This document broadly assesses the strengths and weaknesses of the business operating environment of industrial zones in Myanmar. It also highlights the opportunities and threats facing businesses in the zones as Myanmar moves towards greater integration with the global economy.
This document broadly assesses the strengths and weaknesses of the business operating environment of industrial zones in Myanmar. It also highlights the opportunities and threats facing businesses in the zones as Myanmar moves towards greater integration with the global economy.
Acknowledgements

Friedrich Naumann Foundation for Freedom would like to thank UNIDO and the Department of Small and Medium Enterprises, the Directorate of Industrial Supervision and Inspection, the Ministry of Industry for the research support through their Yangon-based offices. We would also like to thank Dr. Adam McCarty, Chief Economist of Mekong Economics Institute for providing feedback on draft versions of the report.
### Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
</tr>
<tr>
<td>DISI</td>
<td>Directorate of Industrial Supervision and Inspection</td>
</tr>
<tr>
<td>GAD</td>
<td>General Administration Department</td>
</tr>
<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
</tr>
<tr>
<td>MIMU</td>
<td>Myanmar Information Management Unit</td>
</tr>
<tr>
<td>MNPED</td>
<td>Ministry of National Planning and Economic Development</td>
</tr>
<tr>
<td>ODA</td>
<td>Official Development Assistance</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Private Partnerships</td>
</tr>
<tr>
<td>SME</td>
<td>Small and Medium Enterprise</td>
</tr>
<tr>
<td>SMI</td>
<td>Small and Medium Scale Industry</td>
</tr>
<tr>
<td>SMIDB</td>
<td>Small Medium Industrial Development Bank</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strength, Weakness, Opportunity, Threat</td>
</tr>
<tr>
<td>UMFCCI</td>
<td>The Union of Myanmar Federation of Chambers of Commerce and Industry</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
</tr>
<tr>
<td>YCDC</td>
<td>Yangon City Development Committee</td>
</tr>
</tbody>
</table>
Table of Contents
1. Introduction.................................................................................................................................1
2. Industrial Zone Characteristics..................................................................................................2
   Qualifying the Data on Firms........................................................................................................5
3. The Operating Environment in Industrial Zones........................................................................9
   Strengths.......................................................................................................................................9
   Weaknesses.....................................................................................................................................10
   Opportunities................................................................................................................................17
   Threats............................................................................................................................................18
4. Push and Pull Factors of Industrial Zones................................................................................21
5. Policy Recommendations............................................................................................................23
6. Conclusion.....................................................................................................................................27
Works Cited.....................................................................................................................................28
Figure 1: New and Existing Industrial Zones in Myanmar.............................................................. 3
Figure 2: Industrial Areas in Yangon..............................................................................................4
Figure 3: Industrial Firms in the Zones by Quantity and Size .........................................................5
Figure 4: SWOT Analysis of Operating Environment in Industrial Zones.....................................9
Figure 5: Push and Pull Factors of Industrial Zones in Myanmar...............................................22

Table 1: Registered and Active Businesses in the Industrial Zones..................................................6
Table 2: Pricing Structure for Industrial and Residential Electrical Use.........................................11

Picture 1: Typical Road in a Non-Polar Industrial Zone.....................................................................10
Picture 2: Edible Oils Processing Machine (Made in Germany - 1954)..............................................15

Box 1: Promising Opportunities for Zone Infrastructure...............................................................12
Box 2: Sawmills in Pakokku: Unregistered Competitors Cutting into Profits..................................19
Box 3: Edible Oils, Growing Competition from Imported Products.............................................20
1. Introduction

After the fall of the Ne Win socialist regime in 1988, Myanmar began a transition from a centrally-planned economy to a market-oriented one. An inherent part of this transformation is the goal of industrialization as stipulated in the Private Industrial Enterprise Law of 1990.

“To enhance the higher proportion of the manufacturing value added in the gross national product and value of services, and to increase the production of the respective economic enterprises which are related to the industrial enterprise…”

-Chapter 2, Clause A; Private Industrial Enterprise Law of 1990

As part of this industrialization process, the State Law and Order Restoration Council government began establishing industrial zones in the mid-1990s. The objective for creating the zones is threefold: to generate employment, expedite the process of industrialization, and increase the efficiency and competitiveness with which the industrial sector operates (ibid). Unfortunately, inadequate government investment and the inward looking, isolationist policies of previous regimes greatly impeded the development of businesses in the industrial zones as well as the private sector in general. The goal of an industrialized economy has yet to materialize, as Myanmar remains a highly agrarian economy.

At present the industrial zones do not provide an optimal business operating environment and the number of active businesses in the zones has declined in recent years. Well-placed investment and policy reform to improve the business environment in the industrial zones is vital as Myanmar continues to move towards greater integration with the global economy. The objective of this report is to broadly answer: “What kinds of businesses are operating in the industrial zones; what are the strengths, weaknesses, opportunities and threats of the business environment in the zones; and how can it be improved to attract more businesses and grow the zones?”

To this end, the report authors were commissioned by the Friedrich Naumann Foundation (FNF) to visit industrial zones1 and industrial areas2 across Myanmar. They spoke with the Management Committee3 of each zone visited and toured a wide range of industrial businesses. A literature review was also conducted, covering wider reading on industrial development in ASEAN countries. Interviews were also held with stakeholders from the SME Centre and the Department of Industrial Supervision and Inspection (DISI).

The report is divided into five sections (including of the introduction). The second section explores general characteristics of the industrial zones, such as the geographic dispersion of the zones and both the number and size of firms operating in them. The third section assesses the business operating environment in the zones using a SWOT analysis. The fourth section categorizes push and pull factors from the SWOT analysis. The fifth section provides policy recommendations, and the sixth section concludes the report.

---

1Researchers visited 16 of the 19 industrial zones in Myanmar. The Yangon South Industrial Zone and the Yangon West Industrial Zone are only geographic areas with no management structure or active businesses. Hence, they were not visited. The Kalay Industrial Zone in Sagaing Division was not visited due to its remote location and project time and budget constraints.

2 Researchers visited 12 of the 14 industrial areas which compose the East and North Yangon Industrial Zones.

3Each active zone and industrial area has a Management Committee which is composed of volunteer business owners from within the zone. It is tasked with overseeing the strategic development of the zone and reports to the Supervisory Committee, which is part of the DISI.
2. **Industrial Zone Characteristics**

A total of 19 industrial zones exist across Myanmar with an additional 8 zones either planned or currently under construction.\(^4\) The Yangon East Industrial Zone and Yangon North Industrial Zone are significantly larger than other zones in the country. Consequently, they are divided into 14 industrial areas that function as independent industrial zones each with a Management Committee.\(^5\) This results in a total of 39 industrial areas in Myanmar which are either operational or planned. Figure one and two below provide key statistics for the industrial zones and industrial areas respectively.\(^6\)

---

\(^4\) Two of these eight zones have yet to register with the IDC and are therefore, not yet considered to be legitimate.

\(^5\) ShwePyiThar and HlaingThaYar industrial areas are quite large and have two management committees each.

