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Manufacturing



Myanmar's Tier 2 Industrial Zones







Prepared by: Tractus Asia Ltd.

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About Tractus

For the last 20 years, Tractus has advised and assisted multinational companies to help them make intelligent decisions about where to locate and how to structure their direct investments in Asia. We have a team of 60 professionals in offices in Myanmar, Thailand, Indonesia, Vietnam, China and India. Tractus' full service market-entry and expansion practice areas include initial market research and corporate strategy implementation; distributor and partner search assistance; merger & acquisition and fund raising; site location advisory, and; regulator and private-party negotiations assistance. Tractus also has a substantial public sector practice area that provides services such as government advocacy, trade and investment promotion, public policy and economic development program advisory services.





Over the Horizon

Myanmar's economic reform process has opened it to the world and in 2012, the country saw most international sanctions dropped and the beginning of a wave of international investment that has accelerated year over year. In the 2014-2015 financial year, the country's Directorate of Investment and Company Administration (DICA) reported the approval of US\$ 8.1 billion of Foreign Direct Investment (FDI) into the country compared to just US\$ 4.6 billion in 2011.

Thriving international investment however, has also led to skyrocketing real estate prices. While skyrocketing prices in commercial and residential prices have been well reported by international and local press, industrial real estate costs have also ballooned growing at a Compound Annual Growth Rate (CAGR) of 23% since 2008.



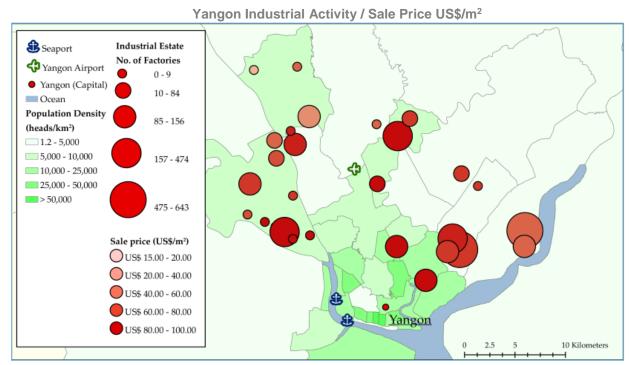
Figure 1. Average Sale Price by Year (US\$/sqm)

Source: Tractus Research and Analysis





While the quality of infrastructure – including electric power, water, waste treatment and transport infrastructure – is varied, it is consistently poor or very poor across Yangon's industrial zones. Conversely, industrial real estate prices across Yangon are consistently high and there is little correlation between factory or infrastructure density with real estate prices across Yangon's industrial areas.



Source: Tractus Research and Analysis

Prices for the sale of long-term land usage rights for industrial land in Yangon mostly between US\$60 and US\$100 put Yangon's industrial zones prices about on par with Ayutthaya or Samut Sakorn in Thailand, Serang in Indonesia and Penang in Malaysia.

At these prices however, Yangon's industrial zones provide none of the international standard industrial zone infrastructure of their regional peers and little or no professional zone management.

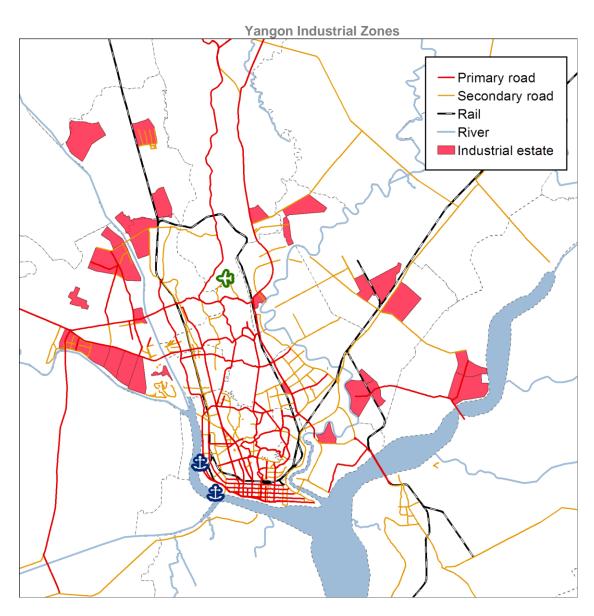
Yangon's industrial zones suffer from regular electrical power outages during the country's dry season when hydroelectric dams – which account for more than 70% of the country's generation capacity – are forced offline by low water levels. This is compounded by overloaded electricity transmission and distribution infrastructure unable to withstand the load demand of Yangon's system.

