical employment problems.

- ***Investments in education pay off.*** Continued emphasis on improvements in education can help address Myanmar's labor market issues. Curriculum reform and technical and vocational training has been a priority of the current government, and rightly so. Local governments should consult with businesses about the skill set that is needed for their specific business sectors. Once these skills are understood, curriculums for vocational training can be generated at the townships and state and region levels that respond to these needs, producing the workforce that businesses need in order to expand and grow. General education is more difficult but should remain a priority of the Union government.

- ***Infrastructure improvements can reduce waste and other costs.*** Low quality infrastructure is leading to lost business hours and spoiled products, and quality of infrastructure appears to be a major concern for businesses in Myanmar. In particular, firms express dissatisfaction with road quality and electrical power (only 49% of firms say these features are good or very good). Firms are more positive about telephone (66% report good or very good) and Internet (54% report good or very good). Yet, even these infrastructure features have problems. The median firm reported experiencing 20 hours of lost telephone and Internet coverage and 20 hours of lost electric power in the past month, and the median firm claimed to have lost seven days of business transport activity due to flooded roads. Infrastructure creation is an expensive and long-term project, yet continued or increased expenditures by state and region governments on infrastructure will be money well spent for businesses in Myanmar.

- ***Promoting improved processes can increase formalization.*** Fifteen percent of businesses are fully informal, possessing no registration documentation or

Randomized experiments have shown that public consultation leads to improved regulations, greater acceptance of those regulations by SMEs, and ultimately greater regulatory compliance.

operating license for their business activities. Many of these businesses are sizable with thousands of dollars in investment and between three to ten employees. Making sure that these businesses are formalized will be necessary for implementing and enforcing regulations that protect public welfare, such as labor and consumer protection, safety and sanitary standards, and reduction in pollution. In some cases, businesses may have chosen not to receive operating licenses out of fear that the process would be time consuming and expensive, especially when informal payments are taken into account. Informing businesses that such fear is unfounded may encourage more to come out of the gray economy. In addition, efforts can be made to expedite operating license provision. Currently, it takes about seven days to receive a license, even if a firm already had one and is simply engaging in annual renewal. This recurrent cost could be eliminated with expedited licensing processes for renewals.

Infrastructure creation is an expensive and long-term project, yet continued or increased expenditures by state and region governments on infrastructure will be money well spent for businesses in Myanmar.

- ***Streamlining, coordination and transparency can reduce the time costs of inspections.*** Firms in Myanmar spend less time on paperwork and find officials more effective than the average Vietnamese firm. Myanmar businesses, however, are twice as likely to face regulatory inspections and are much more likely to complain that regulatory fees are not clearly posted in local offices than similar firms in Vietnam. Of course, regulatory inspections are necessary to protect workers, consumers, and the environment, but the process should be streamlined to reduce costly waiting periods and holdups for businesses. For example, coordination between local regulatory bodies to visit firms on the same day could reduce the length of time that operations need to be shut down to accommodate them. In addition, more effort should be made to communicate to businesses exactly what their regulatory obligations are, including transparency with respect to fines and penalties for noncompliance.

- ***Promote business expansion by reducing time costs of land title formalization.*** For many service and manufacting SMEs with access to a formal land title, the land titling process takes about 90 days after a firm submits all supporting documentation. This waiting period is lengthy by international standards. Given the complexity and sensitivity of land issues in Myanmar, there are likely to be a variety of reasons why titling procedures for land are so slow. Addressing these issues to reduce holdups would allow businesses to more quickly break ground and engage in the type of business expansion that generates jobs, creates revenue, and contributes to economic growth.

Office buildings in downtown Yangon

APPENDIX A

Index Methodology

The MBEI team used a three-step process to construct the Index. We refer to this process as the "three Cs." These include 1) ***collection*** of data, 2) ***construction*** of subindices, 3) ***calibration*** and weighting of final index.

A.1. Collection

We utilized two general types of data to construct the MBEI subindices. The first source is perceptions data drawn from the nationally representative survey of private firms. This "soft" data was then combined with objective, or "hard," data, which was gathered from observations at township administrative offices recorded by our field team, from statistical yearbooks, and from other administrative sources available from government ministries. The hard data was used to address perception and anchoring biases in responses. After all, many SMEs may not have an adequate understanding of other locations to rate their home state and region on a five-point scale.

A.1.1. Hard and Observational Data

Hard data, or published and other non-survey data, was used to supplement and balance MBEI survey data. This data was incorporated in the MBEI to correct for anchoring bias, control for the impact of structural endowments, and calibrate the final index scores to the relative importance of the subindices vis à vis the business environment. Hard data for the MBEI was collected through desk research and engagement with government offices during February to August 2018. Sources of hard data in the MBEI included the 2014 Myanmar Census, relevant national ministries, local offices of the GAD, and observational data of local government operations collected directly by The Asia Foundation and field research team.

A unique innovation of the MBEI compared to previous subnational indices is the addition of observational data. To collect this data, researchers visited local administrative offices, ranking various features of these offices on a number of criteria, including the public posting of vital information, the helpfulness of staff, and the availability of information upon request. The offices visited included township-level GAD, DAO, and DALMs offices.

The hard data is used in the MBEI in three important ways. The first is what is known as anchoring bias and occurs when a surveyed firm is asked to evaluate the local business environment but has little context for comparison with other regions of the country because its operations are strictly local. For example, a firm in Mon State may feel that registration procedures are fairly efficient by local standards, whereas an objective observer with knowledge of procedures across Myanmar may assess them differently. Because the hard data is not subject to perception bias, it can be used to correct for such anchoring problems in survey responses.

Figure 22 illustrates the relationship between the aggregate hard and soft indicators for each subindex in the MBEI. In most cases, the correlation is positive, and in the case of indicators regarding Entry Costs, Land Access, and Informal Payments quite strongly so. In a few subindices, such as Post-Entry regulation, the relationship is negative, which indicates that survey data in that subindex may have been influenced by perception bias in some localities.

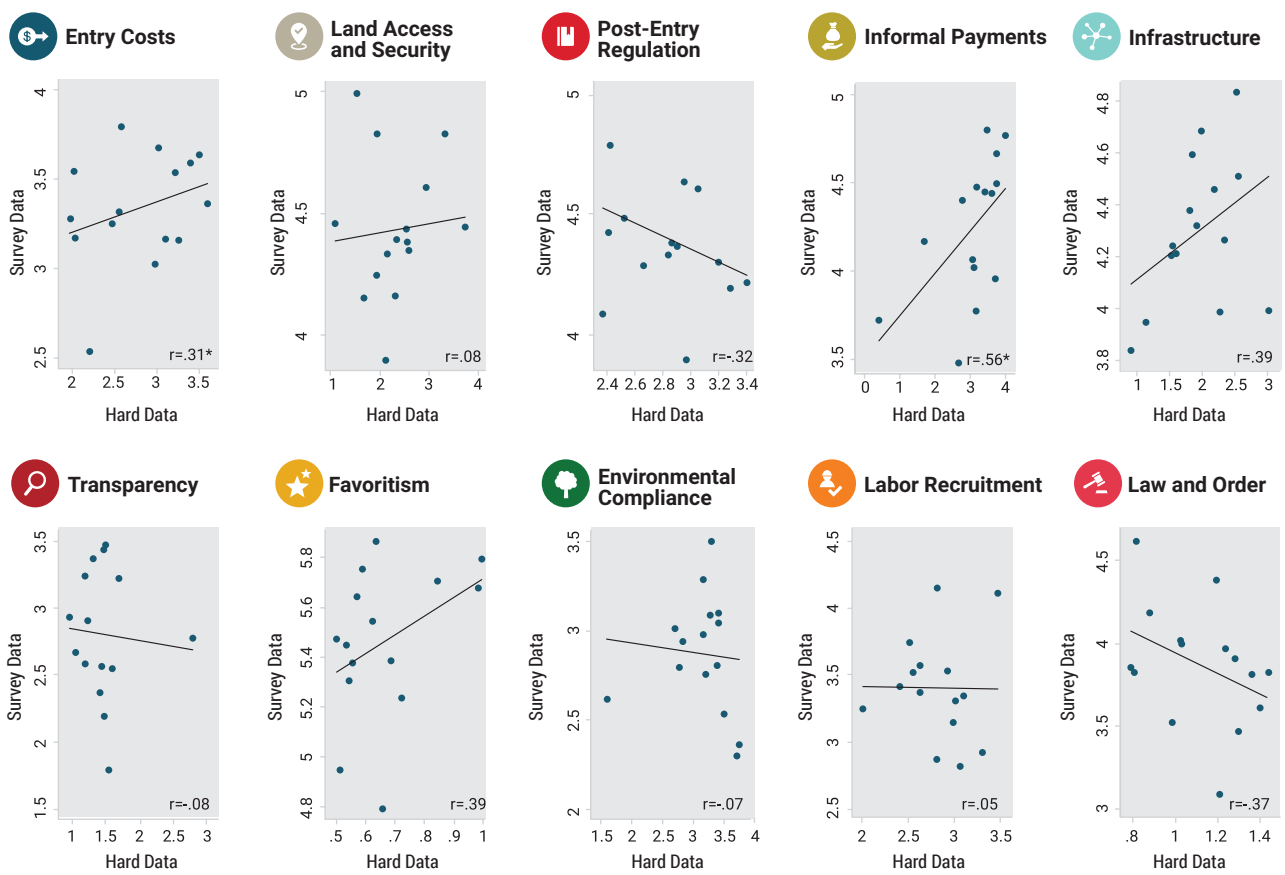
Second, hard data is used to account for structural endowments, or aspects of the business environment that are out of the government's control in the short run. These local endowments—such as proximity to Yangon's large market, local market size, and readily available human capital—contribute to economic growth but are not attributable to good local economic governance. For example, literacy rates in Yangon may reflect the quality of the local labor force

that firms may draw upon, but it is unlikely to change dramatically through local government response in the short run. Similarly, proximity to the Chinese market of firms in Muse township will likely influence growth, but it is not determined by local economic governance nor is it likely to change. Consequently, the MBEI seeks to control for the impact of these factors by incorporating additional data on human capital and market proximity from non-survey sources.

Finally, the MBEI uses hard data to measure the relative importance of the various subindices (aspects of the business environment) to economic growth and calibrate the overall index score accordingly. For example, indicators commonly associated with economic growth include a large number of firms, active investment, and expansion of business operations. This data is used to generate weights for each subindex in order to construct a final MBEI score that best allows for comparisons across Myanmar's states and regions.

FIGURE 22

Correlations Between Hard and Soft Data in MBEI



A.1.2. Nationwide Business Survey

"Soft" or perceptions data for the MBEI was collected using a nationwide survey of businesses. In many ways, this survey is the signature contribution of the MBEI. The survey instrument reflected the key issues covered by the subindices and incorporated input from discussions with businesses and policy-makers. As we noted above, almost all questions focused on business interactions with township officials.

The survey instrument comprised twelve modules that were organized by topic with a final set of control questions included to assess the circumstances of the interview. The first module

collected basic information on the respondent firms, whereas the content of subsequent modules corresponds to various subindices. For example, the module related to business entry costs requested the length in days and the identification of activities that are required to register a business. By design, roughly 20% of questions on the MBEI were virtually identical to EGIs in other countries (based on Vietnam's Provincial Competitiveness Index [PCI] or the World Bank Enterprise Survey), allowing comparison across countries. In addition to straightforward inquiries of all sample firms, the MBEI instrument incorporated some additional novelties such as list experiments to shield respondents when asking sensitive questions (see Section 3.4), and a conjoint experiment (see Appendix C) to assess the impact of firm size, ownership, environmental history, industry, and other factors on the likelihood of receiving licensing and approval from local officials.

The research team subjected the MBEI survey instrument to a thorough Burmese translation. The survey was also tested and refined through focus group discussions with businesses and piloting on a subset of the eventual survey sample. Translation of the survey into Burmese began with an initial translation by the survey firm, followed by review and corrections by staff of The Asia Foundation and the DaNa Facility. The survey instrument was then circularly translated and underwent a second round of corrections. This last step involved a third party translating the Burmese-language survey into English in order to detect discrepancies in meaning and using this translation to make further corrections to the Burmese version.

In May 2018, the research team conducted focus group discussions, and in-depth interviews (IDIs) were conducted with businesses in Yangon Region and Mandalay Region, including groups of businesses owned by women and ethnic minorities. The IDIs were designed to test for sensitivity with respect to firm size, gender, and ethnicity, and led to revisions in terminology and structure of the instrument to most accurately collect data from these subgroups. In April 2018, the MBEI survey was piloted on 30 firms in four townships in Yangon Region and Mandalay Region in order to test both the content of the survey instrument and anticipated field operations. This trial led to considerable shortening of the survey instrument to accommodate the time availability of business owners and to clarify concepts. The final MBEI survey required approximately one to two hours to complete.

A.1.3. Sampling Frame

One of the first critical choices in carrying out the MBEI involved the construction of a sampling frame, or list of all businesses in Myanmar. All surveys that employ probability sampling rely upon a high-quality sampling frame covering the population of interest. However, the availability of such a list was poor in Myanmar, with most potential frames limited by insufficient coverage, significant errors, and missing contact information. As a result, the research team chose the best available list of Myanmar businesses within the timeframe of the first round of the MBEI. Various government offices in Myanmar assemble lists of registered firms, such as the Department of Labour under the Ministry of Labour, Immigration and Population (MOLIP), the SME Development Centre under the Ministry of Industry, the Directorate of Investment and Company Administration (DICA) under the Ministry of Planning and Finance, and township offices of the Development Affairs Organization (DAO). Each of these data sources come with trade-offs as to data quality, completeness, recentness, reliability, and availability. Based upon these considerations, the research team constructed a sampling frame using the 2016 MOLIP Establishment Survey data.[12]

The MOLIP data was acquired by The Asia Foundation in November 2017 and included 220,000 observations, which were used to construct a sampling frame of 60,000 firms. The frame was trimmed to 60,000 firms by restricting analysis to private, domestic operations and dropping all foreign and state-owned companies. Furthermore, to ensure that our sample had some experience interacting with government officials, the research team focused on firms with over four employees in addition to the owner. While the MOLIP data did not include a code for formality, which would have been ideal, dropping microenterprises increased the probability of identifying formal operations.

The advantages of the MOLIP data included considerably better nationwide coverage than the alternatives and its availability within the timeframe of the first MBEI round. However, there were some disadvantages. The MOLIP data had a large number of missing or incomplete addresses and appeared to need updating. Many firms listed in the dataset did not exist or had not been operation for many years. This weakness increased our noncontact and nonresponse rates and is a potential source of error in the analysis.

A.1.4. Random Sampling Procedure

Once the sample fame was selected, we then moved forward to our sampling design. In constructing the MBEI methodology, the research team faced a significant challenge. The MBEI project goals called for a sampling strategy that would yield representative results at the national, state/region, and township levels, allowing for the aggregation or disaggregation of data as necessary for the policy research. This challenge was compounded by the fact that MBEI would have large numbers of relatively inexperienced respondents. Sufficient literacy, understanding of complex governance topics, telephone numbers, and even fixed postal addresses could not be taken for granted if the project really sought to measure governance as experienced by the average business in many rural and underdeveloped localities. As a result, the MBEI survey needed to be administered in person to help explain complex topics, necessitating enormous numbers of interviewers and logistical coordination.

Because of these complexities at the design stage, the research team knew they would have to use a multistage strategy that was representative but limited the field interviewers' travels to reasonable levels. In situations where researchers are faced with a multilevel research problem that involves a small number of first-tier sampling units (i.e., townships) but need to maintain representativeness at the population level (i.e., state and region), the recommended approach of statisticians is Probability Proportion to Size (PPS) sampling. In PPS, a researcher weights each of the sampling units by the size of the population. The easiest way to think about this is as a weighted lottery, where each state and region gets a ticket for each citizen. Thus, a township with 100,000 people has ten times the probability of selection (winning the lottery) as a township with 10,000 people. A township with a population of one million has 100 times the probability of selection.

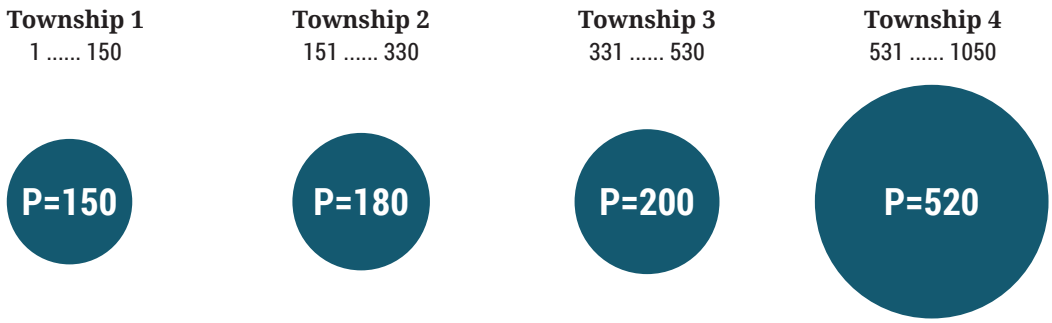
Figure 23 illustrates how the weighted lottery was carried out. Suppose the state that the researcher is working in has four townships with a total firm population size (P) of 1050. The travel and fieldwork budget only allows for two townships, but these should be randomly selected and broadly representative of the state. The researcher allocates the township "tickets" numbered 1 to 150 to the first township; the second township gets 51 to 330; the third, 331 to 530; and the fourth, 531 to 1050. Next, he/she selects a random number between 1 and P/2 = 525, and counts through the tickets by multiples of 525.

If the random number selected was 200, the researcher would draw tickets numbered 200 and 725, the tickets held by townships 2 and 4. Notice that the most populous township was easily selected by this procedure.

PPS therefore allows for randomness in selection, which is more likely to lead to representativeness, but has the obvious result that more populous townships are more likely to be selected. While some might consider this a bias, it is exactly the bias the research team wants. It is important to remember that the MBEI is measuring firms' experience with public administration and public service provision. It makes sense that researchers would want to know about the administration and services that affect the greatest number of businesses in a state or region. PPS also has the significant benefit of reducing field costs for research teams because interviewers do not have to be sent to many far-flung localities to do only one or two interviews. Efforts can be concentrated in the selected locations.

Within each state or region, the capital-city township was automatically selected as a "certainty unit," while several additional townships are selected randomly with PPS sampling. The certainty unit was required since many important procedures and services take place only

FIGURE 23
Demonstration of Probability Proportion to Size (PPS) Sampling



within a state or region's capital township. In analyzing the data, we use inverse probability weights to address the fact that the certainty units were not randomly sampled. The number of additional townships varied by the number of townships in the state/region and the number of total businesses in the state/region.[13]

Following this logic, the research team used the two-stage sampling procedure shown in Figure 24 below. First, townships within the 14 states and regions and Nay Pyi Taw were selected using PPS. The research design provides accurate population estimates at the township level as well as at the state and region level. Second, a stratified random sample of firms was selected from each chosen township using the size of the firm (small, medium, large) and its industry (service, manufacturing/construction, agriculture/aquaculture/natural resources), as reported in the MOLIP sample frame. Among the benefits of stratified sampling are improved population estimates and reduced sampling error, while drawbacks include the maintenance of strata in the face of a poor or incomplete sampling frame. Figure 24 illustrates the full MBEI selection strategy from state/region to township.