\(^6\) The maps below were commissioned by UNIDO and produced by the Myanmar Information Management Unit (MIMU).
Figure 1: New and Existing Industrial Zones in Myanmar

<table>
<thead>
<tr>
<th>Existing Industrial Zones</th>
<th>Registered Industries</th>
<th>No. of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. East Yangon Industrial Zone</td>
<td>1996</td>
<td>1401</td>
</tr>
<tr>
<td>2. West Yangon Industrial Zone</td>
<td>1996</td>
<td>777</td>
</tr>
<tr>
<td>3. South Yangon Industrial Zone</td>
<td>1996</td>
<td>790</td>
</tr>
<tr>
<td>4. North Yangon Industrial Zone</td>
<td>1996</td>
<td>1447</td>
</tr>
<tr>
<td>5. Hlaing Thar Yaw Industrial Zone</td>
<td>1995</td>
<td>351</td>
</tr>
<tr>
<td>6. Ayeyawady Industrial Zone</td>
<td>1995</td>
<td>280</td>
</tr>
<tr>
<td>7. Paung Industrial Zone</td>
<td>1995</td>
<td>263</td>
</tr>
<tr>
<td>8. Pyay Industrial Zone</td>
<td>1995</td>
<td>105</td>
</tr>
<tr>
<td>9. Pakokku Industrial Zone</td>
<td>1996</td>
<td>228</td>
</tr>
<tr>
<td>10. Yangon West Industrial Zone</td>
<td>1995</td>
<td>85</td>
</tr>
<tr>
<td>12. Meiktila Industrial Zone</td>
<td>1995</td>
<td>200</td>
</tr>
<tr>
<td>13. Mawlamyine Industrial Zone</td>
<td>1995</td>
<td>312</td>
</tr>
<tr>
<td>14. Myitkyina Industrial Zone</td>
<td>1995</td>
<td>161</td>
</tr>
<tr>
<td>15. Monywa Industrial Zone</td>
<td>1995</td>
<td>589</td>
</tr>
<tr>
<td>16. Kalewa Industrial Zone</td>
<td>1995</td>
<td>30</td>
</tr>
<tr>
<td>17. Ayeyarwady Industrial Zone</td>
<td>1995</td>
<td>207</td>
</tr>
<tr>
<td>18. Myitkyina Industrial Zone</td>
<td>1995</td>
<td>29</td>
</tr>
<tr>
<td>19. Pham Industrial Zone</td>
<td>1995</td>
<td>48</td>
</tr>
</tbody>
</table>

New Industrial Zones

<table>
<thead>
<tr>
<th>New Industrial Zones</th>
<th>Registered Industries</th>
<th>No. of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. Dine Industrial Park</td>
<td>1995</td>
<td>1400</td>
</tr>
<tr>
<td>22. Tavoy</td>
<td>1995</td>
<td>161</td>
</tr>
<tr>
<td>23. Mawlamyine</td>
<td>1995</td>
<td>589</td>
</tr>
<tr>
<td>24. Myitkyina</td>
<td>1995</td>
<td>30</td>
</tr>
<tr>
<td>25. Maymyo</td>
<td>1995</td>
<td>29</td>
</tr>
<tr>
<td>26. Mawlamyine</td>
<td>1995</td>
<td>48</td>
</tr>
<tr>
<td>27. Pham</td>
<td>1995</td>
<td>1400</td>
</tr>
</tbody>
</table>

Source: Ministry of Industry (2013), As of February 2013
Figure 2: Industrial Areas in Yangon
Geographic distribution of industrial zones across the country is concentrated around two urban poles; Yangon and Mandalay. According to data from DISI, approximately 11,000 registered firms exist within the industrial zones, with 56% in Yangon zones alone and an additional 12% in Mandalay.

**Figure 3: Industrial Firms in the Zones by Quantity and Size**

![Diagram showing distribution of firms by size and location.]

The industrial zones vary widely in terms of firm size. Yangon industrial zones are fairly balanced, showing similar proportions of small, medium and large firms. Mandalay is similar in composition, yet it has a larger proportion of small firms. The zones in the rest of the country tell a much different story, as they are predominately populated by small firms. In absolute terms all non-polar zones combined have nearly the same number of small firms as all Yangon zones but only one-fifth as many large firms. In fact, all non-polar zones combined account for only 438 large firms; 14% of the country total. This is to be expected as both Mandalay and Yangon have access to significantly larger markets and a greater supply of labor. Small and medium industrial firms account for 72% percent of businesses operating in all industrial zones and 88% in non-polar zones.

Most of the small industrial firms operating in non-polar zones can barely be called “industrial”. Given their number of employees, operational manner and management structure, they are more appropriately classified as “micro-industry”. They tend to be family-owned businesses with roughly 10-15 employees. Some of them, particularly those in agro processing, are closely linked to the agricultural cycle and may only operate for a few months out of the year. As such, Small and Medium Enterprise (SME) support, especially in non-polar zones, should be a key component of Myanmar’s plan for industrialization.

**Qualifying the Data on Firms**

The aforementioned data on firm quantity and size refers to all firms that are registered with DISI and operate in the zones; however, the reality of this situation is not so clear cut. Looking at active firms relative to registered firms paints a more detailed picture of industrial activity. There is a substantial difference in some zones between the number of registered businesses and the number of active businesses. According to

---

1Percentages are out of the total number of firms of a given size. For example, Yangon is home to 73% of all large industrial firms in the country.
Management Committee members many registered businesses in the zones have either ceased operations or never operated at all; existing only on paper. During fieldwork, each Management Committee was asked to give the number of active businesses in its respective zone or area. The table below compares the number of registered businesses to active businesses for each of the 16 industrial zones and 12 industrial areas visited.

Table 1: Registered and Active Businesses in the Industrial Zones

<table>
<thead>
<tr>
<th>Industrial Zone/Area</th>
<th>Registered Businesses</th>
<th>Active Businesses</th>
<th>Active Business Rate</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Yangon (TOTAL)</td>
<td>1470</td>
<td>3081</td>
<td>210%</td>
<td>-1611</td>
</tr>
<tr>
<td>(a) New Dagon (Harbour)</td>
<td>125</td>
<td>100</td>
<td>80%</td>
<td>25</td>
</tr>
<tr>
<td>(b) North Dagon</td>
<td>72</td>
<td>90</td>
<td>125%</td>
<td>-18</td>
</tr>
<tr>
<td>(c) North Okkalapa</td>
<td>74</td>
<td>75</td>
<td>101%</td>
<td>-1</td>
</tr>
<tr>
<td>(d) Shwe Pauk Kan</td>
<td>174</td>
<td>163</td>
<td>94%</td>
<td>11</td>
</tr>
<tr>
<td>(e) South Dagon - 1</td>
<td>141</td>
<td>135</td>
<td>96%</td>
<td>6</td>
</tr>
<tr>
<td>(f) South Dagon - 2</td>
<td>480</td>
<td>820</td>
<td>171%</td>
<td>-340</td>
</tr>
<tr>
<td>(g) South Dagon - 3</td>
<td>250</td>
<td>1538</td>
<td>615%</td>
<td>-1288</td>
</tr>
<tr>
<td>(h) South Okkalapa</td>
<td>89</td>
<td>60</td>
<td>67%</td>
<td>29</td>
</tr>
<tr>
<td>(i) Tharkayta</td>
<td>65</td>
<td>100</td>
<td>154%</td>
<td>-35</td>
</tr>
<tr>
<td>North Yangon (TOTAL)</td>
<td>1019</td>
<td>1022</td>
<td>100%</td>
<td>-3</td>
</tr>
<tr>
<td>(a) Hlaing Tha Yar</td>
<td>644</td>
<td>747</td>
<td>116%</td>
<td>-103</td>
</tr>
<tr>
<td>(b) Mingalardon</td>
<td>64</td>
<td>10</td>
<td>16%</td>
<td>54</td>
</tr>
<tr>
<td>(c) Shwe Pyi Thar</td>
<td>311</td>
<td>265</td>
<td>85%</td>
<td>46</td>
</tr>
<tr>
<td>Mandalay</td>
<td>1368</td>
<td>1255</td>
<td>92%</td>
<td>113</td>
</tr>
<tr>
<td>Non-Polar Zones (TOTAL)</td>
<td>3465</td>
<td>1849</td>
<td>53%</td>
<td>1616</td>
</tr>
<tr>
<td>Ayetharyar</td>
<td>497</td>
<td>250</td>
<td>50%</td>
<td>247</td>
</tr>
<tr>
<td>Hinthada</td>
<td>371</td>
<td>2</td>
<td>1%</td>
<td>369</td>
</tr>
<tr>
<td>Hpa-an</td>
<td>48</td>
<td>5</td>
<td>10%</td>
<td>43</td>
</tr>
<tr>
<td>Mawlamyine</td>
<td>161</td>
<td>60</td>
<td>37%</td>
<td>101</td>
</tr>
<tr>
<td>Meikhtila</td>
<td>290</td>
<td>200</td>
<td>69%</td>
<td>90</td>
</tr>
<tr>
<td>Mon Ywa</td>
<td>589</td>
<td>600</td>
<td>102%</td>
<td>-11</td>
</tr>
<tr>
<td>Myaung Mya</td>
<td>290</td>
<td>8</td>
<td>3%</td>
<td>282</td>
</tr>
<tr>
<td>Myeik</td>
<td>28</td>
<td>4</td>
<td>14%</td>
<td>24</td>
</tr>
<tr>
<td>Myingyan</td>
<td>312</td>
<td>300</td>
<td>96%</td>
<td>12</td>
</tr>
<tr>
<td>Pakokku</td>
<td>228</td>
<td>320</td>
<td>140%</td>
<td>-92</td>
</tr>
<tr>
<td>Pathein</td>
<td>381</td>
<td>40</td>
<td>10%</td>
<td>341</td>
</tr>
<tr>
<td>Pyay</td>
<td>185</td>
<td>10</td>
<td>5%</td>
<td>175</td>
</tr>
<tr>
<td>Yaenangyaung</td>
<td>85</td>
<td>50</td>
<td>59%</td>
<td>35</td>
</tr>
</tbody>
</table>

---

8 In collaboration with the UNDP, the Ministry of National Planning and Economic Development (MNPED) recently conducted a nationwide business census. Though the census data is not available to the public, findings were discussed in a workshop at the World Bank Yangon office on 28 July 2014. It was revealed that many registered firms in Myanmar are not active, many of which have no sign of having ever physically existed.