Road and rail infrastructure is also limited, with heavy traffic congestion brought on by the liberalization of the automotive import market and limited transport infrastructure





generating significant traffic congestion both on trucking routes and at port line ups, unable to process outbound cargo quickly enough to keep up with demand.



Source: Tractus Research and Analysis

Additionally, Yangon's offers extremely few municipal water connections even in the city's most developed industrial areas and no wastewater treatment or sewage systems at all.



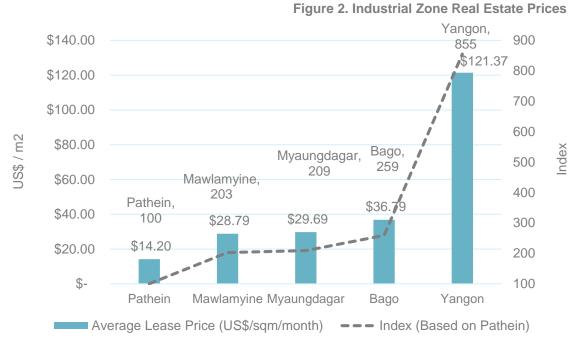
Myanmar's Tier-2 Zones



Source: Tractus Research and Analysis

Outside of Yangon's metropolitan area there are four major industrial zone developments within seven hours by truck playing host to a mix of international and local manufacturing investments.

While these zones provide similarly limited access to quality industrial infrastructure as industrial zones in Yangon, their costs are dramatically lower than those in Yangon.



Source: Tractus Research and Analysis



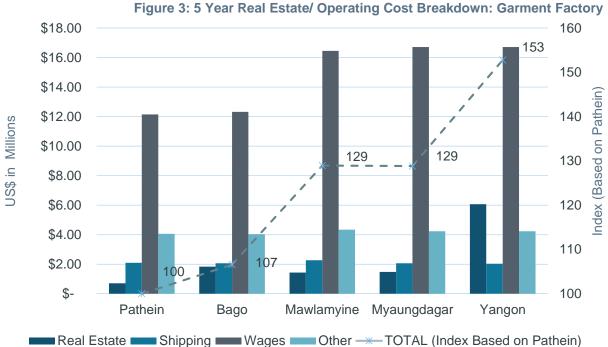


In Pathein, which has the lowest industrial real estate costs of the group, prices per square meter for the sale of long-term land usage rights are just 12% of those in Yangon while Tier-2 zones taken as a group offer, on average, industrial real estate costs that are as little as 23% of the those in Yangon.

Operating Costs

However, higher operating costs – in particular the costs of in-bound and out-bound shipped cargo – work to reduce the real estate cost advantage of Tier-2 zones.

In one Tractus case study of a factory employing a little more than 2,000 workers and shipping eight Twenty-foot Equivalent Unit (TEU) containers in-bound and out-bound per month, the five year cost advantage between Yangon and Tier-2 zones was reduced significantly. In the case of Pathein, the lowest industrial real estate cost location in the analysis, five-year operating costs reduced the location cost advantage of Pathein over Yangon to 35% and to 24% in Tier-2 zones taken as a group on average.



Source: Tractus Research and Analysis

The case study examined was particularly sensitive to variations in TEU shipped, as increased transport costs inflate the operating costs of sites further from Yangon's international shipping ports quickly.



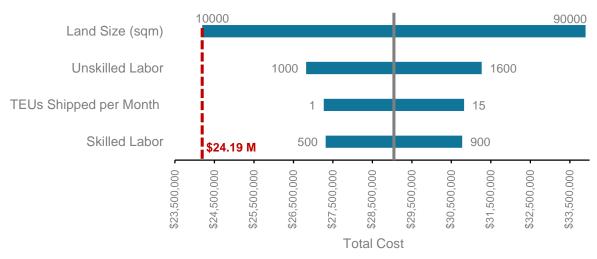
Sensitivity analysis of the five year cost of investment in our case study example in Yangon and in Tier-2 locations generated significantly different results.