The appeal of this two-stage design is three-fold. On the one hand, it allows the MBEI to detect variation at the township level, where local economic governance is often implemented—as we do in our analysis of the relationship between governance and welfare (see Chapter 5). It can also help in identifying better-performing townships throughout Myanmar and highlighting the practices that make them so. On the other hand, the sampling design also allows the MBEI to report findings at the state and region level by aggregating township-level findings. This function provides a more compelling narrative to government and stakeholders, and more viable opportunities to advocate for improved local economic governance in Myanmar. A further benefit of the two-stage procedure is that it is more affordable and logistically feasible than a simple random selection. It increases the likelihood of choosing the most economically relevant units and is nonetheless random, providing the most efficient and unbiased estimates of the population.

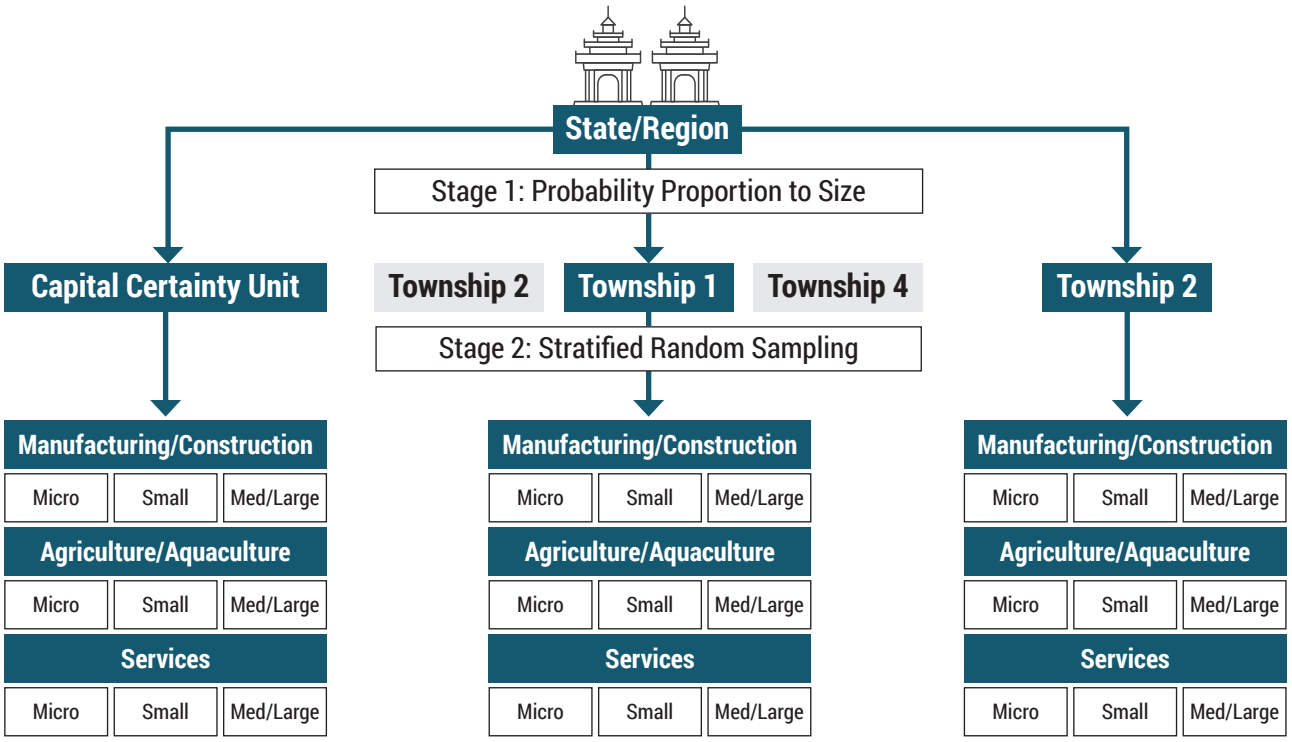
The design's drawback is that it does not guarantee a perfect geographic distribution of the townships selected for the survey, and it may omit large subpopulations of interest (e.g., ethnic minorities, persons affected by conflict). Nonetheless, random sampling is required in order to produce unbiased estimates of the business environment at the state and region level.

A.1.5. Sample Size

The MBEI survey data consists of approximately 4,874 firms from 66 townships across all of Myanmar's 14 states and regions and Nay Pyi Taw. The data was collected during May to September, 2018, through a massive, nationwide field operation that sought to locate more than 15,000—or nearly 25% of all—private Myanmar businesses identified in the MOLIP data.

FIGURE 24

Two-Stage MBEI Sampling Strategy



The target sample size for the MBEI was calculated based on the number of townships and firms necessary to produce reliable estimates,[14] which was updated as fieldwork was carried out.[15] Because of the sampling procedure used, the total number of firms is driven by sample size calculations in each sample township, where small township populations require smaller samples. Initial estimates of the necessary sample size for the MBEI were strictly estimates, whereas final sample sizes reflect both common challenges in survey data collection and the actual size and nature of Myanmar's business population.

Table 4 lists the townships selected in each state and region as well as the final sample of firms included for each primary sampling unit. In addition, we provide data on the aggregate nonresponse rate in each township. This number includes all forms of nonresponse, including noncontact due to insufficient addresses or telephone-only firms, "ghost firms" that were listed in the data but were not found at their stated locations, and firms that chose not to participate in the survey. The total uncorrected nonresponse rate was 69% but varies dramatically by township. Some locations in Yangon had noncontact/nonresponse rates as high as 90%. According to the literature on strategy and policy, 70% is a reasonable response rate for surveys of busy firm managers and directors. Even so, a corrected response rate that takes into account poor addresses and ghost firms would be much higher.

Importantly, 88% of responses were filled out by the CEO or General Director, implying a high degree of accuracy and knowledge about the specific questions asked in the survey.

A.1.6. Representativeness of the Sample

Given the difficulties the research team had finding all of the firms in the MOLIP dataset and the relatively high rates of refusals in some locations, it is reasonable to ask whether the MBEI

TABLE 4

Final Sample Size and Non-Response Rate by Township

State/Region	Township	State/Region Sample Size	Township Sample Size	State/Region Non-Response Rate (%)	Township Non-Response Rate (%)
Kachin State	Mohnyin	263	27	38.6	48.1
	Myitkyina		185		36.6
	Bhamo		51		40
Kayah State	Demoso	98	2	67.2	60
	Hpruso		2		50
	Loikaw		94		67.6
Kayin State	Hpa-An	275	130	66.6	57.8
	Hpapun		23		70.9
	Myawaddy		122		72.2
Chin State	Falam	42	15	69.1	59.5
	Haka		20		48.7
	Matupi		-		100
	Tiddim		7		76.7
Sagaing Region	Tabayin	248	8	41.9	0
	Monywa		109		51.1
	Taze		24		44.2
	Shwebo		107		30.1
Tanintharyi Region	Dawei	161	60	76.8	63.9
	Kawthoung		96		81.4
	Myeik		3		66.6
	Bokpyin		1		0
	Launglon		1		50
Bago Region	Bago	260	97	68.3	55.3
	Oktwin		119		76
	Pyu		44		58.9
Magway Region	Magway	319	90	48.9	31.8
	Pakokku		226		53.3
	Taungdwingyi		3		62.5
Mandalay Region	Chanmyathazi	676	276	45	51.3
	Myingyan		214		38.3
	Pyinoolwin		171		39.1
	Kyaukpadaung		15		54.5
Mon State	Mawlamyaine	236	87	77	57.8
	Paung		30		46.4
	Ye		119		84.4
Rakhine State	Kyauktaw	330	83	72.5	56.3
	Sittwe		128		75.4
	Mrauk-U		37		71
	Toungup		82		77.2
Yangon Region	Taikkyi	683	12	89.3	73.9
	Pazundaung		46		91.8
	Hlaingthaya		282		90.3
	Bahan		37		92.5
	South Dagon		110		88.1
	North Okkalapa		30		81.4
	Latha		35		86.4
	Dagon Seikkan		35		83.4
	Lanmadaw		41		86.6
	Mayangon		55		89.2
Shan State	Kengtung	671	45	75	50
	Lashio		331		76.2
	Mu Se		14		65
	Kunlong		-		100
	Taunggyi		59		39.2
	Hseni		17		91.6
	Tangyan		47		88.3
	Tachileik		36		76.9
	Nawnghkio		63		42.7
	Mongmit		59		69.6
Ayeyarwady Region	Ma-ubin	359	37	65.4	46.4
	Wakema		37		85.5
	Hinthada		44		51.1
	Pathein		97		63.5
	Pyapon		39		79.4
	Pantanaw		105		37.9
Nay Pyi Taw	Lewe	253	57	44.4	44.1
	Pobbathiri		39		49.4
	Pyinmana		157		43.1
		4874	**4874**		

respondents accurately reflect the underlying population in their states/regions and townships. In the section below, we present a picture of the respondents to the MBEI survey and compare them to the overall population represented by the MOLIP sampling frame. In general, MBEI firms match the underlying population extremely well. Nevertheless, MBEI respondents tend to be slightly bigger, more diversified, and more formalized then the firms listed in the dataset.

Figure 25 shows the comparison of employment size across the two datasets. In both cases, all firms simply listed their total number of employees, which we grouped into eight different categories. Most salient is that both datasets show that the average private firm in Myanmar is quite small by international standards. Over 95% of firms have less than fifty employees. Nonetheless, when comparing the micro- (<5 employees), small- (5–9 employees), and medium-sized (10–50 employees) businesses, we do notice some important differences. The MBEI respondents have a smaller share of micro-businesses (46% vs. 55%) and a larger share of medium-sized operations (26% vs. 14%). Consequently, the median firm in the MBEI survey has five employees compared to four in the MOLIP dataset. While the difference is not dramatic, we still use post-stratification weights for moderate adjustment of the data to reflect the slightly larger sample.

Table 5 explores the sampling bias by state/region, illustrating which locations differ most from the MOLIP dataset. While most states/regions have median firm employments within one or two employees of the comparison figure, the MBEI samples in Sagaing Region, Ayeyarwady Region, Yangon Region, and Chin State are three employees larger than the sample frame. We might expect that firms in these locations might be more sophisticated and successful than nonrespondents.

FIGURE 25

Employment Size in MBEI Sample and Population

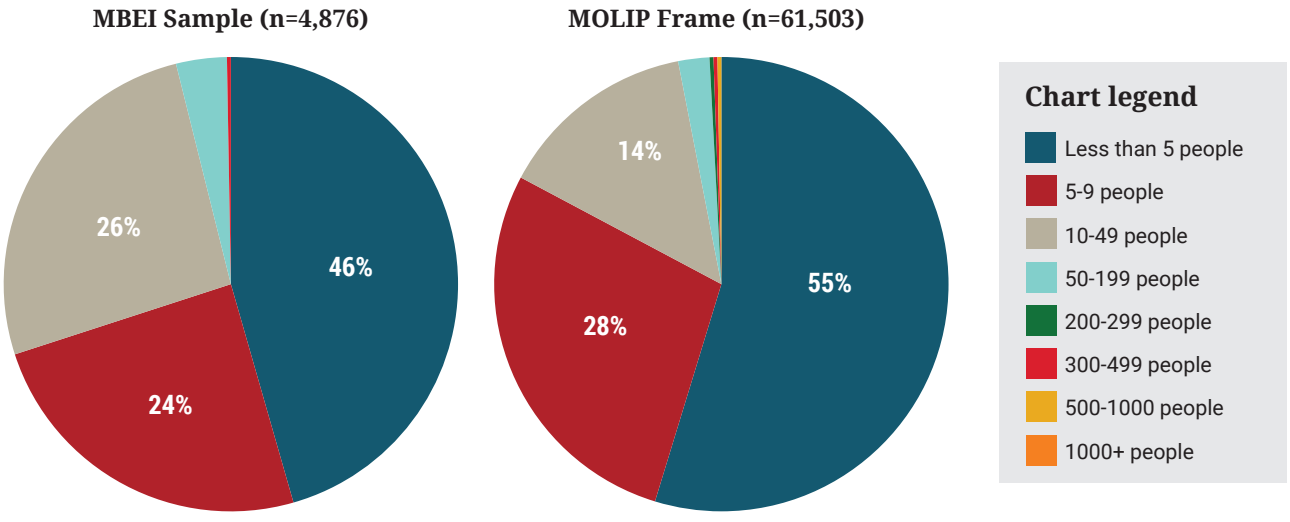


Figure 26 offers a similar comparison of the two datasets—this time disaggregating respondents by their broad sector of operation. Again, the MBEI sample differs slightly from the MOLIP sample frame in some important ways. In particular, the share of manufacturing firms is smaller (30% vs. 37%) and the share of total firms in services is slightly larger (66% vs. 59%) than the MOLIP dataset.

Examining manufacturing in greater detail in Figure 27, we can see that the MBEI sampling approach delivers a more diversified picture of manufacturing in the country than the MOLIP listing (44%), which is heavily weighted toward food processing, with only a tiny fraction of firms in other sectors. The MBEI sample also has a large number of firms in food processing (30%)

TABLE 5

Median Employment Size by State and Region

State/Region	MBEI	MOLIP	Difference
Shan State	4	5	-1
Kayin State	4	4	0
Tanintharyi Region	5	5	0
Bago Region	4	4	0
Magway Region	4	4	0
Rakhine State	4	4	0
Mon State	5	4	1
Nay Pyi Taw	6	5	1
Kachin State	7	5	2
Kayah State	6	4	2
Mandalay Region	6	4	2
Chin State	7	4	3
Yangon Region	8	5	3
Ayeyarwady Region	7	4	3
Sagaing Region	8	4	4

FIGURE 26

Broad Sector in MBEI Sample and Population

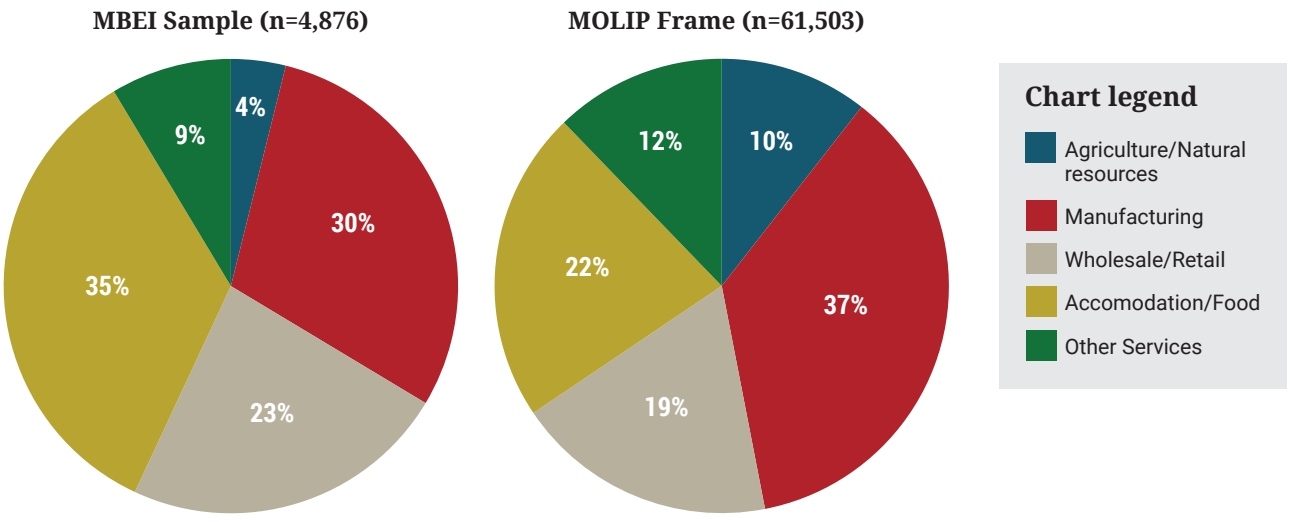
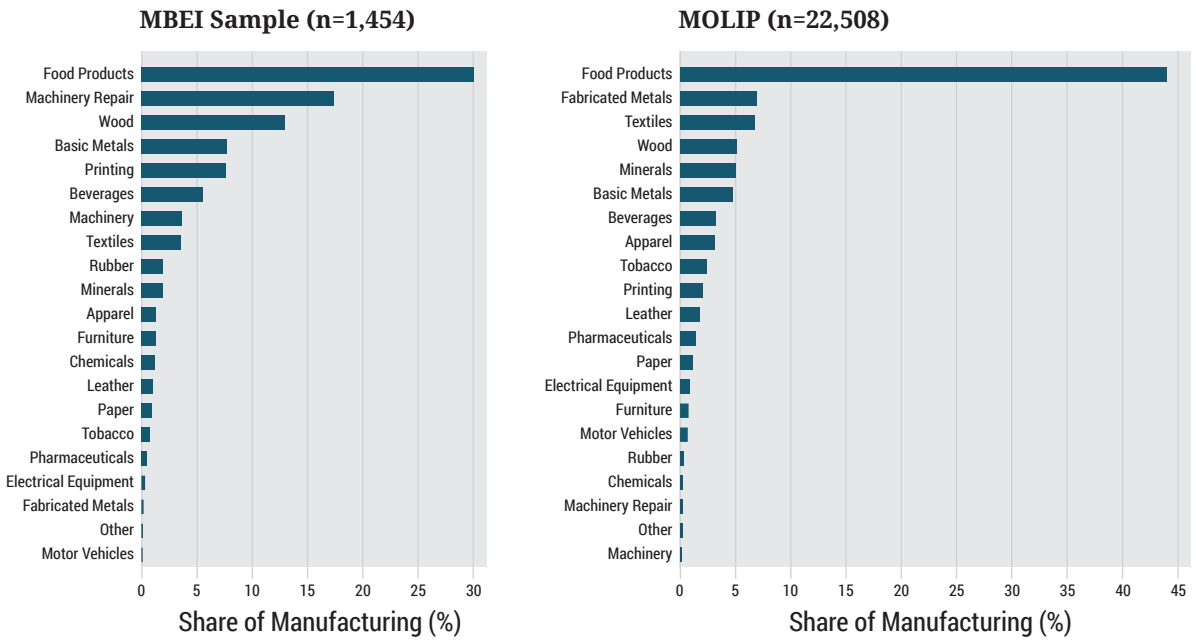


FIGURE 27

Type of Manufacturing in MBEI Sample and Population



but captures many more firms involved in machinery repair (17%) as well as wood products (13%) and basic metal production (8%).

A.2. Construction of the Subindices

A.2.1. Rescaling of Indicators

An important strength of the MBEI is that it compares economic governance against best practices already experienced in Myanmar, not against some idealized standard. For this reason, each indicator is standardized to a ten-point scale, whereby the best and worst performing recorded scores from each respondent are awarded the values of 10 and 1, respectively, and the other respondents' assessments are rescaled to fit somewhere along the scale between these two scores.