9 The number of registered businesses in this table and in the maps is the most recent data available. It was released by DISI in February 2013. The data for active businesses is an estimate from the Management Committees. It should be understood as generally indicative of business activity in the zone, but should not be thought of as precise or officially validated data.
Low rates of business activity are common in many of the zones. Out of the 28 industrial zones and areas in the table, 5 of them (highlighted in grey) have an active business rate of 10% or less. Some zones such as Hinthada only have 2 active businesses out of a total of 371 registered businesses. South and West Yangon Industrial Zones (not in the table above) have a total of 1,567 registered businesses but they are only geographic areas without any active businesses yet. In general, polar zones (apart from South and West Yangon) have higher rates of activity than non-polar zones. The average active business rate for non-polar zones is 53%, compared to 92%, 100% and 210% for Mandalay and North and East Yangon respectively.10

Low rates of activity are due to limited demand. Many businesses do not find it advantageous to operate in the zones. When businesses fail in the zones, new businesses do not want to move in.11 This effect is made all the more prevalent by land speculation in some zones, which has driven up land prices. Quick and recent declines in key regional industries have further exacerbated the situation. For example, the largest industry in the Mawlamyine Industrial Zone is automotive assembly. Previous trade restrictions prevented foreign cars from being imported to Myanmar as finished products. Consequently, car parts were imported and then assembled in-country. The recent removal of these restrictions is a positive economic benefit to the country overall; likely resulting in lower car prices for consumers. However, it has also crippled the automotive assembly industry and caused the number of active firms in Mawlamyine and some other zones to decrease in recent years. According to business owners in the Mawlamyine Industrial Zone, there were approximately 250 registered businesses in the zone three years ago; roughly 150 of which were active. At present there are 161 registered businesses in the zone, only 60 of which are active. This downward trend is common across many non-polar zones. Management Committees were asked if the number of active businesses in the zone increased or decreased since three years ago. Out of the 22 Management Committees that responded to this question 11 cited a decrease, 3 cited an increase and the remaining 8 said the number of active firms stayed about the same. It is clear that the zones are both far from being fully active and many zones have experienced a decrease in active firms over the past three years.

It’s also important to note that a significant number of both large and small industrial firms operate outside of the industrial zones. Further research would be required to determine exact figures; however, it was apparent through anecdotal evidence and visual observations during fieldwork that a significant proportion of industrial activity in Myanmar occurs outside the zones. This situation has come about as a result of the original formation of the zones. When the industrial zones were established, the government forced businesses into them. The impetus for this was well-intentioned; they wanted to keep industrial processes away from residential areas for safety concerns. However, moving industrial businesses into the zones was done forcibly and in an unsystematic manner. Inevitably, many businesses managed to stay outside the zones. To avoid relocation, it has not been uncommon for businesses to temporarily shut down when zones first open. The businesses later reopen outside the zone when the government’s attention has shifted to other priorities.

10 Figures for South Dagon 2 and 3 industrial areas greatly distort the average active rate for the Yangon East Industrial Zone. Several industrial zones and areas in the table have more active businesses than registered businesses. The causes of this abnormality are not certain, though it may be due to unregistered businesses operating in the zones.
11 A small proportion of active businesses relative to registered businesses is also a possible side effect of increasing investment, where many new businesses are under construction and have not yet become operational. Such is the case with Mingalardon Industrial Zone (discussed later) and Hpa-an Industrial Zone. Still, these are atypical cases and many of the industrial zones with high rates of inactivity show few, if any, signs of new investment and construction. This is particularly the case for non-polar zones.
“There are many industrial businesses operating outside the zones. They have their own special arrangements that we do not know about”.

-Management Committee Member, Mawlamyine

It is not illegal for industrial businesses to operate outside the industrial zones, because there is no written law that forced them into the zones. Lack of comprehensive industrial registration further complicates matters. The task of registration is not a straightforward or simple process, so many businesses have avoided it. Consequently, many businesses that carry out industrial processes are not yet formally registered as ‘industrial’. At present, DISI is reaching out to many of these industrial businesses outside the zones and helping them with the registration process; however, DISI cites lack of funding as a constraint. There is also an issue of registration amongst different government departments. Many of the industrial businesses outside the zones are already registered as a business with the General Administration Department (GAD) or municipals like the Yangon City Development Committee (YCDC). In this sense, they are legally legitimate businesses; though, they are not licensed as industrial businesses with DISI. A streamlined and integrated registration process is needed to both clarify the legal status of businesses and bring them into the fold of the formal sector; though, this would require significantly improved coordination between government bodies.

In short, the picture of industrial development in Myanmar expands far beyond the perimeter of industrial zones. Many industrial businesses exist outside the industrial zones and operate at different levels of legality. The industrial zones are also far from fully active and many businesses have moved out of the zones or ceased operations altogether in the past few years. This naturally leads one to ask, “Why has this occurred, and how can zones attract new businesses?” Answering these questions requires a closer look at the business operating environment in the zones.
3. The Operating Environment in Industrial Zones

This section of the report is framed by using a SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) in order to assess the operating environment within the zones. The main points of this section are summarized in the figure below.

**Figure 4: SWOT Analysis of Operating Environment in Industrial Zones**

**Strengths**

Management Committee members cited three main strengths in the current industrial zone operating environment. First, the zones provide businesses ample room to carry-on their industrial processes. Second, business owners do not have to worry about complaints regarding noise or smell, while industrial businesses that remain in residential areas still have to worry about such complaints. Third, close proximity to other businesses in the zone can reduce transportation costs for inputs if a supplier can be found in the zone. Business owners from the same industry can also discuss common challenges and how best to overcome them; though, the research did not find any “clustering” activities.
Weaknesses

Despite the wide variation in both size and firm composition between the zones, the story told by most of the zones is a similar one of insufficient government investment and economic inefficiency. Overall, the operating environment in the zones is far from optimal. Many of the weaknesses of the environment within the zones, such as poor infrastructure, corruption, and lack of access to affordable credit are also present outside the zones. They are endemic across Myanmar; however, framing these weaknesses from a perspective of zone operations (as done below) is useful. Many industrial businesses in Myanmar operate within these zones. Therefore, identifying the weaknesses through the perspective of zone operations will allow for the creation of relevant zone policies. In turn, this will impact the majority of industrial firms to more efficiently overcome challenges.12

Poor infrastructure

The Management Committee of nearly every zone in Myanmar stated that infrastructure is inadequate. The government built some roads and installed some electrical transformers in the polar zones when they were created. However, infrastructure investment was inadequate to meet the needs of businesses, and maintenance has not been sufficient over the years. In most of the polar zones the roads are in poor condition, and drainage continues to be a problem, particularly for some low-lying zones in Yangon. Waste management is also a concern. Business owners in Yangon zones have indicated that the services provided by the Yangon City Development Committee (YCDC) are insufficient, and government provided waste management services are more limited or non-existent for zones outside of Yangon. Non-polar zones have received even less investment. Most zones outside Mandalay and Yangon have few if any paved roads; relying primarily on dirt paths. In most cases, the creation of these zones meant that businesses were relocated to vacant land outside the city. Owners had to be entirely self-sufficient; building their own roads and installing their own transformers.