TEUs Shipped per Month 15 Skilled Labor 500 **Unskilled Labor** 1000 1600 Land Size (sqm) 10000 90000 \$20.85 M 500,000 \$16,500,000 \$17,000,000 \$17,500,000 \$18,000,000 \$21,000,000 \$21,500,000

Figure 4. Pathein Sensitivity Analysis



Total Cost



Source: Tractus Research and Analysis

In Pathein, variations in TEUs shipped dramatically impacted the total five-year project cost, more so than any other factor in the analysis. In Yangon conversely, where industrial real estate costs are much higher, the land size required by the investment was by a large margin the most significant driver of total cost. Notably however, keeping all other factors at their base case scenario, Pathein's highest cost variation of TEUs shipped resulted in a total cost of only US\$ 20.87 million, 14% less than Yangon's most costly scenario.



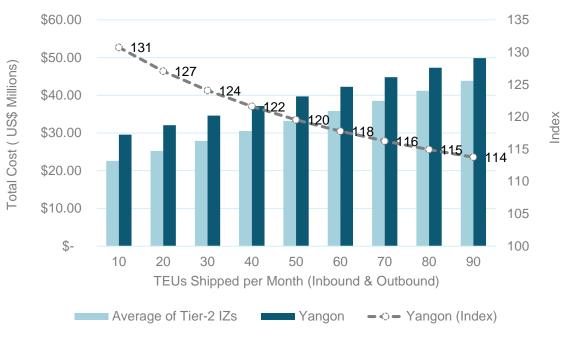


Figure 6. Case Study: Cargo Volume Impact on Investment Cost

Source: Tractus Research and Analysis

However, as the number of TEUs continues to escalate, the Tier-2 zone cost advantage presented by the case study begins to erode. As in-bound and out-bound TEUs shipped begins to reach 90, the difference between Yangon's total cost and the total cost of Tier-2 locations is reduced to just 14%.

Other Factors

The objective of this report has been to provide some directional, or indicative analysis of the variations in price of industrial real estate in Yangon and in Myanmar's lesser-known industrial zones and to evaluate and explain the way those cost differences interact with varied operating costs. Industrial site selection must take in to account both quantitative and qualitative factors.

Myanmar's offers dramatic variations in both quantitative cost and qualitative factors to be considered in advance of making an investment decision. The proliferation of imported construction materials and limitation on what is available locally has led to high costs of construction. Competition for experienced workers in Yangon's industrial zones has put upward pressure on wages and led to worker strikes and protests in some cases.



Cost Factor	Quality Factors
One-Time Investment Costs	
Land Cost	Land Availability
Construction Cost	Availability of Construction Companies
Operating Costs	
Direct Labor	Availability, Education Level
Indirect Labor	Availability, Education Level
Electricity	Availability, Reliability
Water	Availability, Reliability
Wastewater Treatment	Availability,
Solid Waste	Availability, Security
Shipping	Availability of Mode, Reliability

Limitation on municipal water in Yangon and non-existent municipal water, wastewater treatment and solid waste removal services in Myanmar's Tier-2 all need to be considered. These factors are neither extensive nor exhaustively addressed by this report.

Challenges & Opportunities

Every investment is different and should be treated that way. Tier-2 industrial zones in Pathein, Mawlamyine, Bago and Myaung Dagor – or even further afield – all present unique challenges and opportunities for manufacturing companies. Just as Myanmar may not be an ideal manufacturing location for some companies, Tier-2 zones – despite their lower real estate costs – are not suitable locations for all types of manufacturing nor all types of companies.

Myanmar suffers from a dearth of reliable, accurate and up to date information. Historical industrial real estate transaction data for this report was collected through a series of focus groups with 15 local industrial real estate brokerages and in-person





visits were required to ascertain the quality and availability of industrial land in each of the zones surveyed.

While Myanmar presents one of the lowest costs destinations in Asia for manufacturing, it is also one of the most difficult places in the world to do business.

"While presenting some of the lowest costs of industrial real estate and labor in Myanmar, Tier-2 industrial zones are pioneering locations and not for every company."

Tractus takes a methodological, process-oriented approach to identifying the critical and ideal site location factors for our clients individually and applies that process to screening the universe of potential locations to identify the optimal site. We spend the time up front to thoroughly understand the factor's driving the performance of our clients' investments and to providing the research and analysis need to identify the optimal sites and implementation.

No investment decision should be made on secondary data alone. A good site selection decision can at best confer a strategic competitive advantage. At worst, a bad location decision can erode profitability or even put a company out of business.





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