In the equation below, ***r*** represents the index for each respondent, and ***min*** and ***max*** represent the lowest and highest respective scores given in the survey. If a high value represents negative governance, we simply subtract the rescaled indicator score from 11 to reverse the scale.

$$Indicator\ Score = 9 * \left(\frac{Score_r - Score_{min}}{Score_{max} - Score_{min}} \right) + 1$$

The MBEI team calculates rescaled values, subindices, and MBEI scores for each individual firm answering the survey. Creating individual governance indices at the respondent level has the benefit of allowing us to calculate inequality in governance within every township and state or region. It also permits reaggregation, whereby we can analyze governance scores for

particular economic sectors, genders of owners, types of enterprises, or sizes of firms (see Chapter 6 above).[16]

A.2.2. Creating Subindices

Using the existing literature on the business environment as a guide, as well as incorporating discussion by policy-makers and economic analysts on Myanmar, indicators are grouped into the ten subindices shown above. Considerable effort was made to ensure that these subindices corresponded with previous research on the obstacles to private sector entry and growth in Myanmar (see Appendix B for a full discussion of each indicator).

Once the indicators are standardized, a weighted average of all indicators is taken to create the subindex at the respondent level. Weighted averages are employed to better incorporate hard data when available. To limit perception biases, survey data received a weighting of 60%. Hard data always received 40% of the weight in the subindices.

A.3. Calibration of the Final MBEI

A simple summation of the ten subindices yields the unweighted index with a maximum possibility of 100 points. While this method is clearly the easiest and simplest one to calculate the final MBEI, it would be inappropriate as a policy tool for the simple reason that some subindices are more important than others in explaining private sector development. Hence, it is important to reweight subindices based on their actual contributions to firm satisfaction with governance and other outcomes like business performance. To do this, the research team used multivariate regression analysis to determine how each of the subindices influences the key economic performance variables that researchers and practitioners in Myanmar have deemed the most important gauges of private sector development.

- ***Average confidence in local government leaders.*** Question 184 of the MBEI asked the following question of all levels of government:

  The new leadership has made commitment to improve the business environment through formal laws and regulations, but also in informal speeches and communications with firms like yours. How confident are you that leaders of the following agencies will take action to implement their commitment based on your experience with previous commitments?

  The question was coded on a four-point scale, with 4 representing "very confident" and 1 representing "no confidence at all." We averaged the confidence scores for the four levels of government that most influence business performance: state and region government, GAD, DAO, and city development councils like YCDC.

- ***Overall business performance in 2017***, which is taken from Question 20 of the MBEI survey, measures the net profit or losses of the business during the year. The assumption is that, when controlling for structural and market factors, economic governance should have a significant relationship with business success. Profit of firms in a one-time period is a very good predictor of the potential for more investment in subsequent periods as more firms enter the market. Competitive states and regions are more likely to create an environment in which entrepreneurialism is encouraged and rewarded by business profits, rather than by public largesse.

- ***Willingness to expand***, taken from Question 21 of the MBEI survey, asks:

  Which statement best characterizes your firm's investment plans over the next 2 years? If you are considering expansion in any portion of your business, please let us know.

  We then record plans to "increase the size of their operations." In Vietnam, this measure has become an elegant indicator of optimism and confidence felt by the private business community regarding its economic prospects (Malesky et al., 2018). It is a strong leading

indicator of per capita GDP growth in the state or region.

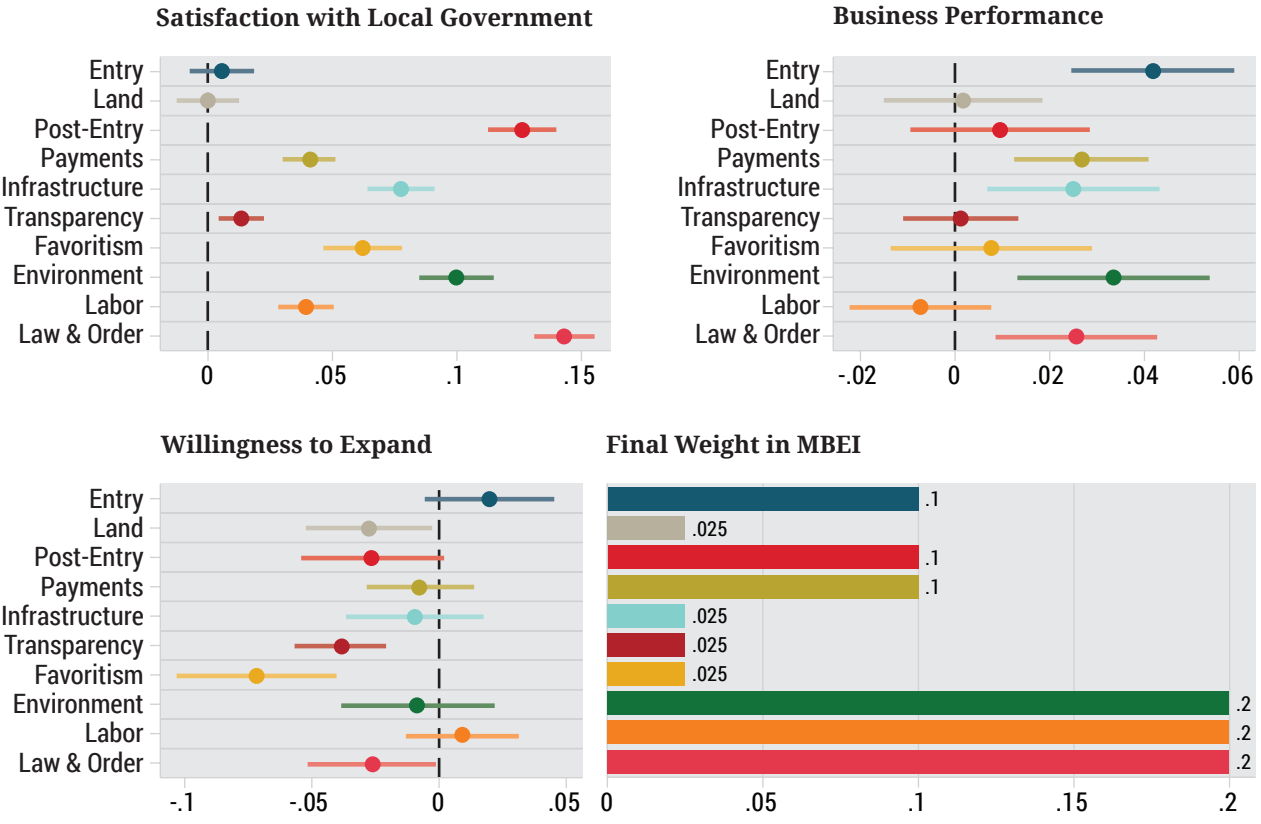
In each case, while regressing the above economic performance variables, the research team controlled for firm-level differences in initial structural conditions of private sector development,[17] specifically:

- the employment size of the business when it started operations and the sector (two-digit level) in which it competes,
- the average literacy of the state or region as a measure of human capital endowment,
- the average urbanization of the state or region (urban population/total population) as a measure of market size and initial economic development.

Regression results for the three different outcome variables are shown in Figure 28. Regression outcomes were then rounded to deliver basic classes of weights, as shown in the NE panel of Figure 28 and the final column of Table 6. Subindices that have the largest association with private sector growth—Environment (subindex 8), Labor Recruitment (subindex 9), and Law & Order (subindex 10)—receive the highest weight class of 20%. Correspondingly, those that are not strongly correlated with private sector development outcomes receive the lowest weight class of 2.5%. They include Land Access (subindex 2), Transparency (subindex 5), Infrastructure (subindex 6), and Favoritism in Policy (subindex 7). The medium weight class of 10% is reserved for average correlations across the three outcome variables or for a large substantive effect on one outcome (e.g., profitability) with minimal effects on the other two, such as Entry Costs (subindex 1), Post-Entry Regulation (subindex 3), and Informal Payments (subindex 4).

FIGURE 28

Correlates of Business Satisfaction & Performance



Range Bars=95% CIs; Regressions control for literacy, urban population, distance from capital, labor size, and sector fixed effects

TABLE 6

Description of Subindex Dimensions and Weighting Approach

Subindex	Indicators	Dimensions (Weight within Subindex)	Weight in MBEI (%)
Entry Costs	8	1. Survey Data (60%) 2. Hard and Observational Data (40%)	10
Land Access and Security of Tenure	9	1. Survey Data (60%) 2. Hard and Observational Data (40%)	2.5
Post-Entry Regulation	12	1. Survey Data (60%) 2. Hard and Observational Data (40%)	10
Informal Payments	6	1. Survey Data (60%) 2. Hard and Observational Data (40%)	10
Infrastructure	10	1. Survey Data (60%) 2. Hard and Observational Data (40%)	2.5
Transparency	19	1. Survey Data (60%) 2. Hard and Observational Data (40%)	2.5
Favoritism in Policy	9	1. Survey Data (60%) 2. Hard and Observational Data (40%)	2.5
Environmental Compliance	9	1. Survey Data (60%) 2. Hard and Observational Data (40%)	20
Labor Recruitment	8	1. Survey Data (60%) 2. Hard and Observational Data (40%)	20
Law & Order	11	1. Survey Data (60%) 2. Hard and Observational Data (40%)	20

APPENDIX B

Description of Indicators Used in the MBEI

B.1. Indicator Descriptions and Data for Entry Costs Subindex

A fundamental constraint on business growth and development is the level of bureaucratic impediments and the associated time and monetary costs that prolong a firm's ability to start a business. The entry costs subindex measures the extent of these business challenges. For example, government agencies may take too long to issue permits or require an excessively large number of documents before a business can begin operations. Firms have limited resources, and the excessive burden imposed on firms by inefficient bureaucracy makes both firms and consumers worse off; consumers do not get to purchase the products they desire, and firms lose out on potential sales as they wait to begin operations.

1. Length of time to get all required registration certificates, licenses, and stamps to become a fully legal business (q41; this variable is SHARE that took more than three months)

The length of time required to obtain all relevant documents, licenses, and stamps is another helpful indicator of entry costs: the more days it takes, the higher the cost; the fewer days it takes, the lower the cost. This indicator is defined as the share of firms that took longer than three months to procure all the required documentation. We believe that firms that take more than three months to procure all the necessary documents are subject to unnecessary opportunity costs, economic losses, and uncertainty, which make the underlying costs of setting up a business prohibitively high (World Bank, 2018). This indicator may speak to the presence of red tape and inefficiency—similar to the previous indicator—but may also imply a lack of information; both the bureaucrat and the entrepreneur may not know which documents are required to formally register a business or the necessary formal steps that are required to do so (Lambert et al., 2012). One concern with this indicator is that some firms may not understand their legal responsibilities and therefore may under- or over-estimate the requirements.

2. Number of additional documents needed (q42)

The more documents needed to fully register a business, the higher the cost of business entry. The rationale for this indicator is straightforward; each additional document is costly to procure, taking up some of the entrepreneur's time and money, while also introducing added uncertainty as to whether the entrepreneur will receive the document on time (if the document comes at all). Since each document comes with increased entry costs, the total number of documents is a useful indicator of the total entry costs to setting up a business (Ciccone and Pappaioannou, 2007). The submission process for DICA registration is delineated in the 2017 Companies Law.

3. Number of days from hire of service until receipt of company registration certificate from City Development Committee (q38_1_1)
4. Number of days from hire of service until receipt of operating license from the Township Development Affairs Organization (DAO) (q38_1_2)
5. Number of days from hire of service until receipt company registration certificate from the Directorate of Investment and Company Administration (q38_1_3)

These last three indicators show the number of days it took for the firm to apply for the relevant entry document from the municipal CDC, the township DAO, or the national-level DICA (Bissinger, 2016). We use the document that the business claims to have obtained most recently. These indicators measure entry costs to a business because the longer it takes to receive a document, the greater the opportunity cost to setting up the business (World Bank, 2018). In other words, the potential entrepreneur is spending money and time registering the business when

he/she can be using this time in more productive, income-generating ways. Another cost is the uncertainty over whether the document will ultimately be provided: the greater the uncertainty, the costlier it may be for the entrepreneur to consider starting the business in the first place (Knight, 2012; McMullen et al., 2008).

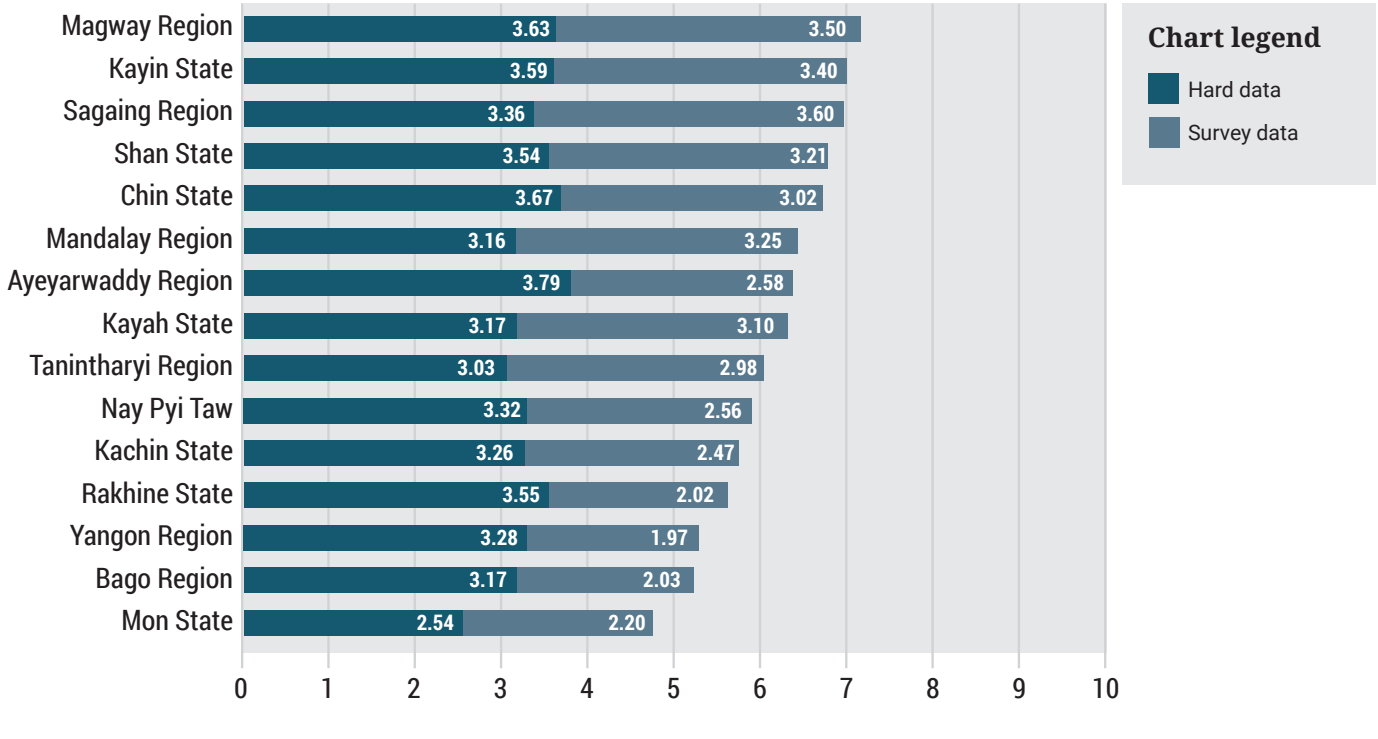
6. Had difficulty obtaining any administrative document (q40)

This indicator measures the share of firms that had difficulty obtaining any of the supporting documents required for starting a business (such as a certificate of fire safety or an advertisement license). Requirements vary by township and sector, but businesses are often required to obtain between 5 to 12 supporting documents to apply for operating licenses and registration certificates. Sometimes, these can be quite complicated to obtain, such as when one needs to collect signatures from neighbors to open a pub or restaurant. The more difficult it is to obtain the documents that are required to start a business, the more resources and time are spent, and the higher the overall costs are going to be (World Bank, 2018). Furthermore, the business may lose money on rent and other fixed costs if it cannot open in a timely manner since the business may have to wait for the completion of all the administrative documents before beginning operations.

7. DAO licensing (Business Operating License)

This indictor measures whether, for each state/region, the township DAO offices provide complete services for a given license or certificate—in this case, the Business Operating License. Specifically, the indicator measures whether the township DAO office is able to provide examples of required application materials, receive applications, and directly issue documents. The township scores are then aggregated up to the state level. The indicator is scored from 1 to 3, with 1 showing that the office receives applications; 2, that it receives applications and issues licenses; and 3, that it performs these functions with examples or guidance. This indicator

FIGURE 29
Entry Costs



measures entry costs directly: the more licensing processes the DAO office manages, the more streamlined the process of starting a business becomes, hence the lower the time and effort, and sometimes monetary costs, will be to start the business.

8. DAO required documents (Business Operating License)

This indictor measures the mean level, for each state/region, of supporting documents required by the township DAO to apply for a particular license or certificate—in this case, the Business Operating License. Supporting documents considered included application forms, support letters from other government offices, and signature forms for neighboring residents. The indicator is scored from 0 to 6, with 0 corresponding to no supporting documents required and 6 corresponding to six supporting documents required. In this case, we focus on general supporting documents that may apply to all industries. The more supporting documents are needed to start a business, the more cumbersome the process will be. Hence, entry costs will be higher.

Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
Firms waiting over 3 months to be legal (%)	4475	40.0%	49.0%	0%	100%
Number of total documents for firm to become fully legal	4592	4.4	3.9	1	99
Median days to get operating license (CDC)	4547	0.0	36.4	0	730
Median days to get operating license (DAO)	3830	7.0	46.9	0	730
Median days to get DICA registration certificate (DICA)	338	30.0	71.0	1	365
Median supporting documents required for DAO license	4592	4	3.9	1	99
Had difficulty with any administrative document	4874	9.3%	29.1%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
Firms waiting over 3 months to be legal (%)	15	45.2%	14.2%	23.4%	69.0%
Number of total documents for firm to become fully legal	15	4.4	0.61	3.2	5.3
Median days to get operating license (CDC)	3	33.96	13.3	28.15	53.2
Median days to get operating license (DAO)	13	25.19	7.43	17.88	47.6
Median days to get DICA registration certificate (DICA)	15	45.5	38.3	6.1	170.0
Had difficulty with any administrative document (%)	15	9.1%	4.0%	2.4%	15.3%
DAO licensing efficiency (1-3 points)	15	3.0	0.2	2.5	3.0
DAO required documents (0-6 points)	15	4.7	1.2	2.6	6.0

*Note: S/R denotes State or Region

B.2. Indicator Descriptions and Data for Land Access & Tenure Security Subindex

Access to land and the stability of land tenure are fundamental to business performance since they affect the types of investments a business will undertake, its profitability, or whether a business can even begin operations at all. Insecure tenure of land leads to uncertainty, which means that businesses will be reluctant to purse investments that may greatly improve long-

term profitability because they are unsure if they will be there to reap the future profits. Taken to the extreme, potential entrepreneurs may not even start a business if they think that the government can simply take their land away. Land-related issues are a significant problem in Myanmar. The majority of the population still lives in rural areas, where land is a major but rare asset. According to a report by the Ministry of Natural Resources and Environmental Conservation, the landless population is around 25% nationwide (and much higher in some areas). The report also cites land issues as a major concern for the government.