Picture 1: Typical Road in a Non-Polar Industrial Zone

---

12A relative analysis comparing the operating environment inside the zone to the operating environment outside the zone is provided in a later section of this report.
Committee Board members in all of the zones noted that the limited supply of electricity used to be the most significant infrastructure constraint. Many zones would have to operate in shifts where electricity was only available during a few hours per day in a given section of the zone. Occasionally, electricity would cut out for months at a time; even in large, polar industrial areas like Hlaing Tha Yar. Businesses would have to rely on generators to operate, greatly increasing the cost of production and eroding profit margins.

To the government’s credit, the situation has significantly improved as of late, with Management Committee members in most zones stating that they now have access to electricity 24 hours a day. Unfortunately, electricity supply to some zones in Yangon remains inadequate. This is likely because the overall quantity of electricity needed in the Yangon zones dwarfs the demands of other zones, and the electrical grid cannot cope with the exceedingly large demand. Hlaing Tha Yar(1,2,3,4,6,7) is one of largest industrial areas in Myanmar totaling over 58,000 employees and 500 businesses. Its Management Committee stated that the current supply of electricity is inadequate. Continuing to improve the electricity supply to the industrial zones in Yangon should be a high priority. Otherwise the production capacity of Myanmar’s largest industrial center remains tightly capped.

The transmission of electricity within the zones is also a common operating constraint. Government investment in the industrial zones at the time of their opening was inadequate. Some larger zones in Yangon and Mandalay were given transformers, though they were not large enough to meet demand. Many non-polar zones in rural areas did not receive any transformers at all; leaving private businesses to shoulder the cost. In addition, repair and maintenance of transformers is a costly burden that is usually covered by private businesses in the zones.

A common complaint amongst Management Committee members was that the pricing structure for industrial electricity usage makes operations difficult and disincetivizes production. For both industrial and residential electricity consumption a tiered pricing structure is used. One must pay a higher price per unit of electricity as the amount of electricity consumed increases. The pricing structure for industrial electricity usage starts at 75 Kyat per kilowatt and goes up to 150, while the pricing structure for residential electrical usage starts at 35 Kyats per kilowatt and goes up to 50.

Table 2: Pricing Structure for Industrial and Residential Electrical Use

<table>
<thead>
<tr>
<th></th>
<th>Industrial</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit (Kilowatt)</td>
<td>1 - 500</td>
<td>1 - 100</td>
</tr>
<tr>
<td></td>
<td>501 - 10,000</td>
<td>101 - 200</td>
</tr>
<tr>
<td></td>
<td>10,001 - 50,000</td>
<td>Over 200</td>
</tr>
<tr>
<td></td>
<td>50,001 - 200,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200,001 - 300,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Over 300,000</td>
<td></td>
</tr>
<tr>
<td>Price (kyat)</td>
<td>75</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>125</td>
<td></td>
</tr>
<tr>
<td></td>
<td>150</td>
<td></td>
</tr>
<tr>
<td></td>
<td>125</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

13 The Industrial zone in Myeik is a noticeable exception. The city of Myeik is not connected to the national electrical grid. The city is powered completely by generator. Businesses in the industrial zones said that they run their own generators at a cost of 360 Kyat per kilowatt hour. To put this into perspective, the government rate for electricity for industrial use starts at 100 Kyat per kilowatt hour. One business owner in Myeik stated that his business (74 employees large) uses approximately 45,000 liters of diesel per month to operate. At the current price of diesel, this costs approximately $40,000 per month.

14 Despite the improved supply of electricity, business owners in the zones stated that voltage levels are still a big issue. It is common for power surges which can damage expensive equipment.

15 The cost of electricity production for the government ranges from 60 to 130 Kyat per kilowatt (Shin, 2014).
A progressively tiered pricing structure for electricity consumption is not necessarily a good or bad idea. It depends on the context. On the one hand, it makes smaller businesses that consume less electricity more competitive relative to larger businesses. This is a relevant consideration for Myanmar since Small and Medium Scale Industry (SMI) constitute the large majority of industrial firms. On the other hand, it can constrain businesses from expanding production, reducing the benefit of economies of scale. The cost of electricity for residential use should also be considered. Businesses operating outside the zones receive electricity at the residential rate. Businesses that operate inside the industrial zone pay the industrial rate for electricity and find themselves at a significant disadvantage.

Box 1: Promising Opportunities for Zone Infrastructure

The vast majority of industrial zones in Myanmar have inadequate infrastructure; however, there are a few exceptions. The Mingalardon Industrial Zone is widely considered to have the most advanced facilities of any zone in Myanmar. The zone was established in 1998 in a joint venture between the government and a Japanese developer, with the goal of creating an industrial zone in Myanmar to meet international standards. Consequently, it has attracted more foreign businesses than any other zone. Most of the businesses in the zone are Japanese, Korean or Chinese owned, and include industries such as garments, cosmetics and shoes.

Due to its superior infrastructure and services, space in the Mingalardon Industrial Zone has been in high demand as Myanmar has opened up. All 41 plots have been rented. Although only 10 businesses are currently active, many more have begun building their facilities in the zone and are expected to become active soon.

Another exception is the new industrial zone in Hpa-An. The zone was developed in a joint partnership between the government and a private domestic firm, and the cost of development is included in the price of the land. It has adequate road infrastructure as well as an ample supply of electricity. The researchers did not visit the other new industrial zones under construction, and are unable to comment on the quality of their infrastructure. It is hoped that they are financed and planned in a similar manner to the Hpa-An Industrial Zone. If so, this would show promise for more progressive zones in the future that better suit the needs of businesses.

Labor (prices, shortages, skills and retention)

Labor issues are a challenge cited by nearly every Management Committee interviewed. Most notably, the cost of labor continues to increase sharply. Management Committees were asked to estimate the monthly salary for an unskilled laborer, both today and three years ago. This figure has increased significantly from 48,200 Kyat three years ago to 77,300 Kyat today. Though this is only an estimate, it clearly indicates that the cost of unskilled labor has significantly increased.

Although real inflation has played a role in this wage increase, the primary driver as cited by business owners is higher wages for unskilled labor in other ASEAN countries. Both unskilled and skilled labor can receive significantly higher wages in neighboring countries. Business owners from industrial zones near the Thai border and in central Myanmar have cited migration of labor as a serious challenge. They stated that unskilled laborers can find work in Thailand for a daily wage of roughly 9,000 Kyat; significantly higher than what they can receive in Myanmar. These findings are supported by Myint & Rasiah (2012), who find Myanmar's garment sector to have significantly lower wages than other ASEAN countries. Significant migration over the

---

16This is an average taken from the estimates of 26 Management Committees.
past few years has led to a shortage of labor in-country and a subsequent wage increase. As free labor movement becomes more common across the sub-continent, there will be mounting pressure for wage parity. Wage increases are likely to continue.

“You can look in the villages and all you see is children and old people. All the young workers have gone abroad.”
- Management Committee member: Pakokku Industrial Zone

The flight of unskilled labor to higher paying markets has also disincentivized skills training. The newly established Hpa-An Industrial Zone lies close to the Thai border. A garment manufacturer in the zone stated that his business has trained over 1,700 employees since it opened in November of 2012; though it, only currently employs 400. Once trained, most of the employees leave for higher wages in Thailand.

“We are a training school for Thai garment factories.”
- Manager of Garment Company in Hpa-An Industrial Zone

Not only has international migration led to high employee turnover but labor was found to be extremely mobile while remaining in the domestic market. In large industrial zones, workers commonly switch from one business to another for marginal wage increases.

There is also a dearth of skilled and semi-skilled labor in the zones. According to Management Committee members, this is primarily due to the lack of collaboration between universities and the industrial zones. Most of the graduates from the universities have only studied theoretical concepts, while pragmatic skills training has been lacking. College graduates do not have the skills they need to effectively carry out their new jobs. They demand the pay of skilled labor with degrees but do not have the skills the degree should imply. On the job retraining is often necessary. Semi-skilled labor is also hard to find as there are few technical training institutes in the country.

Wage increases are highly beneficial to employees and their families and have a positive knock-on effect on poverty reduction. Still, it should be understood in this context as an additional expense to business operations that has negatively impacted profit margins and decreased the competitiveness of local industries over the past few years. It is likely that the cost of labor will continue to increase in the coming years as Myanmar becomes more integrated with the rest of ASEAN. It is important to note; however, that wages in Myanmar are still well below those in the rest of ASEAN. As such, cheap labor will continue to be one, if not the only, significant competitive advantage that Myanmar has relative to the rest of ASEAN.

Over the past few years, the government has mandated the formation of labor associations in industrial zones. This has brought about some, albeit limited, positive developments in terms of workers’ bargaining power and working conditions. Labor associations have worked with business owners in some zones to provide health care for employees. In some cases, a cost sharing scheme is devised in which a set percentage of the workers’ salary is set aside for health care. This is matched by additional funds from the business owner and put into a healthcare fund. Labor associations are still a new phenomenon in the zones and both the labor associations and management must negotiate a successful and amicable balance on workers’ entitlements.

Management Committee members often voiced concerns that the labor associations attempt to hold employers accountable but not employees who fail in their work. In addition, smaller industrial zones are typically composed of smaller businesses. These are often family businesses, where employees are either members of the business owner’s family or considered as extensions thereof. Consequently, the business
owners in those zones felt that the existence of employee associations even in small businesses was somewhat out of place and unnecessary.

Limited Access to Credit

Lack of access to affordable credit was the most often and strongly emphasized constraint to operations cited by business owners in the industrial zones. They saw this as the biggest constraint holding back everything else. Affordable credit is necessary to kick-start and sustain industrial growth. Without it, businesses cannot purchase updated technologies and eventually become obsolete. This is particularly the case for SME’s, as they lack the financial reserves required to make large capital investments. If credit is not accessible, they are placed at a disadvantage to larger businesses which can self-finance business expansion. Over time, this makes markets less competitive as smaller firms that do not have the financial capacity to upgrade technologies are pushed out of the market by larger firms. Given that most of the businesses in Myanmar are SMEs, this is a particularly relevant concern.

Businesses have a number of avenues for credit in Myanmar but all of them have their weaknesses. The most commonly used source of credit is to take a loan from a private bank. Private banks in Myanmar provide loans at 13% interest per annum. While it is understandable that banks need to receive an adequate return on investment, an interest rate of 13% per annum presents a less than optimal investment climate for businesses. Furthermore, it puts local businesses at a considerable disadvantage to foreign businesses, which can receive loans in their home country at much lower interest rates.

Recognizing the lack of affordable credit to businesses, the Small Medium Industrial Development Bank (SMIDB) started providing loans in 2012 at 8.5% interest per annum. In 2014, they budgeted 20 billion kyat for loans to small and medium industrial enterprises. Although business owners are pleased with this new source of credit, they stated that it is not large enough to meet demand, and 8.5% interest per annum is still high relative to the interest rate on credit that international competitors can access. Loan ceilings are also too low. Even owners of small businesses with 10-20 employees stated that they would need substantially larger loans than what is currently offered in order to fundamentally change their business operations. Currently, the Chief Minister sets the SMIDB loan ceiling in his respective state or region. Research should be conducted to develop formulas for a varying maximum loan size. This should be based on the needs of small and medium industries, rather than the discretion of a Chief Minister.

The paperwork required for loan applications is also a substantial burden for business owners. Both private banks and the SMIDB require companies to put down collateral for loans in the form of property or immovable assets. In practice, applying for documentation of landownership is a slow, laborious and unclear process, which can take business owners three to five years to complete. The process requires interaction with and approval from multiple government departments, namely the Settlement and Land Records Department and either the YCDC or the MCDC for polar zones or the GAD in the case of non-polar zones. The process can also be costly. According to business owners from Hinthada, acquiring land ownership documentation costs approximately eight lakh. Many of these costs are not clearly stipulated in writing. There are “hidden costs” according to business owners. In order to promote investment, the process of applying for land ownership documentation should be streamlined and made more transparent. Another shortcoming of loans from both the SMIDB and private banks is that they are low in value relative to the collateral. For example, a business owner may only be able to receive a loan for 30% the price of the warehouse that he or she used for collateral.
Many businesses forgo the arduous process of obtaining land ownership documentation and simply take out an informal loan from other businesses. While this process does provide more timely access to credit, it is not a cure-all for credit woes. The informality of such loans, brings with it additional risks to the lender and a subsequently higher interest rate for the borrower; generally 3% a month. These loans tend to be short-term, only lasting one or two months. They are often used for operating capital but seldom for investments. In other words, informal loans can help to smooth out business operations when cash flow is an issue, but they fall short of providing businesses the credit required to increase operational capacity and output. Similarly, businesses often buy from suppliers on credit, with payback times ranging from seven days to one month depending on the nature of the business. As is the case with informal loans, buying on credit only aids cash flow and does not translate into capital investments and further industrialization.

**Outdated Technology**

Businesses must upgrade their industrial processes to remain competitive in the domestic market but particularly abroad. Business owners in the industrial zones cited limited access to updated industrial technologies as a significant constraint. Upon touring businesses within the zones, researchers discovered a wide array of machines across multiple industries that are well out-of-date.

**Picture 2: Edible Oils Processing Machine (Made in Germany - 1954)**

Outdated machinery is common place for two reasons. The first reason is lack of access to credit. Firms lack the necessary financing to buy updated technology and as a result they become relatively less competitive over time. This, in turn, leads to a vicious cycle of underinvestment as a firm’s financial capacity to invest in new technology decreases. Second, access to new technologies in Myanmar remains limited due to restrictions on machinery imports. Respondents stated that getting approval for importing new technologies is neither a straightforward nor transparent process. Many hidden costs are incurred and one must “know the right people” to move the process along. Not only is importing new technology difficult but so is importing replacement parts for older machinery. Consequently, business owners often rely on local firms to produce makeshift parts for machines. These replacement parts usually fail to operate effectively and need to be replaced more often than imported parts would.

---

17Business owners indicated that the price of loans varied greatly depending on the personal relationship between the lender and the lendee.
Using outdated machinery not only limits businesses in terms of total output but also product quality. This is particularly problematic for exporting. Many business owners indicated that they would like to export their products, but they could not meet the required international quality standards. On a macro-scale, this can hinder Myanmar’s ability to industrialize. Domestic markets, in general, do not have high enough purchasing power and demand to support full-scale industrialization; at least not in any reasonable time frame. Industrialized countries have had to rely on export-oriented manufacturing and foreign demand to see their industrialization transition through. Only after industrialization and the resulting evolution of a healthy middle-class can local demand be an effective driver of rapid industrial growth.

**Corruption**

Corruption within the government was also cited as a major obstacle to business operations and serves as a cross-cutting constraint amongst the ones listed above. For example, business owners in one zone were required to pay the government a once-off fee of five lakhs to be spent on the building of proper roads and drainage, but no such infrastructure was provided. Other zones echoed similar grievances where government services or maintenance of infrastructure was paid for but not delivered. Corruption and regulatory red tape in general make it difficult and time consuming to obtain the land ownership documentation required for loans or to import new technologies. Business owners also mentioned that they have little understanding of the laws surrounding industrial processes. Many of these laws are unclear and applied unevenly. In practice, business owners must obey the arbitrary request of officials. Whether or not these requests are supported by actual laws is often unknown by business owners and a moot point.

It is not the intention of this paper to berate the government on corruption issues or the existence of burdensome and unnecessary regulations. The systemic corruption within the government has been well-documented, and measures are slowly but surely being put in place to address this issue. It is worth noting, however, that corruption is a major deterrent to foreign investment. Before putting money down, foreign investors need to know that their investments are safe in so much as there is effective rule of law and due process within the court system. They also need to know that corruption doesn’t create an unfair environment in which they cannot compete against picked winners.