We measure land access and security with the eight following documents.

1. Whether the firm owns land and has a title (q49)

This indicator measures the share of firms (among all the firms that own land) that have a formal land title. An increased likelihood of firms owning land implies that land is easier to access in that area (De Soto, 2000). This may be for several reasons: there may be unused and available land for purchase, or the process of acquiring land is straightforward and less hindered by lack of information or bureaucratic inefficiencies. An entrepreneur's lack of a formal land title implies much lower tenure security than his/her possession of one. Absent a formal land title, the entrepreneur's land may more easily be expropriated by the government or be made more contestable by those wishing to claim it. Moreover, as titles are often used as collateral in banking transactions, no title constrains the ability to access capital and expand investments.

2. Length of time to get a land title in days (q51_1)

The number of days it takes to get a land title is a useful indicator of whether firms have difficulty obtaining titles or the process includes prolonged delays.

3. Whether the firm did NOT face obstacles acquiring land or expanding business premises (1=no obstacles)

This indicator asks entrepreneurs if they faced any difficulty acquiring land or expanding their business premises. A "yes" implies that land access is more difficult to procure. The rationale for this indicator is straightforward; if the entrepreneur faced any challenges in acquiring or expanding his land, this speaks to inefficient bureaucratic processes ("red tape"), a lack of information on how to acquire land or expand premises, or simply a lack of available land for purchase (Demsetz, 1974; Knight, 2012). This indicator can be explicitly linked to Part 5 of the National Land Use Policy (2016), which has explicitly detailed the land acquisition procedure.

4. Risk of expropriation (1=low or no risk) (q52)

This indicator is a binary variable that shows whether the firm perceives that it faces low risk of expropriation or not. The indicator gets at the heart of many issues concerning tenure stability. Stable tenure implies that the firm expects to own and operate the land for the foreseeable future—for example, for the length of time that the land lease stipulates. When the risk of expropriation (the risk that a firm's land is taken from it against its will or outside of the terms of its land contract) is sufficiently high, the firm is, by definition, insecure about its tenure (Feder and Feeny, 1991). The implications for business may be that a firm does not make the long-term necessary investments (e.g., in machinery) that are profitable only after a moderate amount of time since the firm's insecurity over its tenure may mean that these long-term investments may no longer be profitable.

5. The firm believes that it will receive fair compensation in case of expropriation (1=fair compensation)

This indicator measures the share of firms in each state/region that believe that they will receive fair compensation in the event of an expropriation. On occasion, it is necessary for government officials to engage in eminent domain—that is, taking land for public use, such as the expansion of roads or the creation of industrial zones. These activities are in the best interests of the economy but may injure individual entrepreneurs. In such cases, it is necessary to know

whether existing property holders are compensated fairly for their land. Uncertainty over fair compensation increases the cost of acquiring land since the entrepreneur is more uncertain about economic returns (McMullen and Shepherd, 2006). If fair compensation is not given, the entrepreneur would have spent money on start-up costs and on operating the business, only to lose his or her income stream for too little in return. In cases of high uncertainty, entrepreneurs may even resist investing fully in the property, preferring a wait-and-see approach. This lack of effort reduces business activity, and ultimately, employment and tax revenue. While not explicit, this indicator is consistent with the spirit of the National Land Use Policy Part 6 (2016), which describes dispute resolution and appeal.

6. The firm completed land procedures and has not encountered any difficulties (q58)

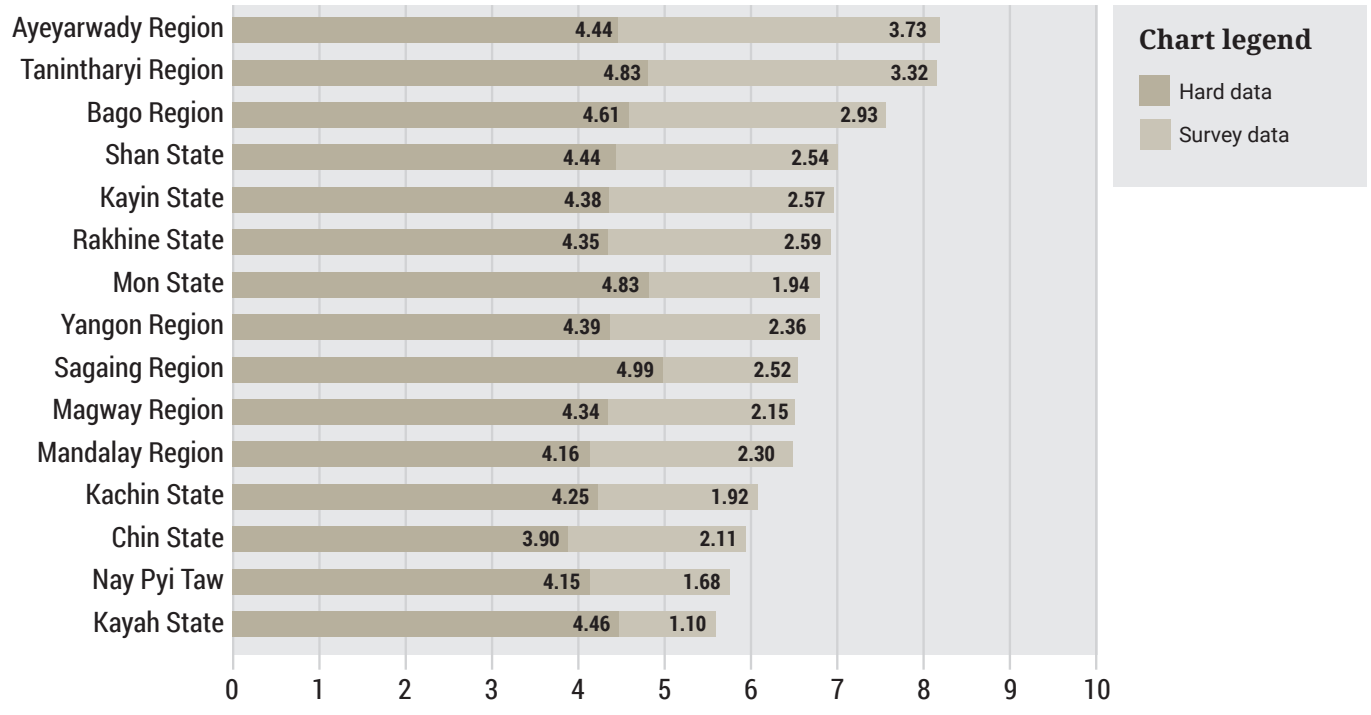
This indicator measures the share of firms in each state/region that have not encountered any difficulties when they have undertaken various land-related procedures. This is a useful and straightforward indicator of land access. If a firm encounters difficulties, this situation could easily imply that procedures to acquire land are cumbersome, confusing, or inefficient (Ciccone and Pappaioannou, 2007).

7. Risk of suddenly changing rental or lease contract (q55) (1=low risk)

This indicator is limited to firms in each state/region that are operating on rent and measures whether the firm's perceived risk of an unexpected change in the rental or lease contract is low or not. As with uncertainty over expropriation and compensation, the higher the perceived risk that a firm will face unexpected changes to the land contract, the more insecure its land tenure will be (Feder and Feeny, 1991). A sudden change in the terms of a land contract means that tenure is less stable; for example, the terms may be profitable prior to the sudden change but no longer profitable after it. In these cases, it may no longer make sense to continue the business. The ultimate implication of unexpected changes for business performance is that uncertainty over contract terms may discourage potential entrepreneurs from starting a business and may derail potentially profitable and scalable businesses, preventing them from taking off.

FIGURE 30

Land Access and Security



8. DALMS licensing (Form 15)

This indictor measures whether, for each state/region, the DALMS office provides complete services for a given license or certificate—in this case, Form 15 (approval to use farmland for other purposes). This measure is the average score for each surveyed township DALMS office in a given state. Specifically, the indicator measures whether the township DALMS office is able to provide examples of required application materials, receive applications, and directly issue documents. The indicator is scored from 1 to 3, with 1 showing that the office receives applications; 2, that it receives applications and issues approval; and 3, that it performs these functions with examples or guidance. This indicator is essentially a measure of entry costs—the monetary and opportunity costs—of gaining access to land. The higher the entry costs, the more difficult the access to land will be.

9. DALMS required docs (Form 15)

This indictor measures the mean level, for each state/region, of supporting documents required by the township DALMS office to apply for a particular license or certificate—in this case, Form 15 (approval to use farmland for other purposes). This measure is the average score for each surveyed township DALMS office in a given state. Supporting documents considered included application forms and letters of support from other ministries. The indicator is scored from 0 to 5, with 0 corresponding to no supporting documents required and 5 corresponding to 5 supporting documents required. The more required documents there are, the more cumbersome and costly the process, and hence the more difficult the access to land will be.

Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
Owns land and has a title	3681	68.8%	46.3%	0%	100%
Length of title acquisition (Median Days)	2044	90.0	164.4	1	999
No obstacles in acquiring land or expanding premises	4795	69.7%	46.0%	0%	100%
No or low risk of expropriation	4874	94.8%	22.3%	0%	100%
Received fair compensation in case of expropriation	4874	19.6%	39.7%	0%	100%
Firms have done land procedures AND have not encountered any difficulties	3681	97.1%	16.6%	0%	100%
Low perceived rental risk	4874	91.4%	28.1%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
Owns land and has a title	15	65.9%	11.0%	49.7%	85.6%
Length of title acquisition (days)	15	60	38.0	30	180
No obstacles in acquiring land or expanding premises	15	68.1%	9.2%	55.5%	88.5%
No or low risk of expropriation	15	95.8%	2.4%	92.6%	99.3%
Received fair compensation in case of expropriation	15	19.7%	13.1%	4.1%	48.1%
Firms have done land procedures AND have not encountered any difficulties	15	97.8%	2.2%	92.6%	100%
Low perceived rental risk	15	93.1%	4.9%	79.8%	97.6%
DALMS licensing efficiency (Form 15, 1-3 points)	14	1.58	0.62	0.20	2.69
DALMS required documents (Form 15, 0-5 points)	15	2.84	0.84	1.34	4.0

*Note: S/R denotes State or Region

B.3. Indicator Descriptions and Data for Post-Registration Regulatory & Administrative Costs Subindex

Businesses incur regulatory and administrative costs as long as they are in operation. Renewing licenses, obtaining forms and supporting documentation, complying with regulations, undergoing inspections, and updating business practices are necessary for maintaining business standards. These obligations, while important, can often be arbitrary and impose significant burdens on businesses. If the costs of the procedures become excessive, then businesses face tremendous opportunity costs and may even choose to shut down operations. This, of course, has negative implications for economic growth and poverty reduction. Myanmar has substantial issues dealing with post-registration costs. For example, Myanmar is ranked 155 out of 190 countries in the World Bank's ***paying taxes*** indicator. This ranking implies that the process of dealing with administrative requirements (in this case taxes) is cumbersome, time consuming, and inefficient.

1. Less than 10% of the owner's or manager's time spent understanding and complying with labor regulations (q64) (1= less than 10%)

The amount of time spent understanding and complying with regulations directly is related to the costs of running a business and is hence a useful indicator of regulatory and administrative costs. The more time the owner or manager spends understanding and complying with regulations, the less time he has to manage other issues related with running the business—lowering operating costs, refining the product, or marketing the product, for example. This, in turn, may lead to lower profits (Amin, 2009). The costs referred to here are therefore mostly opportunity costs; understanding and complying with regulations takes away from time spent on income-generating business activities.

2. Median number of inspections for all regulatory agencies (q69)

The higher the median number of inspections by regulatory agencies, the higher the regulatory and administrative costs that the firm faces. The increased regulatory and administrative costs may happen for several reasons. The firm may simply have to spend more time understanding, and agreeing to potential visits from, the regulatory agencies, or complying with sanctions imposed on it by these agencies (Posner, 1974). Another potential issue may be the greater opportunity for bribery and petty corruption that arises with visits from regulators. The more bribery and petty corruption the firm faces, the less time it can spend on income-generating activities, and the fewer resources it will have to run the business.

3. Government officials are effective (q66_1) (1=effective)

This indicator measures the share of firms in each state/region who believe that government officials are effective. More effective officials are associated with lower regulatory and administrative costs. To the extent that perceptions of effectiveness are close to actual effectiveness, this indicator implies that effective government officials are both less likely to extract costly bribes from firm owners and more likely to deal with firms in a timely and predictable manner, lowering overall costs to the firm. Perceptions of effectiveness play a role in affecting costs since the perception that government officials are ineffective may dissuade firm owners from making investments in regulatory compliance (Alfonso et al., 2005).

4. The firm does not need to make many trips to obtain stamps and signatures from state agencies to complete procedures (q66_3) (1=does not need)

This indicator measures the share of firms that believe that they did not need to make many trips to complete procedures. The more visits to government offices that a firm makes to deal with regulatory procedures, the more time is spent away from income-generating activities such

as lowering operating costs or improving the quality of the product. The number of trips owners and managers need to make to complete procedures eats into funds and other resources for the business (World Bank, 2018). Multiple trips may also lead to greater uncertainty on the part of the firm owner over whether the regulatory issue in question can be resolved in a timely manner. This indicator is consistent with the National Land Use Policy (2016), which states that "Land transfer fees and stamp duties shall be fair, equitable and appropriate, and the procedures related to the collection and payment of revenue shall be clear, effective and transparent".

5. The owner believes that the paperwork is simple (q66_4)

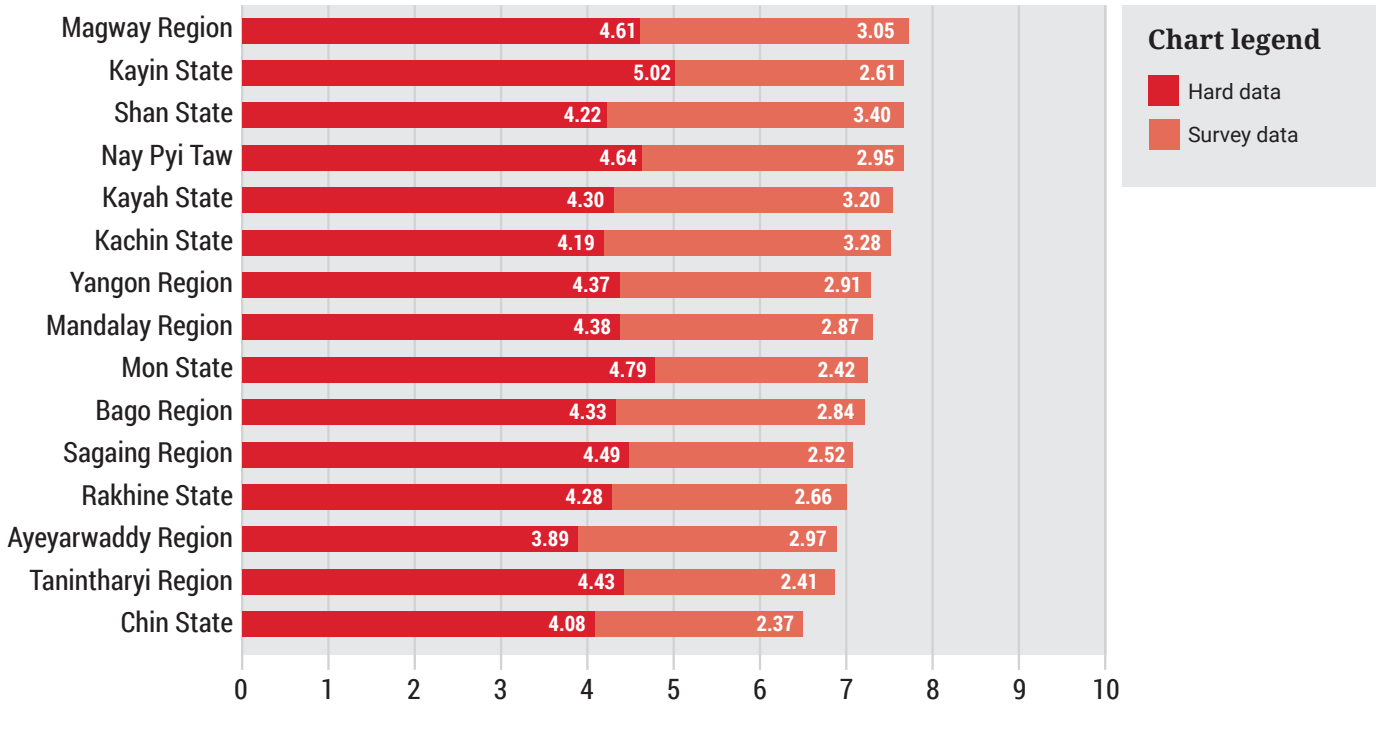
This indicator measures the share of firm in each state/region owners or managers within a state who believe that paperwork in relation to regulatory and administrative issues is simple. If paperwork is simple, regulatory and administrative costs are lower. There is less wasted time and less need to hire consultants or lawyers for assistance. Simplified paperwork can reduce costs for various reasons. One reason may be that simple paperwork reduces the time spent understanding and complying with regulations (see indicator above). Another reason may be that simple paperwork means that fewer mistakes are made by the firm and bureaucracy when completing the relevant procedures, which saves the firm time and money (World Bank, 2018). While the relevant list of required document is not described, required forms and submission process is explicitly described in DICA website and Investment Law.

6. Fees are publicly listed (q66_5) (1=publicly listed)

This indicator measures the share of firms in each state/region that believe that regulatory and compliance fees are publicly listed at the relevant state agencies. Publicly listed fees substantially reduce the uncertainty around regulatory procedures and hence reduce the time spent on compliance with these procedures. Publicly listed fees also lead to fewer mistakes on the part of both the firm and the bureaucracy, further reducing costs and wasted resources (Knight, 2012).

FIGURE 31

Post-Entry Regulation



7. Junior staff helpful (GAD, DAO, and DALMS)

These three indicators measure, for each state/region, the helpfulness of junior staff members at township GAD, DAO, and DALMS offices. The state or region score is the average score for each of the surveyed townships within that state or region. Staff helpfulness was assessed based on whether junior staff were present, willing, and able to answer questions related to GAD, DAO, and DALMS services. While staffing structures may vary from office to office, "junior staff" is used to refer to staff officers or the equivalent. The indicator is scored from 1 to 5, with 5 corresponding to very helpful and 1 corresponding to very unhelpful. Helpful staff members imply greater transparency because the staff can more easily and more readily share information with prospective entrepreneurs or existing firms. Helpful staff members can more readily provide the necessary documents and help process these documents faster.

8. Senior staff helpful (GAD, DAO, and DALMS)

These three indicators measure, for each state/region, the helpfulness of senior staff members at township GAD, DAO, and DALMS offices. The state or region score is the average score for each of the surveyed townships within that state or region. Staff helpfulness was assessed based on whether senior staff were present, willing, and able to answer questions related to GAD, DAO, and DALMS services. While staffing structures may vary from office to office, "senior staff" is used to refer to township administrators, deputy township administrators, or the equivalent. The indicator is scored from 1 to 5, with 5 corresponding to very helpful and 1 corresponding to very unhelpful. Helpful staff members imply greater transparency because the staff can more easily and more readily share information with prospective entrepreneurs or existing firms. Helpful staff members can more readily provide the necessary documents and help process these documents faster.

Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
Less than 10% of time spent understanding and complying with regulations	4596	94.0%	23.7%	0%	100%
Number of inspections for all agencies (count)	4874	2.13	1.61	0	11
Government officials are effective	4874	77.2%	42.0%	0%	100%
Firm does not take many trips to finish registration	4874	59.5%	49.1%	0%	100%
Paperwork is simple	4874	69.7%	46.0%	0%	100%
Fees are publicly listed	4874	42.6%	49.4%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
Less than 10% of time spent understanding and complying with regulations	15	93.4%	10.2%	61.1%	98.6%
Number of inspections for all agencies (count)	15	2.18	0.81	0.75	3.85
Government officials are effective	15	77.5%	8.1%	60.9%	86.7%
Firm does not take many trips to finish registration	15	60.0%	10.2%	44.4%	79.4%
Paperwork is simple	15	70.7%	8.8%	56.2%	86.2%
Fees are publicly listed (%)	15	44.3%	15.1%	17.7%	64.3%
Helpfulness of junior staff (GAD, 1-5 points)	15	2.93	1.15	2.00	5.00
Helpfulness of senior staff (GAD, 1-5 points)	15	4.57	1.10	1.12	5.00
Helpfulness of junior staff (DAO, 1-5 points)	15	3.13	1.13	2.00	5.00
Helpfulness of senior staff (DAO, 1-5 points)	15	5.00	1.21	1.33	5.00
Helpfulness of junior staff (DALMS, 1-5 points)	15	3.03	0.81	2.15	4.7
Helpfulness of senior staff (DALMS, 1-5 points)	15	5.00	0.79	2.61	5.00

*Note: S/R denotes State or Region

B.4. Indicator Descriptions and Data for Informal Payments Subindex

Informal payments impose significant costs to firms. Paying bribes for procedures or licenses that firms should simply have the right to procure imposes an unnecessary, inefficient burden on businesses. Governments, too, can lose from corruption. For example, if a corrupt official bribes a firm that does not meet regulatory standards, the official then pockets funds that should go to the government and ideally be used for various programs and policies. Informal payments can also foster an environment that may dissuade potential entrepreneurs from even starting a new business; they may deem a climate of widespread corruption as too volatile and uncertain. Finally, corruption can damage public service delivery when unqualified vendors are chosen for delivery in biased public-procurement auctions. The country faces significant challenges with respect to informal payments. Myanmar is currently ranked 130 out of 180 countries on Transparency International's Corruption Perceptions Index 2017.

1. Firms disagree with the statement "Firms in my line of business usually have to pay gifts in the form of money" (q75) (1=NO need to pay)

This straightforward indicator of the presence and frequency of bribery and corruption is used in the World Bank Enterprise Surveys and in subnational business environment indices in other locations. Given the obscure nature of informal payments, it is usually very difficult to find data that speaks to these issues. A measure such as this one—which captures either the experiences of owners and managers paying a bribe or their perceptions of the prevalence of bribery and corruption in their line of work—allows us to quantify this important aspect of governance. Paying a gift in the form of money is clearly not a formal process necessary for establishing a business and diminishes the resources necessary for the firm's effective operations (Shleifer and Vishny, 1993).

2. Firms that do not have to pay bribes or with less than 10% of revenue in bribes (q76) (1=less than 10%)

This indicator measures the share of firms in each state/region that either paid minimal bribes (below 10% of revenue) or did not need to pay bribes in the course of doing business. The implications for the business are straightforward; if the firm has to pay a substantial amount of its revenue in bribes, it loses resources required for other parts of the business, such as rent or marketing. If the share of bribes to total revenue becomes exorbitantly high, then the firm may no longer make a profit and may need to cease operations (Bardhan, 1997). This measure differs from the previous measure (which captures frequency of informal payments) by quantifying the intensity and scale of corrupt activities in the state.

3. Owner or manager usually knows the amount of bribe to pay in advance (q77) (1=knows)

This indicator measures the share of firms in each state/region that know the amount that they will have to pay in bribes. While informal payments are problematic in their own right, knowing the amount to pay for a bribe is beneficial to the firm relative to the alternatives. This knowledge allows the firm to plan expenses and to make the necessary investments in the business while paying the bribe. Some analysts have suggested that knowing the bribe amount allows firms to treat it like a tax and adjust for it in long-term planning. The uncertainty of not knowing the amount to pay in bribes prevents firms from planning and hence making the long-term investments necessary to increase revenues and profits (Campos et. al., 1999; Malesky and Samphantharak, 2008).

4. Expected frequency of delivering the service or document if a firm makes extra payments (q78)

This variable measures the share of firms in each state/region that usually (often) receive the expected service or document on condition of having paid the required bribe. Again, while

paying a bribe is not ideal, once the bribe is paid, it is preferable to expect the delivery of the service or document rather than to remain uncertain of its delivery. Uncertain delivery of the service or document once the bribe is paid leads to inefficiencies in the firm's operation since the firm's managers cannot plan ahead and make the necessary investments to increase firm profits (Campos et al., 1999; Malesky and Samphantharak, 2008).

5. Firm owner or manager agrees with the statement "Paying a present in the form of money is essential to improve chances of winning the contract" (q81) (1=not necessary)

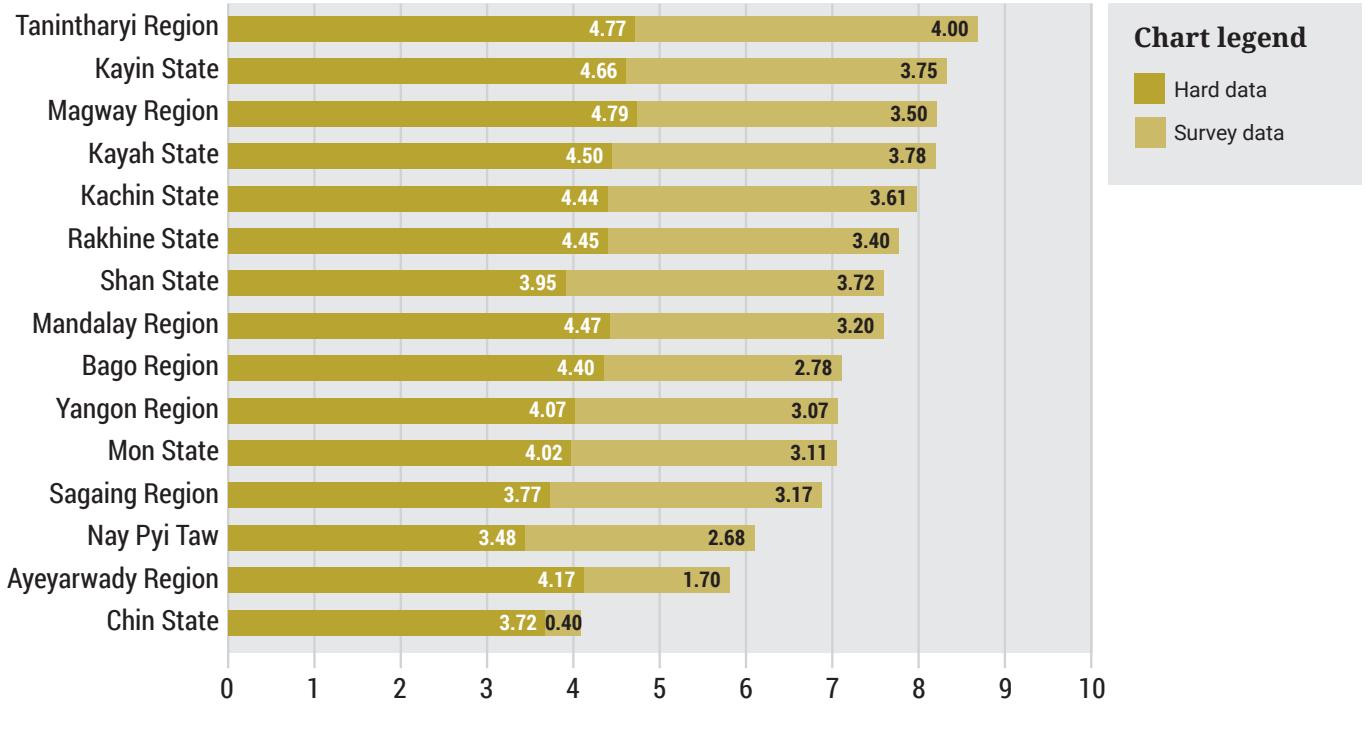
This indicator measures the share of firms in each state/region that agree with the statement that bribery is necessary to improve the chances of winning a contract. Agreement with this statement implies that firms perceive bribery as an important contributor to "getting things done." Perceptions of corruption and bribery may drive actual corruption and bribery; perceptions of the presence of bribery and corruption are good indicators of the actual level of bribery and corruption—which is the core concept we are trying to measure (Beck and Maher, 1986).

6. Corruption complaints per capita

This indicator measures the number of corruption cases filed with the Anti-Corruption Commission per firm for each state/region. The more corruption cases filed per firm, the greater the corruption and bribery in the state or region; the fewer corruption cases filed, the lower the corruption and bribery in the state. This measure assumes that the more corruption charges in an area, the more corrupt a place actually is. This assumption may not always be true: more corruption charges may imply that the local government is more vigilant in identifying and punishing corrupt politicians and bureaucrats, and may even identify a greater share of corrupt officials. Low corruption charges per capita may then identify a state where corruption is not taken seriously, and actual corruption may be rampant even if charges per person are low. Caveats aside, a measurement of corruption may correlate with inefficiencies and bureaucratic red tape, potentially lowering the overall output of businesses. This makes consumers worse off and leads to lower growth.

FIGURE 32

Informal Payments



Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
Percentage of firms that believe they do NOT have to pay informal charges	4874	74.2%	43.8%	0%	100%
Share that pay UNDER 2% of revenue in bribes	4874	78.6%	41.0%	0%	100%
Share that usually know amount of bribe in advance	1839	24.1%	42.8%	0%	100%
High expected delivery of service if bribe is given	3206	49.1%	50.0%	0%	100%
Commission is NOT necessary to win procurement contract	162	67.9%	46.8%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
Percentage of firms that believe they do NOT have to pay informal charges	15	77.1%	8.3%	62.4%	87.4%
Share that pay UNDER 2% of revenue in bribes	15	83.2%	12.6%	57.1%	93.7%
Share that usually know amount of bribe in advance	15	22.2%	11.8%	4.5%	49.7%
High expected delivery of service if bribe is given	15	42.3%	11.7%	26.2%	64.7%
Commission is NOT necessary to win procurement contract	15	66.7%	19.2%	37.5%	100%
Number of corruption cases per firm	15	0.11	0.11	0.02	0.44

*Note: S/R denotes State or Region

B.5. Indicator Descriptions and Data for Infrastructure Subindex

Functioning infrastructure is essential to a well-run profitable business. Roads help transport goods from the business to the market. Electricity is essential to operate machines and send emails, among many other things. Internet access allows the business to easily look up important information. Connectivity also matters. Poor linkages between highways, rail, and ports can lead to major delays in shipping times and possibly damaged or wasted goods. Poorly functioning infrastructure, therefore, imposes many substantial costs on firms. Myanmar faces significant infrastructural challenges. For example, the World Bank's Doing Business Report 2019 has Myanmar ranked 144 out of 190 countries (around the 25th percentile) in its ***getting electricity*** indicator, a good measure of infrastructural capacity.

1. Road quality is good (q86a_1)

This indicator describes the share of firms in each state/region who think that the quality of roads in their township is good. This is a straightforward and useful measure of infrastructural quality. Roads can affect business performance in several ways. Well-functioning roads lower the transport costs of goods, which are conveyed from where they are created to the markets where they are sold. Roads may also proxy for the government's ability to provide public goods that are necessary for the functioning of businesses (Fan and Chan-Kang, 2005; Gosh, 2002).

2. Telephones are good (q86a_5)

This indicator depicts the share of firms in each state/region who think that the quality of telephone communication in their area is good. Similar to road quality, this is a straightforward and useful measure of infrastructural quality. Functioning telephone communication facilitates

information flow between the firm and its suppliers, consumers, laborers, and regulators. Poor information flow between these groups and the firm leads to inefficiencies from miscommunication (e.g., materials are needed from a supplier) or capacity limitations (e.g., a firm cannot adapt quickly to changing circumstances, for example, by informing the laborers that they need to work overtime) (Demurgur, 2001). This indicator is also explicitly linked to existing laws, as service providers need to meet a performance standard set by the Telecommunication Law (2013).

3. Electrical power is good (q86a_6)

This indicator depicts the share of firms in each state/region who think that the quality of electricity provision in their area is good. Electrical power is fundamental to many businesses. Without electricity, a business may not even be able to operate, resulting in lost resources and potential revenues. Even when electricity is provided, unannounced blackouts hurt firms in a similar fashion; firms lose potential revenues since they cannot adjust to blackouts that they cannot predict (Shiu and Lam, 2004).

4. Number of hours lost of telephone, fax, and Internet (q94_1)

The number of hours lost of communication and information technology is a good indicator of infrastructural quality. Poorly functioning IT proxies for the quality of service provision in the state. Hours lost may imply that the proper infrastructure for the sufficient provision of these services (e.g., telephone lines that are not easily destroyed) is not yet in place. Losing hours of functioning telephone, fax, and Internet directly affects a firm since it can lose potential revenues from its inability to communicate its plans and decisions to suppliers, consumers, employees, and regulators (Demurgur, 2001).

5. Hours of lost power in the last month (q90_1)

Similar to the previous indicator, hours of lost power in the last month is a helpful proxy for the underlying infrastructure and has direct implications for firms. Losing power means that firms cannot operate, and hence they lose revenues. This holds true even if power is usually available but a loss of power is unpredictable; for example, if employees work on a day when the power fails, the firm—without any revenue generation—still needs to pay for the cost of labor (Demurgur, 2001).

6. Number of days road blocked in a landslide (q87_1)

The number of days a road is blocked in a landslide serves as a measure of both existing infrastructural quality and the state/region government's capacity to deal with infrastructure-related issues. Apart from proxying for the infrastructure needed to prevent landslides, this measure also indicates how effective the state is when it comes to dealing with infrastructural problems: more days means that the state is less effective, less days means it is more effective. For example, if the state can remove debris from a landslide quickly, this achievement suggests that the state may have the resources and know-how to deal with various sorts of unforeseen disasters (e.g., typhoons) that may affect the state infrastructure (Calderon and Serven, 2004).

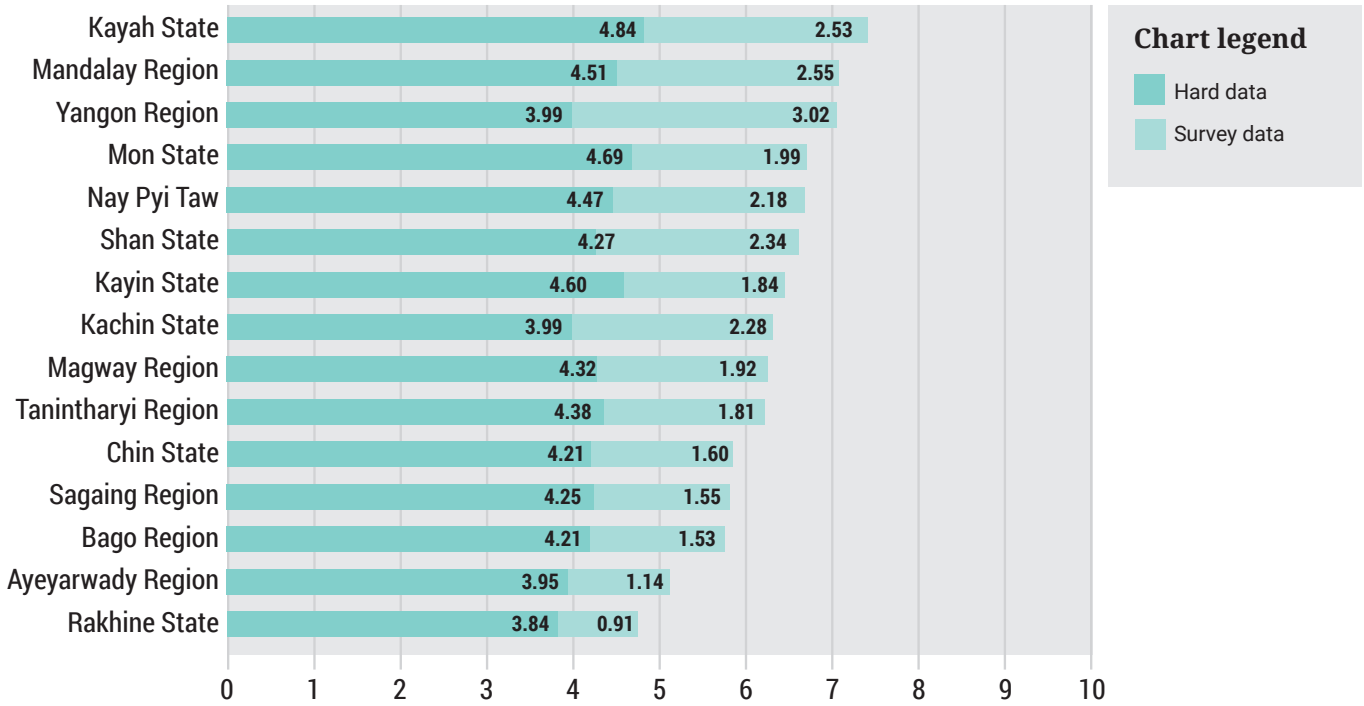
7. Internet is good (q86a_9)

The share of firms responding that Internet quality is good is a sound indicator of infrastructural quality. A poorly functioning Internet proxies for the quality of service provision in the state or for a potentially uncompetitive market for Internet provision (monopoly or duopoly). Poor Internet quality affects firms directly since the Internet is a means by which firms gather information and communicate with suppliers and customers. Poor Internet therefore implies inefficiencies and the potential loss of revenue and profits (Calderon and Serven, 2004).

8. Percent of the population with TV
9. Percent of the population with electricity
10. Percent of the population with a telephone

These three indicators measure the share of the population with a TV, electricity, and a telephone, respectively, for each of the 15 states. The indicators (with the possible exception of the TV share indicator) measure physical investments that are necessary to the functioning of a business. A firm cannot run without electricity, and most firms need phones to communicate with suppliers or clients. Moreover, all these indicators require a functioning infrastructure to operate; thus, they also measure the quality of the physical infrastructure—telephone and electrical lines, for example—that the state provides.