Apart from dealing with corruption, there is also a need for better communication between businesses and the Ministry of Industry. The relationship between the Management Committee and the Supervisory Committee which oversees it is often defined by distrust. Real change requires a genuine effort on the part of the government to understand the needs of businesses in these zones and how to service those needs. The fact that this report is being conducted is a positive step in that direction and indicates the sincere intentions of the Ministry of Industry. The business community is also ready to engage. Many Management Committees, especially in the smaller zones frankly stated that they had never had anyone from government listen to their opinions and needs. Communication was always a one-way street from the government down. They were pleased that the Ministry of Industry decided to support this research and hopeful for similar engagements in the future.
Opportunities

Management Committee members identified five opportunities that, if properly capitalized upon, could significantly improve the business operating environment in the future. First, electricity supply to the zones has improved markedly in the past two years. Now zones in Mandalay and most non-polar zones receive electricity twenty-four hours per day. This has significantly expanded the production potential of businesses in the industrial zones, and simplified their production workflow. Although the situation has also improved in Yangon, some zones still suffer from insufficient power supply, most likely due to their significant size and subsequently large demand for electricity.

Second, information communication technology (ICT) in Myanmar is improving at an exponential pace. The price of SIM cards has plummeted, and foreign-owned internet providers promise to dramatically increase internet connectivity over the next few years (Heijmans & Nyunt, 2014) (AFP, 2014). Greater access to internet will allow business owners to more easily find out what new technologies exist and how to gain access to them. They will also be able to connect more easily with international buyers and suppliers.

Third, the recent political and economic reforms taking place in Myanmar have led to increasing levels of foreign direct investment. This trend is likely to accelerate in the future and yield countervailing effects on individual firms, offering both the threat of new competition and the possibility for significant funding, joint ventures and knowledge transfer. Few businesses owners, however, could articulate what this collaboration might look like and how to go about meeting and partnering with these firms. It is recommended that the Ministry of Industry and the UMFCCI serve as institutions through which such interactions can be facilitated and supported. On a macro-level, increased competition from foreign direct investment is also a positive. It will force inefficient firms out of business; thereby increasing product quality and lowering the cost to consumers.

Attracting significant amounts of foreign investment will require that the government creates a conducive business environment. Under the current Foreign Investment Law (2012), foreign businesses operating in Myanmar are privileged to tax incentives; however, preferential tax treatment is often not the prime driver for attracting and sustaining foreign direct investment. Rather, foreign investors are much more drawn to a country with a skilled labor force, adequate infrastructure and strong rule of law. Taking this strategy also has positive knock-on effects for domestic companies, who also gain from a skilled workforce and better infrastructure and an effective legal system. The opportunity cost of tax incentives for foreign firms should also be considered. The forgone government revenue from taxing foreign firms could have otherwise been used to train the workforce and provide the infrastructure that would attract more foreign direct investment in the long-run.

Fourth, the close proximity of complementary industries within the industrial zones holds significant potential for “clustering”. In the Mon Ywa Industrial Zone, businesses in each industry have formed their own sub-committees and elected one representative to represent their interests on the Management Committee. Although the business owners do not formally engage in any “clustering” they do discuss common issues and ideas about upgrading to new technologies and best practices. Businesses in close proximity will, by nature, experience some benefits, such as supplying each other with inputs. This is an inherent opportunity of operating in industrial zones; however, there is a general lack of understanding among business owners about what “clustering” really is or would look like in reality.
“We are not really into this clustering. We formed a clustering group in the training because they asked us to, but nothing happened after they left.”

-Management Committee member/participant of a government clustering workshop

Even in large industrial zones, business owners said that they have heard of “clustering” but that it was not done. They did not elaborate in much detail. Most of them stated that they do not do clustering because they do not trust one another and the business environment is not right. Clustering entails the transformation of core business operations. This takes a significant amount of trust between companies as well as technical know-how and clearly defined goals and reasons for clustering. This could be greatly promoted through the support of government and donor organizations to research potential clustering opportunities and support clustering through risk-sharing arrangements.

Finally, and perhaps most importantly, the current political environment has enabled business owners to be more vocal in expressing their needs and concerns to the government. They can also be critical of the government and expose corruption without fear of criminal prosecution. In response, the government is also trying to improve communication with business owners to better understand their needs; hence this report. Although this report is but a brief assessment, it is expected that it will pave the way for more in-depth research.

**Threats**

A number of threats exist which have the potential to greatly hinder the industrialization process within Myanmar. Most of these threats already exist to some extent as weaknesses in the operating environment and have the potential to escalate, such as the increasing cost of labor. Land speculation is one such threat, which is rampant within some industrial zones. Individuals buy land in the zones under the pretext of starting a business, but they never put the land to productive use. The effects on land prices within the zones can be severe. The zone in Mandalay experienced a fourfold increase in land prices over the past three years from 500 million to 2 billion Kyat per plot. Although inflation and other factors come into play, the Management Committee cited land speculation as a serious problem in the zone and the key driver for the increasing price of land. It is likely that land speculation will intensify in the future if no regulations are actively enforced to prevent it.18 This could lead to fewer active businesses inside the zones; thereby minimizing the economic output of the zones and potentially bottlenecking Myanmar’s progress towards industrialization.

Competition from industrial businesses operating outside the zone is another threat. Such is the case for the sawmill industry in the Pakokku Industrial Zone. Businesses operating outside the zone have the advantage of paying the lower, residential rate for electricity. They also do not face many of the legal and regulatory challenges faced by businesses inside the zone. Their location in residential areas also reduces travel costs and commute times for workers. This added convenience means that people will work for them at a lower wage than they would for businesses in the zones.

18It should be noted that land speculation and rapidly increasing land prices are not endemic to industrial zones only. These are national trends occurring across all of Myanmar that have picked up over the past few years.
Box 2: Sawmills in Pakokku: Unregistered Competitors Cutting into Profits

When the Pakokku Industrial Zone was first established, the government allowed eleven sawmills to legally operate within the zone. Three of these businesses closed down in recent years and four others exist only on paper to keep the license. Four are currently in operation. The owners are not optimistic about the future of their business because competitors operating outside the industrial zone enjoy a more advantageous business environment.

Inputs are more expensive for legally registered sawmills operating in the industrial zone. They buy wood from the government through a tendering system. Unregistered businesses cut wood illegally in the surrounding area and sell it to the unregistered sawmills at a cheaper price than the government tendered wood. Electricity is also cheaper for businesses existing outside the zone. They operate in residential areas and pay the residential rate for electricity, while sawmills in the industrial zone pay the higher industrial rate.

The zone’s distance from Pakokku also reduces its competitiveness. The industrial zone is a half hour’s drive away from Pakokku. Employees prefer to work for sawmills in town as it is costly and time consuming to come all the way to the industrial zone to do the same work. Sawmills in the industrial zone have to pay higher wages than their counterparts in the city to attract sufficient labor.

Given these constraints, sawmills within the industrial zone find it difficult to compete. The sawmill owners in Pakokku believe they will go out of business within a few years. This is not to say that regulations should be done away with to make firms more competitive. Industrial businesses should be made to operate in industrial areas and there should be restrictions on the sourcing of timber. Although these regulations do increase operating costs, they also promote both a safe and noise free residential area and the sustainable management of forest resources. The issue here is one of equal enforcement. When regulations lack consistent, equitable enforcement, markets are not competitive, and the businesses that play by the rules suffer for it.

When the owners of the registered sawmills in the Pakokku Industrial Zone informed local authorities about the situation, they were asked to create a list of all sawmills in town. In total, they drafted a list of 46 unregistered sawmills located in Pakokku. According to the business owners, the list has been handed over to authorities, but corrective action has yet to be taken.

Land speculation, the rising cost of labor and competition from firms outside the industrial zones are all significant threats, but the biggest concern in business owners’ minds is what will happen as Myanmar “opens up” to the global economy. Business owners in the zones cited increasing competition from imported goods as the most significant threat to their businesses. The detrimental effects of imported goods on domestic producers has already been felt, particularly in industries such as edible oils. Other industries that have suffered include car and motorbike assembly, water pump manufacturers and metal stamping companies.
Box 3: Edible Oils, Growing Competition from Imported Products

The edible oil industry has been hit hard by cheaper foreign products such as palm oil. The result has been shrinking profit margins and the closure of edible oil mills. The retail price of imported palm oil is generally between 3,000 – 3,500 Kyat per viss. This is substantially cheaper than domestically produced edible oils such as sesame seed oil, which retails for 4,000 to 5,000 Kyat per viss. Even when sold at this price, domestically produced edible oils only yield a narrow profit margin of 3% to 5%.