FIGURE 33
Infrastructure



Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
Roads are good or very good	4859	49.0%	50.0%	0%	100%
Telephones are good or very good	4854	65.9%	47.4%	0%	100%
Electrical power is good or very good	4806	49.7%	50.0%	0%	100%
Median hours lost of telephone, fax, and internet	2825	20	1661	0	43200
Median hours of lost power in last month	4489	20	59	0	700
Median number of days road blocked in a landslide	1791	7	44	1	365
Internet is good or very good	4642	54.2%	49.8%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
Roads are good or very good	15	43.5%	21.0%	13.6%	89.2%
Telephones are good or very good	15	71.8%	9.9%	45.0%	81.5%
Electrical power is good or very good	15	52.4%	14.2%	33.7%	76.5%
Median hours lost of telephone, fax, and internet	15	198	166	58	697
Median hours of lost power in last month	15	26	17	15	67
Median number of days road blocked in a landslide	15	16.5	16	5	67
Internet is good or very good	15	52.3%	8.1%	37.7%	65.7%
Population share with electricity	15	42.9%	10.9%	28.2%	65.8%
Population share with TV	15	47.4%	20%	5.8%	83.7%
Population share with a telephone	15	55.6%	12.1%	32.3%	75.3%

*Note: S/R denotes State or Region

B.6. Indicator Descriptions and Data for Transparency Subindex

Government transparency is the clarity and predictability of government activities and policies such that firms can make informed decisions. Simply stated, government transparency allows firms to be more efficient and hence more profitable. Well-informed firms can make better decisions about the direction of their business. Access to government documents and the predictability of changes to government laws and regulations help to increase government transparency. The Myanmar Transparency Report 2018 highlights some of the outstanding transparency issues facing the country. According to the report, transparency helps mitigate investment risk and aids in the recruitment and retention of qualified staff.

1. Access to planning and legal documents (q132_1 to q132_10)

This indicator is the sum of ten variables, each variable measuring the share of firms in each state/region that believe it is easy to access some kind of local document of information. The ten variables include state/region budgets, township budgets, union laws and regulations, and public investment plans. Access to these planning and legal documents is a direct measure of the state's transparency—that is, the willingness and ability to disclose and disseminate public information. The more a state is willing to grant access to documents, the more transparent it is. A government's transparency may benefit firms because access to state documents means that firms are better able to plan their long-term investments, reducing their downstream risk (Broz, 2002; Gelos and Wei, 2005; Knight, 2012; Stasavage, 2003). Transparency of documentation is explicitly required under a number of legal documents. For example, the Union Budget Law requires that both federal and state/region governments publish budgets annually in a way that is easily available to citizens.

2. Predictability of the changes of laws and regulations at the union level (q137_1 and q137_2)

This indicator is the sum of two variables—the share of firms in each state/region that believe that changes in laws and regulations at the union level are at least usually predictable, and the share of firms in each state/region that believe that implementation of regulations at the local level are at least usually predictable. Predictability of the changes of laws and regulations is a useful proxy for transparency. In more transparent states, not only are state documents readily

provided but future government plans are clear to its constituents. Such clarity is beneficial for firms because they can plan their operations to work within the expected new laws and regulations. If changes to laws and regulations are unpredictable, firms may unexpectedly find themselves in violation of these laws and will have to spend resources and time adjusting quickly. This process of readjustment is usually more costly than timely planning in light of expected changes (Gelos and Wei, 2005; Hollyer et al., 2011; Malesky et al., 2015).

3. Percent of DAO documents with examples provided (Business Operating License); Percent of DALMS documents with examples provided (Record of Immovable Assets)

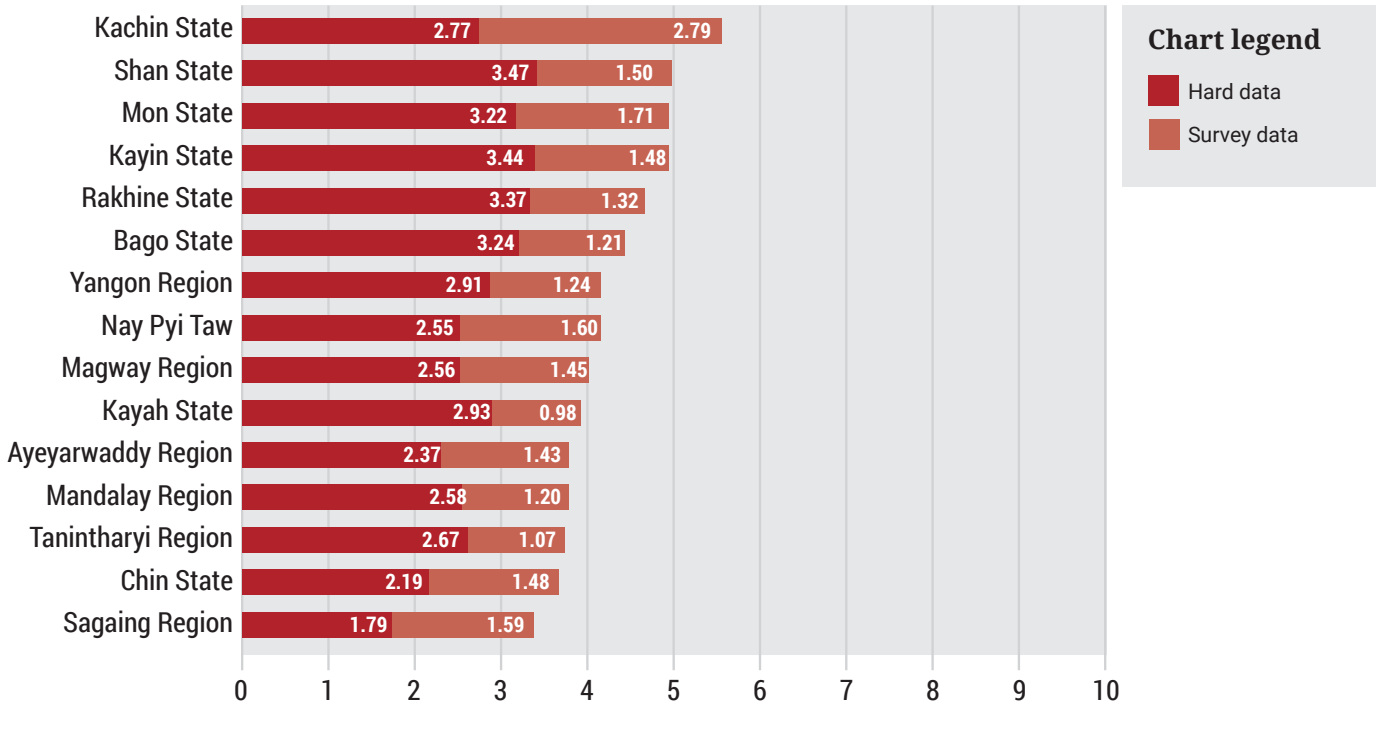
These two indicators measure, for each state/region, the extent of information available publicly or upon request for a particular DAO or DALMS service—in this case, providing businesses with an operating licenses and Record of Immovable Assets, respectively. The state or region score is the average score for each of the surveyed townships within that state or region. These indicators measure the percentage of relevant documents (e.g., application forms and support letters from other government offices) for which examples are provided at the DAO or DALMS office. The indicator is scored from 0 to 1, with 1 corresponding to extensive information provided and 0 corresponding to no information provided. The extent to which examples are provided speaks directly to the transparency of these government offices. The more examples provided, the more information prospective entrepreneurs and existing firms have in order to correctly and efficiently go through the process of starting a business or of complying with existing regulations.

4. Level of information posted on one-stop-shops (0-5)

This indicator measures, for each state/region, the degree of information publicly posted at township one-stop-shop (OSS) offices. The state or region score is the average score for each of the surveyed townships within that state or region. The information assessed included

FIGURE 34

Transparency



publicly posted signboards, example licenses, schedules of fees, sample-required letters, and hours of operation for 10 desks located within the OSS. The indicator is scored from 0 to 5, with 5 corresponding to extensive information provided and 0 corresponding to no information provided. Similar to the indicator above, the more examples provided, the more information prospective entrepreneurs and existing firms have in order to correctly and efficiently go through the process of starting a business or of complying with existing regulation.

5. Percent of information posted at GAD, DAO, and DALMS offices

These three indicators measure the extent of information publicly posted at township GAD, DAO, and DALMS offices. The state score is the average of the scores for each surveyed township within a given state. A higher score implies that the township offices were more informative on average. The information assessed included example forms and certificates as well as required procedures for activities such as change of land title or use. The indicator is scored from 0 to 1, with 1 corresponding to extensive information provided and 0 corresponding to no information provided. These indicators directly assess transparency because they measure the presence and extent of readily available information for anyone who wants to start a business.

Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
Access to planning and legal documents: state/region budget	1320	6.3%	24.3%	0%	100%
Access to planning and legal documents: township budget	1507	5.8%	23.3%	0%	100%
Access to planning and legal documents: Union laws and regulations	2076	11.4%	31.8%	0%	100%
Access to planning and legal documents: implementing documents of Union ministry	1332	4.8%	21.4%	0%	100%
Access to planning and legal documents: legal documents at state/region level	1471	4.0%	19.6%	0%	100%
Access to planning and legal documents: new infrastructure plans	1802	4.3%	20.2%	0%	100%
Access to planning and legal documents: public investment plans	1674	3.6%	18.6%	0%	100%
Access to planning and legal documents: land use allocation plans and maps	2166	9.9%	29.8%	0%	100%
Access to planning and legal documents: planning for the development of local industries and sectors	1696	4.7%	21.1%	0%	100%
Access to planning and legal documents: forms for fulfilling regulatory procedures	3119	26.9%	44.4%	0%	100%
Low frequency of changes in laws and regulations at the Union level (%)	4874	71.1%	45.3%	0%	100%
Low frequency of changes in the regulations at the local level	4874	66.1%	47.3%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
Access to planning and legal documents: state/region budget	15	5.8%	4.6%	0.0%	17.2%
Access to planning and legal documents: township budget	15	5.8%	4.6%	0.0%	17.2%
Access to planning and legal documents: Union laws and regulations	15	9.2%	7.3%	1.3%	27.1%
Access to planning and legal documents: implementing documents of Union ministry	15	5.2%	4.2%	0.0%	12.1%
Access to planning and legal documents: legal documents at state/region level	15	3.8%	3.2%	0.0%	10.2%
Access to planning and legal documents: new infrastructure plans	15	5.2%	3.8%	0.0%	9.8%
Access to planning and legal documents: public investment plans	15	1.7%	4.3%	0.0%	15.9%
Access to planning and legal documents: land use allocation plans and maps	15	11.1%	5.6%	0.0%	16.3%
Access to planning and legal documents: planning for the development of local industries and sectors	15	4.6%	2.9%	0.0%	9.5%
Access to planning and legal documents: forms for fulfilling regulatory procedures	15	19.8%	12.2%	0.0%	45.9%
Low frequency of changes in laws and regulations at the Union level (%)	15	75.0%	11.2%	47.6%	90.6%
Low frequency of changes in the regulations at the local level	15	66.9%	11.1%	44.9%	89.4%
DAO documents with examples provided	12	16.0%	13.8%	11.3%	60.5%
DALMS documents with Form 15 examples provided	14	24.8%	26.4%	0.0%	89.7%
DALMS documents with other examples provided	12	29.3%	34.6%	0.0%	100.%
GAD documents with information posted	4	3.3%	7.9%	1.2%	18.0%
DAO documents with information posted	6	4.1%	8.7%	0.4%	24.1%
DALMS documents with information posted	14	52.6%	30.2%	0.7%	100.%
Level of information posted in one-stop-shops (0-5 points)	15	0.81	0.20	0.61	1.46

*Note: S/R denotes State or Region

B.7. Indicator Descriptions and Data for Favoritism in Policy Subindex

Bias toward large or politically connected businesses undermines the benefits that meritocratic economic competition provides consumers. Competition lowers the price of goods and services, leaving consumers better off. Favoritism in policy, however, is favoritism toward certain firms that works in ways other than through a market mechanism; personal connections is an example. Favored firms may therefore be less efficient, produce inferior goods, and set higher prices than competitive businesses. This hurts consumers and is an impediment to growth and poverty reduction. Myanmar may currently have significant problems with competition policy bias. For example, the World Bank's Doing Business Report 2019 has Myanmar ranked 185 out of 190 countries on their ***protecting minority investors*** indicator.

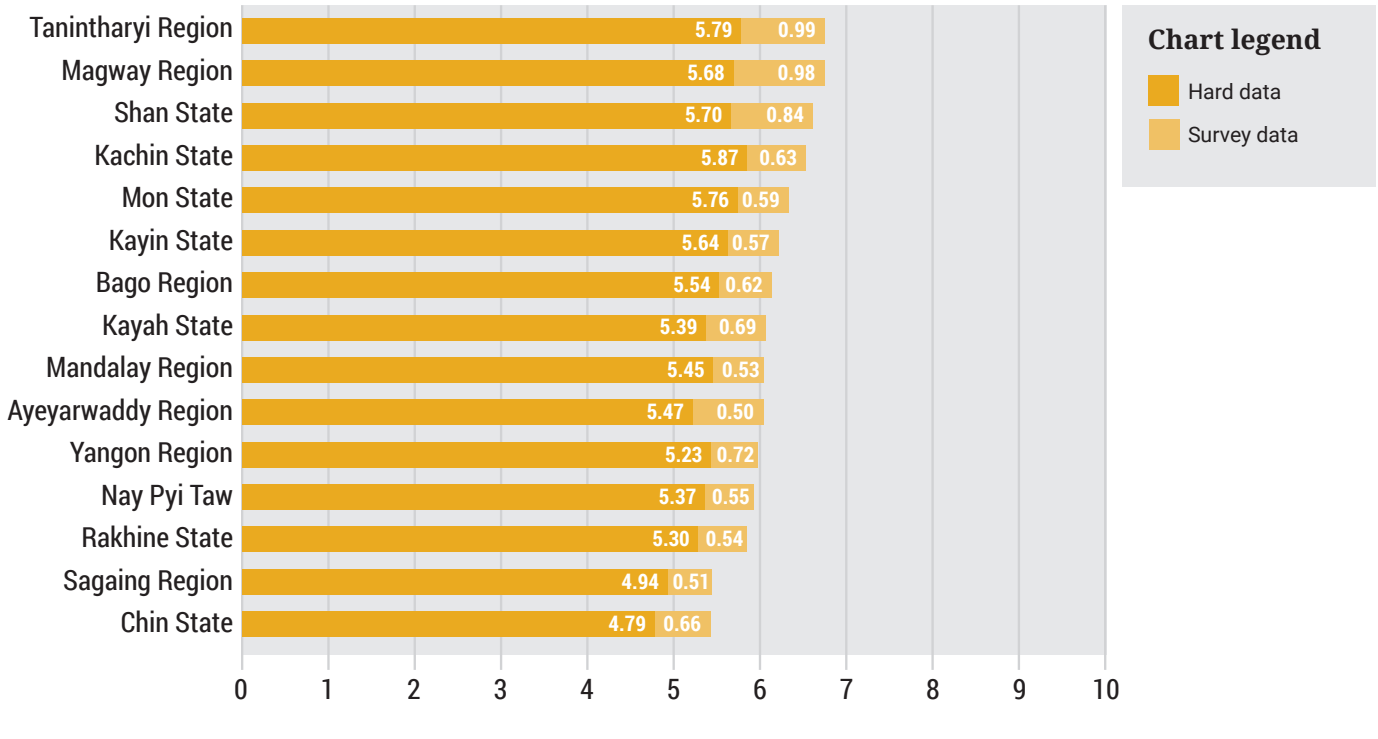
1. Disagree with the statement "The favoritism of local authorities towards businesses with strong connections causes difficulties to your firm's business operations" (q178)

This indicator measures the share of firms in each state/region in agreement (or disagreement) with the claim that the favoritism of local authorities toward well-connected businesses affects the firm's business operations. This is a clear indicator of bias toward big business and can lead to less competition in the industry. For example, if local authorities favor a particular rice mill, they may inadvertently worsen the business environment for other operations through difficulties in administration as well as access to land and capital. If favoritism is extremely severe, it may drive healthy businesses out of the market. This can result in limited competition and consequently higher prices and lower quality, ultimately hurting consumers and businesses—in this example, the candy producers who rely on the rice mill for intermediate products (Stigler, 1957; Hellman et al., 1999).

2. Privileges and favoritism to businesses with strong connections for land access (q179_1) (1=no favoritism)
3. Privileges and favoritism to businesses with strong connections in access to loans (q179_2) (1=no favoritism)
4. Privileges and favoritism to businesses with strong connections in granting mineral exploitation license (q179_3) (1=no favoritism)

Favoritism toward well-connected firms in terms of specialized inputs—land access and access to loans—may have substantial negative effects on competition. The favored firms for land or loan access are often selected not on merit (i.e., whether they provide the product consumers most want at a low price and of the preferred quality) but because the firm owners are connected to local politicians (Claessens et al., 2008). Since merit is not the ultimate selection criteria, the product of politically connected, favored firms may be inferior, hurting consumers. There are also indirect effects on the market structure of industries where certain firms are favored. A well-connected firm may end up controlling the market, leading to monopolies and lower quality, more expensive goods. Restraints in business competition are specifically described and outlawed by the Competition Law (2015).

FIGURE 35
Favoritism in Policy



5. Privileges and favoritism lead to simpler and less time-consuming administrative processes for select firms (q179_4)

Privileges and favoritism leading to less time-consuming administrative processes is not only a direct measure of bias but also hurts firms that are not privileged. Firms that are not connected, and hence must face more cumbersome and time-consuming administrative procedures, are at a disadvantage. Their time and effort, and potentially their resources, are disproportionately spent on administrative processes, leading potentially to lower profits and an uneven playing field, where favored firms can spend more time on income-generating activities (Fisman, 2001; Li et al., 2008).

6. Privileges and favoritism lead to more easily obtaining state agencies' contracts (q179_5)

Privileges and favoritism in procurement is a direct measure of competition policy bias and directly affects the market structure of an industry (Hellman, 1999; Stigler, 1957). If more favored firms more easily obtain state contracts, then these contracts may be awarded to less efficient and less innovative firms at the expense of non-connected yet more efficient and profitable firms. This affects the quality of industry and ultimately affects consumer welfare.

7. Privileges and favoritism to businesses lead to easier access of information (q179_6)

If more connected and privileged firms get access to information, this may mean that firms that benefit from this information are not necessarily the most efficient and profitable firms. This may result in lower quality output in the market and the perpetuation of inefficient rent-seeking firms at the expense of more innovative, scalable ones (Fisman, 2001; Xu et al., 2013).

8. & 9. Banks and Micro-Financial Institutions (MFIs) per 10,000 people

These two indicators measure the number of banks and MFIs per 10,000 people, in each state/region, respectively. More banks and MFIs per capita imply less competition policy bias. The logic behind these indicators is that the more banks and MFIs there are, the more equitable the access to capital, and hence the more open economic competition will be. A caveat is that these indicators may not precisely measure the variation in how these banks and MFIs work. For example, MFIs in some states may have more stringent loan terms than those of other states, which implies tougher access to capital in the former case. Nevertheless, these measures provide relatively direct evidence on access to capital.

Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
No favoritism of local authorities toward businesses with strong connections	4874	75.0%	43.3%	0%	100%
Favoritism in land access	1220	64.0%	48.0%	0%	100%
Favoritism in access to loans	1220	44.6%	49.7%	0%	100%
Favoritism in granting mineral exploitation license	1220	6.3%	24.3%	0%	100%
Favoritism in administrative procedures	1220	25.2%	43.4%	0%	100%
Favoritism in state contracting	1220	19.8%	39.9%	0%	100%
Favoritism in access to information	1220	17.0%	37.5%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
No favoritism of local authorities toward businesses with strong connections	15	75.1%	12.4%	47.4%	93.9%
Favoritism in land access	15	60.1%	13.6%	27.8%	83.9%
Favoritism in access to loans	15	36.7%	14.9%	10.4%	61.9%
Favoritism in granting mineral exploitation license	15	4.1%	4.6%	0.0%	13.0%
Favoritism in administrative procedures	15	23.9%	18.3%	5.0%	72.2%
Favoritism in state contracting	15	15.2%	16.3%	0.0%	57.5%
Favoritism in access to information	15	19.0%	11.5%	1.6%	36.4%
Banks per 10,000 citizens	15	0.48	0.23	0.23	1.17
Micro-finance institutions per 10,000 citizens	15	0.26	0.53	0.05	1.74

*Note: S/R denotes State or Region

B.8. Indicator Descriptions and Data for Environmental Compliance Subindex

Complying with environmental regulations is essential for both businesses and citizens. Poor environmental quality affects the health of firm workers and citizens, leading to lower productivity at work. Pollution may also affect the products of firms, such as agricultural commodities or services like tourism. Some businesses are likely to enact environmentally damaging policies if left to their own devices. Local governments must therefore ensure that firms comply with the regulatory conditions established in the law. Myanmar faces significant challenges relating to environmental compliance. An Asian Development Bank Report notes that "the lack of a comprehensive and coordinated environmental framework, enabling institutional and legal structures, expertise, and greater capacity for natural resource management and funding" are among the country's outstanding challenges (Raitzer et al., 2015).

1. High level of overall environmental quality (q150)

This indicator measures the share of firms in each state/region that believe that the state has high overall environmental quality. High environmental quality matters both from the perspective of society in a broad sense and has implications for firm profits (Dasgupta, 2000; Newlands, 2003). Poor environmental quality negatively affects citizens' quality of life (pollution is unpleasant) and may directly affect health (e.g., disease transmission from insects like mosquitos that thrive in polluted environments). Firms may contribute to pollution if they are not regulated by the government. Pollution also affects firms directly. For example, polluted environments may make laborers sick or less productive, and polluted environments are less palatable to potential investors and customers. Environmental quality is explicitly addressed in Myanmar's EIA Procedures (2015) and Environmental conversation law (2012).

2. Severity of pollution is at an acceptable level (q151)

This indicator measures the share of firms in each state/region that believe that the severity of pollution in a state is at an acceptable level. This indicator is another way of getting at environmental quality and is helpful in identifying the same effects as the previous indicator (Jaggi and Freedman, 1992).

3. Local authorities took timely action to deal with pollution (q514)

This variable measures the share of firms in each state/region that believe that the authorities took timely action in instances where pollution was present. This indicator is a helpful measure of the state's capacity to enforce regulations. A state's capacity to do so has several implications for firms. For example, the state's ability to regulate a firm's excesses prevents abusive firms from employing strategies that damage other firms and the overall productivity and competitiveness of the market (Hawkins, 1984). Moreover, a state's ability to regulate pollution positively affects firm inputs such as labor productivity and makes the state itself more attractive to investors. The Environmental Conservation Law (2012) Chapter VII and Chapter IX mandates the creation of an environmental monitoring system for exactly this purpose.

4. Pollution has a negative effect on the firm's business (q152)

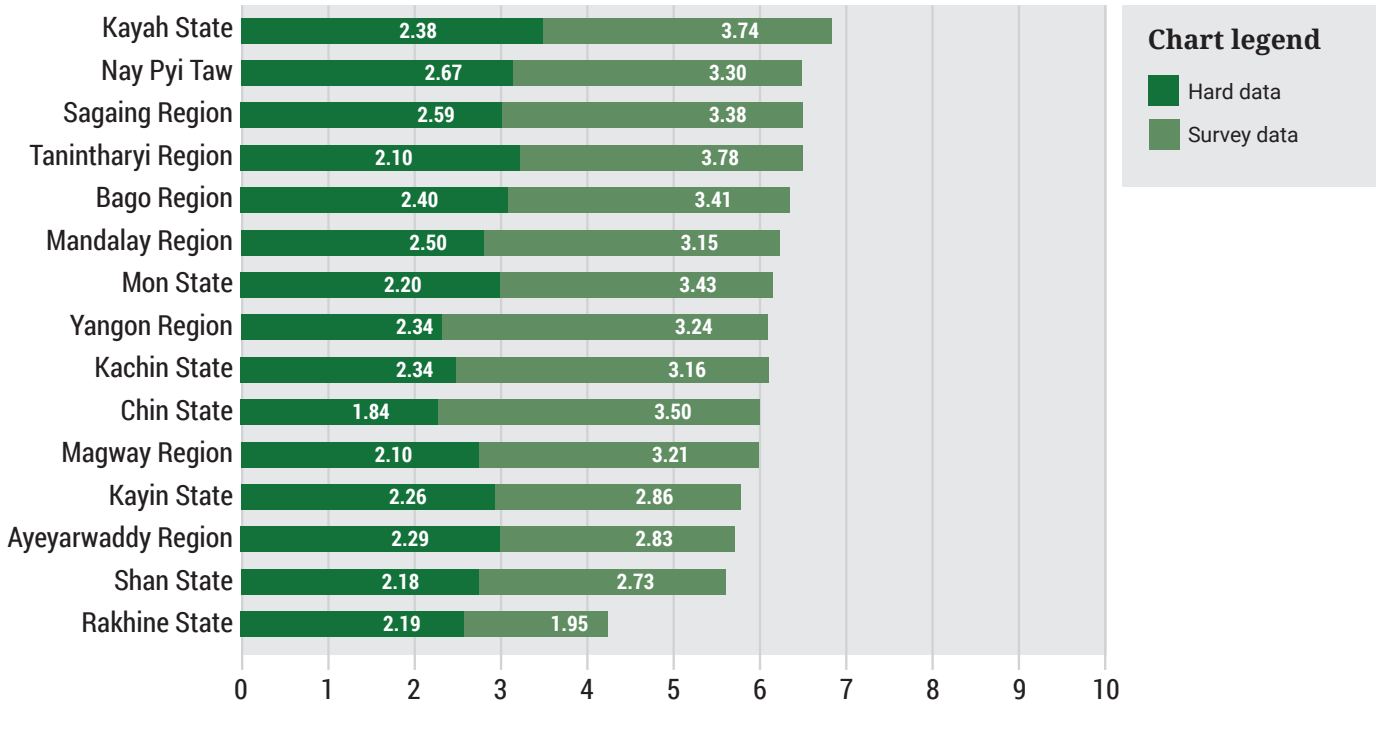
This indicator measures the share of firms in each state/region that believe that pollution has a negative effect on the firm's business. Polluted environments may affect businesses in many ways, such as making laborers sick or less productive, being less palatable to potential investors, and affecting various firm inputs in production such as labor and capital (Klassen and McLaughlin, 1996). This direct measure shows that pollution does in fact affect a firm's performance, potentially due to, but not limited to, the reasons given.

5. Received guidance from local authorities on how to comply with environmental regulations (q155)

This indicator measures the share of firms in each state/region that claimed that they received guidance from local authorities on how to comply with environmental regulations. This indicator may speak to several things regarding the state's impact on firm performance. First, if authorities provide firms with guidance when it comes to environmental compliance, firms can

FIGURE 36

Environmental Compliance



readily comply, lowering the overall level of pollution (Hawkins, 1984). Second, this measure signals the ability of the state to regulate firms that may deviate from agreed-upon environmental standards. Third, the capacity to aid in environmental compliance may reflect the state's capacity to regulate other important aspects of firm performance.

6. State or region give additional support and encouragement for water saving (q156)
7. State or region give additional support and encouragement for waste recycling (q157)

This indicator measures the share of firms in each state/region that claim that the state provided additional support and encouragement for water saving and waste recycling, respectively. This measure provides a helpful indicator of the state's underlying capacity to regulate firms. The benefits of doing so have been mentioned above. Furthermore, water saving ultimately lowers firms' costs and leads to more profits (Winter and May, 2001). Finally, water saving and waste recycling improve overall environmental quality, which benefits the citizens of the state.

8. Percentage of the population with improved sanitation
9. Percentage of the population with improved water sources

These two indicators measure the share of the population with improved sanitation and water sources, for each state, respectively. The greater the share of the population with improved sanitation and water sources, the greater the state's environmental compliance score. These indicators directly measure the level of pollution and the quality of the environment. Improved water sources imply less wasteful and less environmentally damaging ways of accessing water. Improved sanitation speaks directly to the degree of pollution in the environment.

Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
Overall environmental quality good or very good	4874	41.9%	49.3%	0%	100%
Severity of pollution is acceptable or better	4874	83.5%	37.1%	0%	100%
In case of pollution, authorities take timely action	652	41.1%	49.2%	0%	100%
Pollution does not have negative effect on a firm's business	4874	74.6%	43.5%	0%	100%
Guidance on environmental compliance	4874	33.0%	47.0%	0%	100%
State support for water saving	4874	8.2%	27.4%	0%	100%
State support for waste recycling	4874	6.6%	24.9%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
Overall environmental quality good or very good	15	42.1%	18.5%	15.8%	84.1%
Severity of pollution is acceptable or better	15	85.5%	12.9%	49.3%	95.7%
In case of pollution, authorities take timely action	15	44.2%	19.9%	0.0%	74.7%
Pollution does not have negative effect on a firm's business	15	77.0%	12.4%	49.9%	92.6%
Guidance on environmental compliance	15	33.0%	8.2%	18.1%	48.2%
State support for water saving	15	8.5%	7.4%	3.1%	32.6%
State support for waste recycling	15	7.0%	5.7%	1.1%	25.2%
Percentage of the population with improved sanitation	15	81.4	13.7	51.7	93.0
Percentage of the population with improved water sources	15	81.3	11.4	47.7	96.0

*Note: S/R denotes State or Region

B.9. Indicator Descriptions and Data for Labor Recruitment Subindex

Labor policies, such as labor training and labor recruitment, affect the costs of doing business and the quality of the firm's final product. Labor policies ultimately affect the quality of a firm's human capital: the higher the quality of workers, the more productive a firm will be. Mismatches in the labor market affect both worker and firm; workers end up in unsuitable jobs, preventing them from maximizing their wages, and firms are less productive and have to spend more on training workers. Reasonable and efficient labor policies are therefore an important component of a healthy business environment. Myanmar has made notable changes to its labor regulations. According to the World Bank Doing Business Report 2019, Myanmar has introduced a minimum wage and changed the regulation of severance pay. With these substantial changes, it is thus important to assess how local governments perform in the realm of labor regulation.

1. Percentage of total business costs spent on labor training

This indicator measures the average costs that firms in each state/region spend on labor training. The more money a firm spends training labor, the less money it has for productive use and hence for making profits. The costs spent on labor training also imply inefficiencies in the labor market. For example, employers are ill-informed about the skill level of labor, or state regulations are inefficient or excessively burdensome, leading to poor matches between laborer and firm (Mincer, 1962). Apart from the direct implications for firm performance, this measure also speaks to the overall educational environment created by the state; in a low-quality educational environment, the state is not training a productive labor force through vocational or general education. A related law is the Employment and Skills Development Law (2013), in which Chapter 5 states that "Employers shall conduct occupational training to enhance the skills of workers who are to be employed as well as workers who are presently employed in accordance with the requirements of the enterprise and the policy of the Skills Development Agency".

2. Ease of labor recruitment (q96_1 to q96_5)

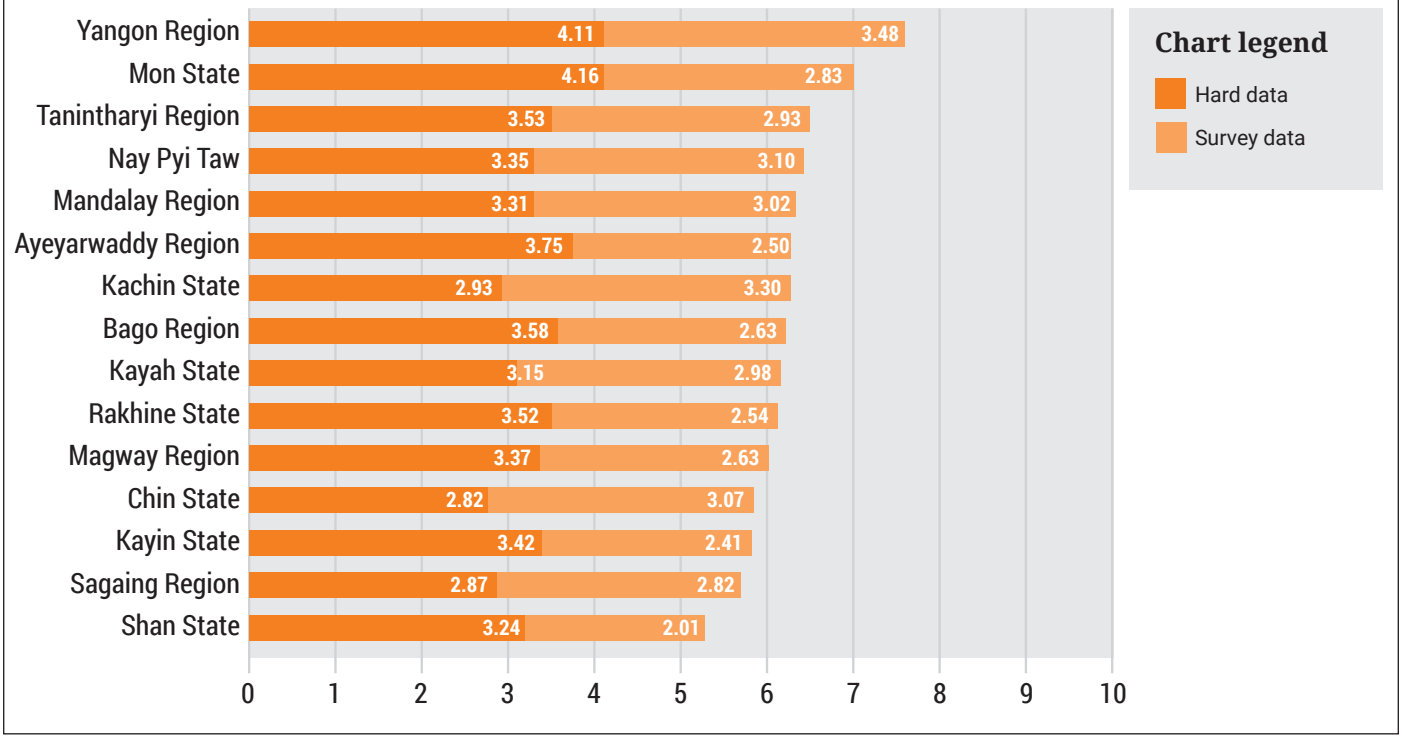
This indicator is a sum of various measures. It shows the share of firms in each state/region that believe that labor recruitment for various positions within the firm for different types of employees (rank-and-file workers, technicians, accountants, supervisors, and managers) is easy. This measure has direct implications for firms and also speaks to the underlying labor policies that the state has put in place. The direct implications are clear: more difficult labor recruitment processes increase costs to the firm and decrease profits, and more mismatches in the labor market between worker and firm lead to greater inefficiencies in firm functioning and to lower profits (Blanceflower et al., 1996; Ponte, 2000). Difficulty of labor recruitment may imply that labor policies are leading to market inefficiencies. For example, excessively stringent rules on hiring (quotas, age limits, strict terms on labor contracts) reduce the flexibility of firms to hire the best workers and hence further affect the firm's performance.

3. Percentage of the population that has completed primary education
4. Percentage of the population that has completed middle school education

These two indicators measure the share of the population in each state/region that has completed a primary and middle school education, respectively. These indicators measure the quality of human capital in the state, to the extent that education proxies for human capital. The higher the percentage of both indicators, the better the state does in the labor policies subindex. This indicator takes education policies as a type of labor policy and measures the degree to which education policy leads to higher-quality human capital.

FIGURE 37

Labor Recruitment



Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
Median share of business costs spent on labor training	350	5.4	7.5	1	50
Labor recruitment easy: manual rank-and-file workers	4698	39.6%	48.9%	0%	100%
Labor recruitment easy: technicians	3945	20.5%	40.4%	0%	100%
Labor recruitment easy: accountants	2416	42.1%	49.4%	0%	100%
Labor recruitment easy: supervisors	2115	34.8%	47.6%	0%	100%
Labor recruitment easy: managers/finance manager	1998	29.7%	45.7%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
Median share of business costs spent on labor training	15	5.00	2.22	2.13	8.51
Labor recruitment easy: manual rank-and-file workers	15	35.2%	9.4%	25.0%	54.2%
Labor recruitment easy: technicians	15	17.8%	7.3%	7.7%	33.0%
Labor recruitment easy: accountants	15	33.1%	12.8%	13.8%	55.5%
Labor recruitment easy: supervisors	15	31.8%	11.6%	18.3%	55.9%
Labor recruitment easy: managers/finance manager	15	25.2%	9.6%	8.9%	46.2%
Share of population completing primary education	15	88.3	5.4	73.7	94.7
Share of population completing middle school education	15	51.0	8.4	41.1	69.5

*Note: S/R denotes State or Region

B.10. Indicator Descriptions and Data for Law & Order Subindex

Law and order refers to the bundle of legal, political, and institutional arrangements that allow firms to undertake market transactions and economic activity. Law and order spans protection from physical harm or theft to legal protection and enforcement contracts between business partners. Greater law and order therefore leads to higher expected returns when businesses engage in formal contracts, invest in physical infrastructure and land, and engage in long-term business planning, among many other potential benefits. Myanmar faces substantial issues regarding law and order. The country ranks 188 out of 190 countries on the World Bank Doing Business 2019 enforcing contracts indicator. Poor performance in ***enforcing contracts*** speaks to the legal impediments that the country faces.

1. Belief that if a state official breaks the law, the firm can appeal to a higher authority for resolution (q148)

This indicator measures the share of firms in each state/region that believe that if a state official breaks the law, the firm can usually appeal to a higher authority for resolution. This measure has implications both for firms and for the state's capacity to uphold law and order. If a firm believes that it can seek resolution from the state when violations are committed by state-government members, state officials may be deterred from potential wrongdoing because they fear losing their jobs or being reprimanded by their superiors. This belief may imply that the state is responsive to violations of law and order, allowing firms to operate in a safe, predictable environment. A peaceful and law-abiding environment benefits the firm through many channels (Demirguc-Kunt and Maksimovic, 1998). For example, states that have low levels of law and order are less attractive to investors (Busse and Hefeker, 2007). Law and order also prevents potentially lawbreaking firms from gaining an unfair advantage in the market. A legal mechanism to carry out punishment for law-breaking is stated in the Anti-Corruption Law (2013), which states that "If any Political Post Holder is convicted for committing bribery, he/she shall be punished with imprisonment for a term of not more than 15 years and with a fine".