Some entrepreneurs have kept operations going either with little profit or possible operating at a loss, because it is a family business, and they do not want to lay off staff. Others have moved onto more lucrative investments. One edible oil mill owner in central Myanmar that interviewed during fieldwork has stopped milling operations altogether and uses the facility for grain storage. He buys sesame in upper Myanmar and stores it until it can be sold later for a higher return. The profit margin ranges from 12% to 20% depending on international markets and the local harvest. The entrepreneur we spoke to intends to supply raw agricultural inputs to foreign companies when they come to invest in Myanmar and does not see any possibility of operating his edible oil mill again unless he is equipped with financial assistance and technology. His story is not an uncommon one. Many edible oil companies in central Myanmar have scaled back production while scaling up grain storage.

Although this business owner is acting rationally and benefiting in the short-term from storing grains, his actions indicate an economic system that bears no incentive for industrialization. Why spend money hiring staff, buying and maintaining equipment and paying for electricity, when doing nothing yields a higher profit margin? Agro-processing has traditionally been a pathway towards industrialization where agricultural commodities receive value-added processing in-country. Entrepreneurs storing grains instead of adding value is a step in the wrong direction, leading towards deindustrialization and a greater dependence on the agrarian economy.

As stated earlier, there are far fewer active firms operating in the zones than there were three years ago. Business owners cited competition from foreign imports as the main driver for this decline and believe this trend will continue. Many business owners believe they will go out of business in the coming years, particularly once the ASEAN Free Trade Agreement comes into effect, presumably in 2015. Competition from international competitors, while an eventuality, should be understood as both a positive and negative force. Myanmar is coming out of a long period of economic isolationism, in which highly inefficient firms have been able to operate with little pressure from foreign competition to evolve. In the coming years, many local firms will shut down, but this should be understood as part of industrial development. This process of “creative destruction”, as termed by Economist Joseph Schumpeter in the 1950s, can lead to a rapid evolution of the market, significantly expanding industrial output while simultaneously improving quality. However, the “opening-up” of Myanmar must unfold in tandem with the development of a more conducive business environment for domestic firms.

The literature on “opening up” shows mixed results. Countries such as South Korea have had significant success with protectionist policies, while others such as Vietnam have found success through more liberal policies (Larkin, 2012). There are also cases in which both extremes have failed in multiple countries as is the case in much of Latin America. Most countries have developed a trade policy that lies somewhere in between the extremes, in which governments gradually reduces import restrictions and tariffs while targeting specific domestic sectors to promote growth. Taiwan is one such example (ibid).
The exact nature and speed at which the Myanmar economy opens up will directly determine the success or failure of many domestic producers. It will require experimenting with policy and much trial and error to find what is most appropriate in the Myanmar context. However, it is certain that local firms cannot be expected to adapt and compete with foreign firms when they face the business challenges discussed in previous sections. As Myanmar opens up, this must be paralleled by the development of a conducive business environment to give domestic firms a fighting chance.

4. Push and Pull Factors of Industrial Zones

The SWOT analysis above depicts a business operating environment within the zones that is far from optimal. Many businesses have either closed down or have left to operate outside of the zones in the past few years. In short, the zones are not working. The answers to this exodus lie in the very creation of the zones themselves. Most businesses did not move to the industrial zones because they found it advantageous. They were forcibly moved by previous regimes19, often to their detriment.20 It is a testament to the intuitiveness and will of the entrepreneurs that some businesses managed to survive. There is little incentive holding businesses in the zones. Consequently, businesses started to ‘drift’ out of the zones over time. For example, industrial businesses owners in Hinthada were forced to buy land in the industrial zone when it was created; though, most of the businesses still prefer to operate in the town of Hinthada where they are closer to customers and a labor source. Out of the 76 businesses that were forced to buy land in the zone, only two of them currently operate in the zone. The other 74 businesses continue to operate in Hinthada town and consider the cost of buying land in the zone as a sunk cost. More regulations and stronger enforcement measures will not keep businesses inside the zones. Such rules have not been effective in the past nor applied evenly. The most effective way to keep business in the zones isn’t by force, but by improving the operating environment.

The SWOT analysis has already covered all the factors, which form the operating environment within the zones, but this falls short of providing a relative analysis. To learn why businesses have left the zones, one must ask, “What is the difference between the operating environment inside the zones and outside the zones. What factors affect a business owner’s decision to move?” Some of the factors mentioned in the SWOT diagram do not apply here. For example, poor infrastructure, inadequate supply of affordable credit, and limited access to new technologies are constraints that also exist outside the zone. Businesses operating outside the zone also face some of the same threats as those inside the zone, such as increasing competition from imports and land speculation. They also face some of the same opportunities such as the recently improved supply of electricity and improved ICT across the country. These ‘absolute’ factors apply equally to businesses operating inside and outside the zones and do not factor into a business owners’ decision to move.

The decision making process of business owners depends upon two kinds of relative factors; pull factors and push factors. Pull factors bring entrepreneurs into the zones. Entrepreneurs inside the zones enjoy closer proximity to other businesses and plenty of room to operate. Since they enjoy a higher degree of legality than their counterparts outside the zones, they can also openly voice their concerns to government and have more potential for attracting foreign direct investment. Pull factors are the green arrows in the diagram below.21

---

19Alternatively, some zones were drawn around pre-existing industrial areas. This is more common around Yangon.
20(Weidert et al, 2014) also note the detrimental effects of forced relocation to industrial zones for businesses, most notably poor infrastructure and a greater distance from markets.
21Factor arrows and numbers can be referenced to the SWOT Diagram. For example: O4 is “potential for clustering”, W5 is “corruption”, and so on.
There are also push factors that drive businesses out of the zone. The most prevalent of these is the high cost of electricity inside the zones relative to outside. Others include the regulations which businesses inside the zone face. While complete deregulation is not advisable, “playing by the book” and undergoing regulations inside the zone increases the cost of operations relative to operating outside the zone where regulations are not as strongly enforced. Inadequate labor supply and the rising cost of labor also push businesses out of the zones. Although these factors come into play across all of Myanmar, they are more prevalent inside some zones. Many zones are located outside towns and cities and often have a hard time finding employees who are willing to take the long commute. Consequently, they must pay workers more than the businesses operating in town.

Figure 5: Push and Pull Factors of Industrial Zones in Myanmar

The key to growing the zones is to minimize the push factors and maximize the pull factors. Improving the operating environment in the zone relative to the outside environment can also change the absolute factors into relative ones. For example, improving the infrastructure inside the zones to be better than infrastructure outside changes it from an absolute factor to a pull factor and attracts more businesses.

The analysis above has presented the major push and pull factors; however, it does not bridge the gap between theory and practice. The policy recommendations below provide pragmatic steps to change push factors into pull factors and bring about industrial growth in the zones.
5. Policy Recommendations

Previous sections of this report have provided information about the firms in the zones and analyzed the operating environment in the zones using the SWOT analysis and push/pull factors as a conceptual framework. This section of the report takes the analysis one step further in the form of actionable, policy recommendations.

5.1 Zone Creation, Renovation and Classification

At present eight new industrial zones are either being planned or under construction in Myanmar. Given the fact that many of the industrial zones are far from fully active, the cost-effectiveness of building new zones must be assessed carefully. Building industrial zones requires a substantial financial investment by the government, and there is no guarantee that these new zones will be any fuller than the old ones. Economic viability should be the focus for constructing new zones and determining which old zones to support.

5.1.1 New zones should all be subject to detailed pre-feasibility studies. Donors should be asked to undertake pilot versions of these studies. This would entail a cost-benefit training exercise for a team of invited Myanmar public and private sector persons. The team would work with the donor full-time and also go on a study tour of industrial zones in other ASEAN countries. Once the pilot studies are complete, the methodology can be made into a formal regulatory requirement for conducting feasibility studies to be applied to all future zones.