2. Belief that if a state official breaks the law, the government will discipline the offending staff (q149)

This indicator measures the share of firms in each state/region that believe that if a state/region official breaks the law, the offending staff member is usually disciplined. This measure works similarly to the measure above, with implications for both the firm's performance and the state's capacity to uphold law and order (Busse and Hefeker, 2007; Demirguc-Kunt and Maksimovic, 1998).

3. Legal systems uphold property rights and contracts (q159)

This indicator measures the share of firms in each state/region that believe that the state/region legal system usually upholds property rights and contracts. The upholding of property rights and contracts has large implications for firm performance, investment, and ultimately economic development. Without secure property rights and contracting, firms will be unsure whether the investments they make will bear fruit (De Soto, 2000; Demsetz, 1974). If the state expropriates their property or a supplier cheats them out of a contract, then the investment will cost them without any return. Firms that are uncertain may desist from making these investments in the first place. Without firm investment the overall productivity of the industry will suffer, perhaps leading to fewer jobs and lower growth.

4. Firms assessment of the security situation is good (q167)

This indicator measures the share of firms in each state/region that believe that the security situation in the state/region is good. If the state's security situation is good, firms will feel that their property and assets are more secure (e.g., less likely to be vandalized or stolen), which

allows firms to spend less on security and to make investments, knowing that their physical investments will be safe, at least from physical threat. Increased security ultimately leads to improved firm performance (Gaviria, 2002; Schnatterly, 2003).

5. The firm experienced a theft or break in during past year (q168)

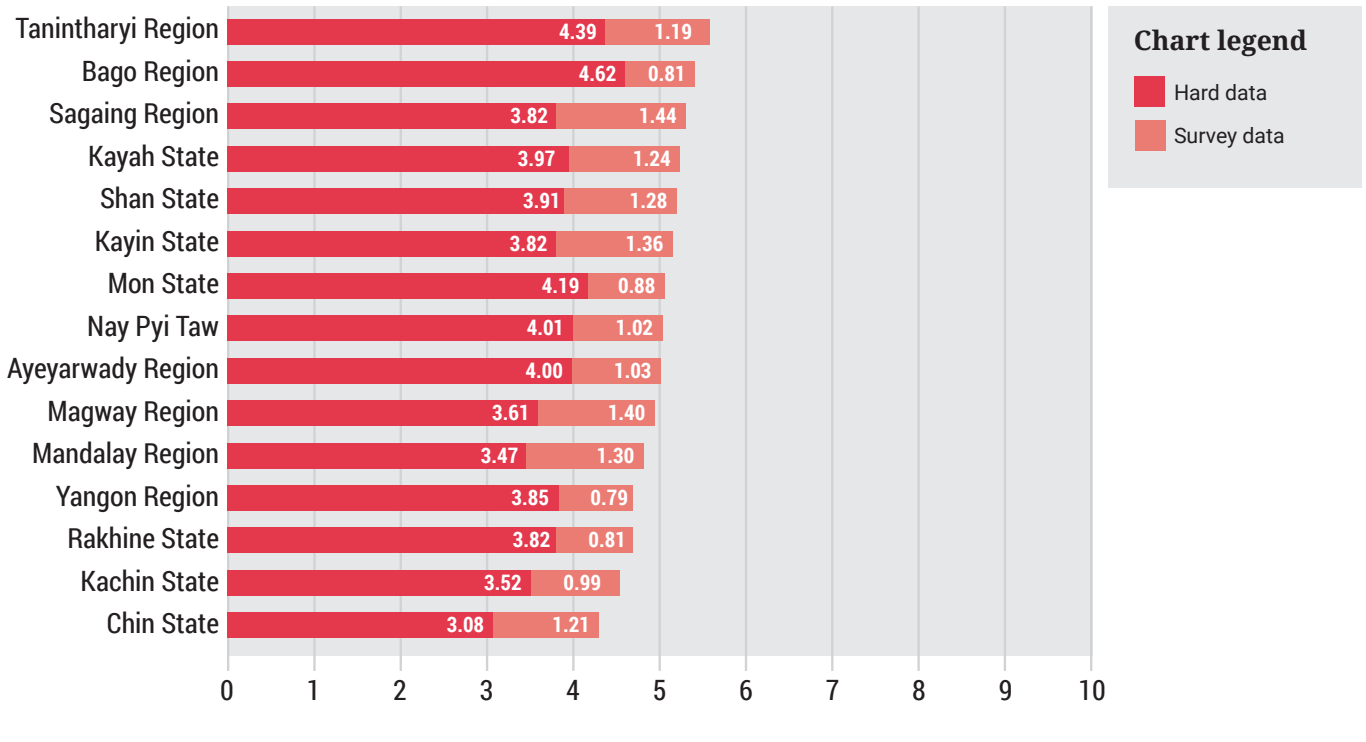
This indicator measures the share of firms in each state/region that experienced a theft or break-in in the past year. This is a direct measure of law and order since physical violence and violence to property are basic and observable types of violence. The state's inability to deter such crimes implies that it lacks a basic infrastructure for law and order, and that it may also be weak in other less visible dimensions—for example, corruption (Gaviria, 2002; Schnatterly, 2003).

6. Crime per capita

This indicator measures the number of crimes—such as robbery, murder, and kidnapping—committed per person for each state/region. Higher crime per capita leads to a lower score on law and order, while lower crime per capita implies greater law and order. This indicator is a direct measure of the security situation in the state. Crime deters investment by compromising the physical safety of a firm's employees and by reducing the entrepreneur's expected returns on investment. The expected returns on investment are reduced because crimes diminish an area's attractiveness for business, decreasing consumer demand as well as increasing the odds that the investment may be stolen or destroyed—which makes investments less worthwhile in the first place.

FIGURE 38

Law and Order



Summary Statistics (Firm Respondent Level)

Variable Name	Count	Mean Firm*	SD	Min	Max
If official violates law, he will be punished (share agree)	4874	48.7%	50.0%	0%	100%
If staff violate law, they will be disciplined (share agree)	3688	44.9%	49.7%	0%	100%
Legal system will uphold property rights and contracts	4874	70.8%	45.5%	0%	100%
State courts judge economic cases by law	1867	84.3%	36.3%	0%	100%
State court resolves economic cases quickly	1867	61.7%	48.6%	0%	100%
Court judgements are enforced quickly	1867	70.3%	45.6%	0%	100%
Legal aid supports businesses	1867	75.5%	43.0%	0%	100%
Judgement by the court is fair	1867	61.6%	48.6%	0%	100%
Security situation is good	4874	37.5%	48.4%	0%	100%
Victim of a crime last year	4874	11.2%	31.5%	0%	100%

*Note: Mean firm scores per indicator are displayed unless otherwise stated. In these other cases, the median is displayed.

Summary Statistics (State and Region Level)

Variable Name	Count	Median S/R	SD	Min	Max
If official violates law, he will be punished (share agree)	15	48.3%	12.4%	18.8%	66.0%
If staff violate law, they will be disciplined (share agree)	15	41.5%	11.8%	23.0%	60.0%
Legal system will uphold property rights and contracts	15	74.7%	12.0%	53.3%	91.8%
State courts judge economic cases by law	15	84.3%	7.1%	71.1%	93.0%
State court resolves economic cases quickly	15	62.6%	16.5%	16.2%	85.1%
Court judgements are enforced quickly	15	71.8%	14.1%	27.6%	91.0%
Legal aid supports businesses	15	79.3%	15.3%	28.9%	92.6%
Judgement by the court is fair	15	61.8%	15.0%	26.3%	87.0%
Security situation is good	15	37.5%	19.1%	1.3%	80.8%
Victim of a crime last year	15	12.9%	3.3%	5.6%	16.3%
Crimes per capita	15	0.60	1.86	0	6.12

*Note: S/R denotes State or Region

APPENDIX C

Analysis of Strength of Preferences for Clean Environment

One concern with directly surveying businesses about preferences is that they may not report their true environmental preferences or may inaccurately estimate the trade-off between enhanced environmental regulation and business performance. We address this concern by using a conjoint, survey-experiment framework, which allows us to estimate the influence of each factor—both economic and environmental—on the formation of firms' policy preferences in the absence of social desirability and unobserved heterogeneity across responses. Conjoint analysis allows researchers to design multidimensional treatments in survey designs and to evaluate which dimension has the most weight in determining the outcome (Hainmueller et al., 2014). In our case, this design is especially useful in determining the factors that influence environmental preferences because the candidates up for selection—the firms—vary on a number of dimensions, including size, sector, ownership type, and country of origin.

The conjoint analysis further helps our analysis in two ways. First, because it randomizes the investor's features, it can ensure that environmental consciousness is orthogonal to other features, such as sector or country of origin, which may also be attractive to respondents. Second, a conjoint analysis provides shielding for respondents, such that it should reduce the role of social desirability in biasing respondents' answers to questions about the environment. Similar to the list experiments used to measure the frequency of informal payments, respondents can select an investor without having to reveal the motivation behind their choice. Thus, the design limits social desirability because respondents can claim multiple alternative justifications for any choice.

The design of our survey experiment is displayed in Table 7. Using electronic tablets to administer the survey question, we vary seven features of a prospective investment into the respondent's locality. These include whether the firm 1) comes from Myanmar, a developed country, or another developing country, 2) is owned by a private investor or is state-owned, 3) is involved in food processing, electronics, or mining, 4) will bring a small (100), medium (1,000), or large (10,000) number of jobs to the respondent's township, 5) has ever been cited for violating environmental regulations, 6) received a targeted subsidy from the local government in the form of a tax incentive, and 7) is voluntarily following environmental standards in its operations. These features are randomized, such that different combinations of these variables show up on the tablet for each respondent, much like a slot machine in a casino. Each respondent is then asked to evaluate the investor profiles based on the combination of attributes. After being presented with the profiles of two investors, respondents are asked: "Which of these businesses would you most like to see granted approval to commence their investment project in your township?"

We find that environmental concerns play a tremendous role in the selection of prospective investors into the locality. Figure 39 presents our estimates of the influence of investor characteristics on respondents' willingness to grant investor licenses to applying businesses. The graph plots the estimated effect of a given value for each investor characteristic on the probability of granting an investor license. The interpretation of each estimate is relative to the reference category for that dimension.

Factors concerning the business' environmental records and operation standards are major determinants of individual investor preferences among respondants in Myanmar. First, we interpret respondents' sensitivity to the specific sector of the future investment as individuals' preference for less pollution-intensive investments. Investment from the mining industry, which may be associated with a considerable burden on the natural environment, decreases respondents' desire to grant an investor license by as much as 25% relative to food processing. Electronic manufacturing decreases support relative to food processing by 7%.

Second, when asked what type of investor they would rather see being granted an investment license, respondents' preferences are strongly driven by the investor's environmental record. In particular, a history of violating environmental regulations significantly decreases the respondent's willingness to grant the investor a license. For example, violations against environmental regulations that caused damage to 100 households decreases people's willingness to support the business' license application by 26%. Environmental offences that created greater damage further reduces the business' chances of being granted an investor license; in particular, compared to a business that has not committed any environmental offences, a business that has been previously cited for environmental violation that caused damage to 1,000 households has a notable 34% lower probability of being selected.

TABLE 7

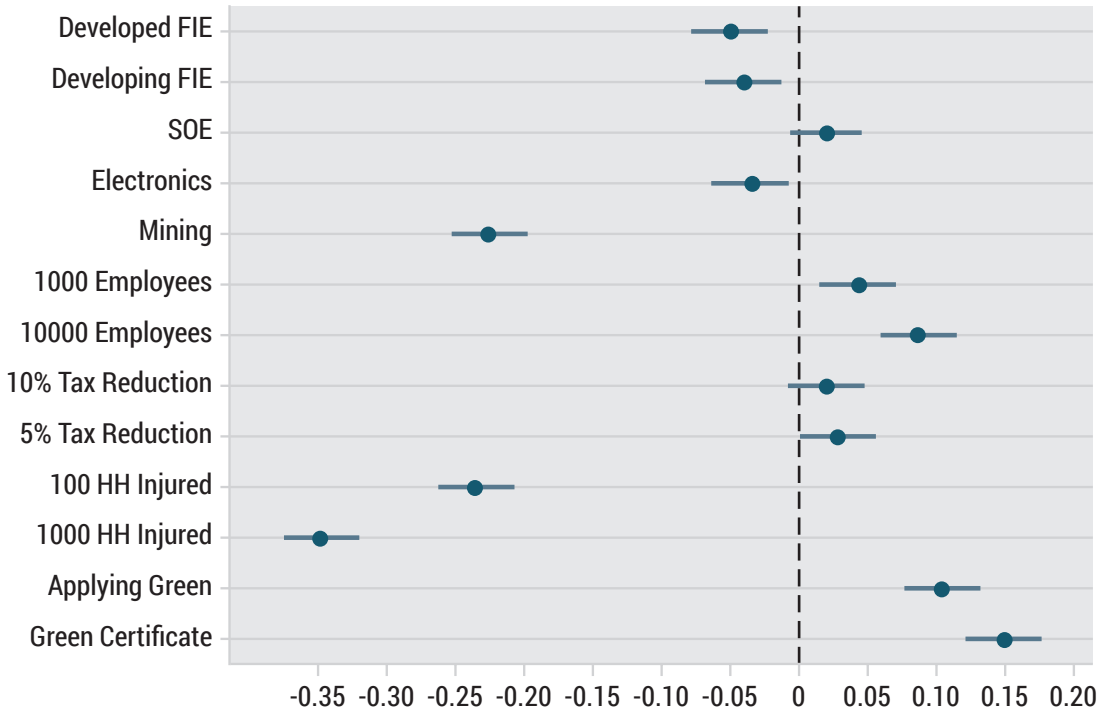
Conjoint Matrix of Investor Profiles

Attribute	Random option 1	Random option 2	Random option 3
National origin	Myanmar	Developed foreign investor	Developing foreign investor
Ownership	Private	State owned	---
Sector	Food processing	Electronics	Mining
Employment	100	1,000	10,000
Tax reduction offer	No offer	5%	10%
Past environmental violation	Never been cited	Cited for damage to 100 households	Cited for damage to 1,000 households
Green certification	Possesses a "green certificate" indicating it is now employing operations that minimize environmental damage	Does not possess a "green certificate" indicating it has not employed operations that minimize environmental damage	Is applying for a "green certificate" indicating it will employ operations that minimize environmental damage

At the same time, if the prospective investor is making an effort to apply environmentally friendly standards in its operations, then this effort significantly increases individuals' willingness to grant the firm an investment license. For example, the intention to apply for a green certificate, which implies that the prospective firm will employ operation procedures to reduce environmental pressure, increases respondents' support for the firm's application for an investor license by 10% over no application. An ongoing commitment to apply procedures that minimize environmental damage in its operations also significantly increases people's willingness to grant the business an investor license. Compared to a business that does not follow any such certified procedures in its production, a business that possesses a green certificate enjoys a 15% higher probabiliy of being preferred by respondents. Consequently, a business with a bad environmental history may be able to make up for its past bad environmental behavior by applying certified environmentally friendly operation procedures or by showing a commitment to do so in the future. Nevertheless, the large size of the estimated effect of the investor's environmental record indicates that bad environmental behavior can only be partly compensated for.

FIGURE 39

Environmental Preferences in Investment Allocation



Endnotes

1. Generally speaking, in Myanmar "registration" is used to refer to company registration under the 2017 Companies Law. However, this registration process is not compulsory for all Myanmar companies, and most SMEs do not go through this process. Instead, for most businesses interviewed for this study, the beginning of operations requires the acquisition of an operating license from the township DAO. As such, in this study, the term "post-registration" is used to refer to the period after which a business is formally permitted to begin operations.
2. Some agricultural businesses do enter the survey indirectly due to miscoding of their industrial sectors in the sample frame or to changes in their businesses since they responded to the MOLIP survey.
3. For a more detailed explanation of Myanmar's subnational governance framework, see Batcheler (2018).
4. The Union of Myanmar comprises 330 townships, varying in population from 1,732 to 687,867, according to data from the 2014 Myanmar census. For a more detailed description of Myanmar's administrative structure, see Batcheler (2018).
5. Admittedly, Vietnamese companies in the PCI survey are larger and more formalized than their counterparts in Myanmar, which may influence the entry costs. Every Vietnamese business in the PCI survey has a formal registration certificate, whereas most of the businesses in the MBEI survey possess only a single-year operating license. Further, 73% of businesses in the MBEI have ten or fewer employees and 52% have five or fewer employees. Indeed, the median MBEI business has four employees compared to eight in the Vietnamese PCI. Finally, as we show in Appendix A, Myanmar businesses appear to be highly concentrated in a few sectors, particularly food processing, whereas the PCI sample is far more diverse, including a wide range of services and sectors.
6. Indeed, road quality led to the cancellation of our research interviews in two townships, so the research team is very familiar with the problem.
7. The documents required to acquire an operating license or secure other documentation may differ depending on the business type. For consistency, a standard set of documents was considered in all townships: for a DAO or CDC operating license, the set of documents included a standard application form, signatures from neighboring households, and letters of support from the Fire Department, Ward Administrator, Township Administrator, and Health Department; for a support letter from the GAD, documents included a formal request letter and supporting documents from at least one ministry; for a land lease certificate from DALMS, documents included a formal request letter, supporting documents from at least one ministry, and completion of Forms 103, 105, and 106.
8. Business confidence likely comes from the fact that they have not had to use courts to adjudicate disputes. Because this overconfidence is observed in every state and region, it biases scores on this index upward everywhere. There is little indication that the upward bias is greater in any particular state or region. As a result, the perception bias has little influence on the rankings or weighting of the subindices, which are driven by variation across states and regions.
9. Using score alone is not helpful for choosing strengths and weaknesses because the scores for subindices have different distributions. A score of 5 on transparency would be quite good, leading to a high ranking, but a 5 on land would lead to one of the lowest ranks in the country. Consequently, ranking is more helpful for this benchmarking exercise.
10. We take the natural log of nighttime luminosity data to address non-normality in the distribution.
11. Note that while we did not include agricultural firms in our sample frame, some were captured indirectly because their industrial codes were listed incorrectly in the sample frame or business operations had changed.
12. A previous iteration of this dataset was used for the 2017 UNDP Myanmar Business Survey.
13. Survey weights are included in the dataset. Please let the researchers know if you want to analyze them in more detail or use them in your own work. The researchers can provide advice on how to construct and analyze them.
14. Assuming 95% confidence intervals and a 3% margin of error around estimates.
15. For example, several townships in Shan State were dropped from the sample due to security concerns for the field team, while other townships there and in Yangon Region were added to account for nonresponse or smaller-than-expected business populations.
16. It also makes it easier to catch cheating by looking at deviations in state/region and township scores across respondents.
17. This is the same methodology used by authors of the Growth Competitiveness Index and Vietnam Provincial Competitiveness Index.

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