5.1.2 Existing zones should be subject to a cost-benefit analysis. The process should be tendered and managed by an international donor. The purpose of the audit is to classify zones into one of three groups:

1. Those that should be closed or reclassified (see zone reclassification recommendation)
2. Those with growth potential
3. Those with strong growth potential

Urgent policy changes and a prioritised and costed list of needed investments would be developed for each zone in category two and three. Zones in category three should also be considered as possible public-private partnership investments, in which a foreign firm handles zone management.

5.1.3 Myanmar will need decades to build its physical infrastructure, but it is probably advisable that the best zones (determined by cost-benefit analysis) are given priority to get linked to roads, ports, and reliable supplies of electricity and water.
5.2 Zone Reclassification

Many of the non-polar zones are small and their products are made for domestic markets. Given the poor transport infrastructure in Myanmar and the fact that most non-polar zones are far from large markets, it is not realistic to expect rapid growth. There is not enough demand in the domestic market. Rather, the main benefit of these zones should be to provide a decent operating environment for domestic industrial businesses and keep them out of residential areas. If this is not achieved, businesses will either close or simply drift back into residential areas over time. Small businesses are also prevalent in non-polar zones and face different needs and pressures than larger businesses.

5.2.1. It is recommended that smaller zones without high growth potential either be closed or reclassified as “Small and Medium Industrial Parks” with a different set of guidelines and policies. This will help prevent small industrial firms from being “lumped-together” into the same category as bigger players. This will also enable more targeted industrial support and a more apropos regulatory environment. SMI support initiatives and financing schemes should be a key component of these parks.

5.3 Zone Development, Management & Services

A cost-recovery basis is used by private sector actors when they develop and operate zones as opposed to a subsidized basis when developed and managed by government. In general, this has been found to increase the efficiency of zone operations and reduce the burden on public resources.

5.3.1 Myanmar should promote private rather than public development and management of zones. Facilitating private zones depends on the development of an appropriate legal, regulatory and institutional framework. The framework must outline (i) private zone designation criteria, incentives and privileges of private zone developers and operators, and rights and obligations of zone developers/operators and the government with respect to zone development and operation; (ii) public-private partnership framework for zone development, outlining rights, responsibilities, obligations, commitments of all parties with respect to all aspects of zone development, financing and operation, regulation and promotion.

5.3.2 The Ministry of Industry must work with municipal offices such as the Yangon City Development Council to provide more effective services to the industrial zones such as waste management.

5.3.3 At present, the relatively high cost of electricity in the zones puts businesses in the zones at a competitive disadvantage to competitors operating outside the zones. The Ministry of Industry and the Ministry of Electric Power should consider reducing the rates for electricity for industrial consumption, so long as the price stays reasonably close to the cost of production. Further research would be needed to determine an optimal rate that does not cause undue financial

---

22 Closing zones does not mean forcing businesses off of the zones. They can remain and operate there if they so desire or sell their land and leave.
23 In Vietnam, Small and Medium Enterprise Industrial Parks provide businesses with different support and fall under different operational guidelines than larger industrial zones (McCarty, 2011).
24 A special thanks to Dr. Adam McCarty and UNIDO for providing some inputs and guidance on some of the recommendations in this section.
25 The cost of electricity production for the government ranges from 60 to 130 Kyat per kilowatt (Shin, 2014).
hardship on the government, yet at the same time promotes the expansion of industry within the zones.

5.3.4 Research has shown that zones are highly susceptible to land speculation. Operational criteria should be put in place which specifies a time frame in which new firms must become active in order to stay in the zone as well as a clear definition on what constitutes as “active.” It is also worth considering that the government rent land to businesses in the new zones via long-term contracts, in which payment is made on an annual basis. This could help to curb speculation since land would no longer be an asset but rather a yearly expense for businesses.

5.3.5 At present the relationship between the Supervisory Committee and Management Committee is one of mistrust and poor, one-way communication. The Supervisory Committee should work with the Management Committees to develop effective feedback mechanisms, so the government is more in-tune with the needs of businesses owners.

5.4 Financing

According to businesses owners, lack of affordable credit was the most severe constraint that they face. In general this shortcoming of the businesses environment is out of the hands of the government. Rather it is dependent upon the balance between the credit needs of businesses and the level of risk that private banks are willing to take. However, the government can better tailor its own lending practices to suit the needs of businesses.

5.4.1 The SMIDB should continue their financing activities. They are providing much needed credit, albeit at a high interest rate by international standards.

5.4.1. SMIDB loan ceilings should not be the arbitrary decision of government officials. They should be based on research assessing the financial needs for businesses of different sizes and sectors.

5.4.2. Both the SMIDB and private banks require loan applicants to hold formal ownership documentation of land or immovable assets to be used as loan collateral. At present, obtaining ownership documentation is a costly and time consuming process for business owners, sometimes taking up to five years to complete. The Ministry of Industry should communicate the importance of this matter to the relevant departments, and request that the application process for ownership documentation be made more streamline and transparent.

5.5 Labor

5.5.1 The Ministry of Industry should facilitate links between industries and universities to develop work placement programs. This would promote more hands-on learning which better prepares graduates for the workforce.

5.5.2. The drafting of labor policy and regulations should take into account the differences in management structure and operations between large and small industrial businesses. Businesses classified as micro-industry should fall under different labor policy requirements than large scale industrial businesses.

5.6 Other
5.6.1 Any import taxes that still apply to productive assets such as new technologies should be removed, and import processes should be simplified and made more transparent.

5.6.2 Research should be conducted to find potential business clustering opportunities. Government and donors can then approach willing businesses to conduct clustering pilot projects. Risk sharing by the government and donors will likely be a key component of any pilot project. If successful clustering pilot projects are conducted within the zones, other businesses can copy the model and will likely feel more comfortable with implementing it after they have seen its success.
6. Conclusion

Industrial activity in Myanmar has centered around two poles, Mandalay and Yangon. The industrial zones in these poles are significantly larger than non-polar zones and also tend to house larger firms. Although industrial zones encompass a substantial number of firms, a significant proportion of industrial activity in Myanmar occurs outside the zones. In addition, many registered businesses in the industrial zones are not active. This is primarily due to declines in key industries over the past few years. Land speculation has compounded this problem, where vacant land in the zones is bought but not necessarily put to productive use.

At present, the industrial zones do not present an optimal business environment. Infrastructure is poor, both skilled labor and credit are scarce and new technologies prove difficult to import. Corruption continues to keep the cost of operations high and the dearth of skilled labor also limits the use of more sophisticated industrial processes. Some businesses owners in the industrial zones stated that they would be more competitive if they operate outside the zones due to more lax regulation, closer proximity to consumers and a cheaper supply of electricity. Many business owners within the industrial zones are also concerned about the future. The price of labor will continue to rise as will the price of land if speculation is not upended through the enforcement of proper regulation. If the challenges mentioned above are not dealt with in the near term, domestic firms cannot hope to evolve and be competitive against foreign competitors. In this scenario, cheap imports flood the market, and domestic industries fold.

However, “opening-up” offers significant benefits for Myanmar, particularly the expedient supply of cheaper, higher quality, imported goods. Likewise, foreign competition can be a good thing, as it forces domestic firms to increase both efficiency and adaptability or go out of business. This process of “creative destruction” can lead to a rapid evolution of the market, significantly expanding industrial output while simultaneously improving quality. However, the “opening-up” of Myanmar must unfold in tandem with the development of a more conducive business environment for domestic firms.

It is up to the Myanmar government to decide its exact approach to “opening-up” to the global economy. Context matters and much trial and error are needed before the right mix of openness and support to domestic businesses can be found, where markets are truly competitive. However, without even addressing trade policy, the competitiveness of Myanmar’s industrial businesses can be greatly improved if the government is truly committed to the following initiatives: improved infrastructure, more and cheaper credit, skills training, clearly defined and contextually appropriate industrial policy and the enforcement of anti-corruption measures. Doing so will not only empower local businesses but it will also draw in much needed foreign direct investment; thereby truly promoting Myanmar’s further integration into the global economy.
Works Cited


McCarty, A. (2011). Upgrading and Moving Beyond Zone-Based FDI: Vietnam Case Study. UNCTAD.

Ministry of Industry. (2013, February). Dataset: Registered Industrial Firms. Directorate of Industrial Supervision and Inspection


