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Attribution

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CFA Institute Research Challenge

hosted by/in

Cambodia Community of Investment Professionals in CAMBODIA

Team A

The CFA Institute Research Challenge is a global competition that tests the equity research and valuation, investment report writing, and presentation skills of university students. The following report was submitted by a team of university students as part of this annual educational initiative and should not be considered a professional report.

Port Service, Cambodia

Phnom Penh Autonomous Port (Cambodia Securities Exchange: PPAP)

Valuation date: November 30, 2018

1. INVESTMENT SUMMARY

We issue a HOLD recommendation on PPAP with a target price of KHR 6,760 (USD 1.69), which represents a 4.97% upside potential from the closing price of KHR 6,440 (USD 1.61) as of November 30th, 2018. Our valuation is based on a 70%/30% combination of Discounted Cash Flow (DCF) and Comparable Company Analysis (CCA). We regard our recommendation to 3 major key factors: a) slower revenue growth outlook, b) high barrier to entry, but moderate financial performance compared to the peer group, and c) high equity risk in Cambodia.

All monetary references will be reported in United State Dollars (USD), except for the share price, which will be reported in Khmer Riel (KHR). For the purpose of this analysis, the exchange rate used is KHR 4,000 to USD 1.

a). Decelerating revenue growth outlook.

Despite enjoying the revenue growth of over 15% in FY17 (double the growth rate in FY16), **PPAP is expected to experience slower revenue growth starting from FY18.** This is mainly due to the slowing foreign investment in the construction sector and the minimum wage increase for garment workers. Construction material accounts for the majority of the number of import through PPAP (52%). As real estate boom has been prolonged and become more vulnerable, fewer projects are flowing into Phnom Penh, which will directly affect PPAP's import revenue. Garment and textile export, the largest export through PPAP (83%) and import of garment raw material (20%), are also expected to slow down as minimum wage hike persists annually, yet productivity level does not follow suit - putting outward pressure on factories operating in the Kingdom.

b). High barrier to entry, yet average financial performance.

Given the privilege of being the only authorized containerized river port in Cambodia and the long-term experience as it has been operating for nearly 40 years, PPAP is far ahead and well protected from local competitors. However, compared to peers in the region, PPAP is still lagging behind in terms of their operational efficiency and profitability. PPAP's asset turnover ratio is 0.11 compared to peer average of 0.64. Similarly, although the company's EBIT margin is higher than peers at 39%, its ROA and ROE are significantly lower at 3% and 4%, respectively, compared to peers' of over 10%.

c). High risk premium of Cambodia's equity market.

Cambodia Securities Exchange (CSX) is a newly established securities exchange with only 5 stocks listed in the current market. The market activity is low and the number of stocks listed in the market is still small since its first launch in 2012. Consequently, the nascent stock market is struggling to attract local and international investors. PPAP was listed in the exchange since 2015 but has maintained a small portion of free float of just over 18% in the market. The market is illiquid as the buy and sell activity for PPAP stock is low and the average trading volume is merely 1,700 shares. Moreover, PPAP stock does not correlate with the efficient market theory as the stock performance would not fully reflect the news announcement. On occasion, there is a high increase in trading volume, but the stock price does not move. Other times, the stock price would go up, yet there is no trading volume to back up or explain the increase. Cambodia's underdeveloped financial market is currently young, illiquid and does not follow the traditional efficient market theory. All of these factors added up to create a high equity risk for a newly listed company like PPAP (Appx.1).

Recommendation	
HOLD	
Price As of the Valuation Date	KHR6,440
Target Price (52 weeks)	KHR6,760
Changes	4.97%

Stock Info	
Industry	Port Service
Market Cap. (MM KHR)	KHR133,207.00
Enterprice Value (MM KHR)	KHR222,800.00
Outstanding Shares	20,684,365
Average Trading Volume	1,743
Free Float (%)	18.67%
Dividend Per Share (KHR)	KHR307.20
Dividend Yield (%)	4.77%
52w High (KHR)	KHR6,440.00
52w Low (KHR)	KHR5,000.00
EPS (KHR)	KHR1,050.00
P/E (x) (FY17)	6.08
EV/EBITDA (x) (FY17)	5.41

Valuation	
Price As of the Valuation Date	KHR6,440
DCF Target Price (70%)	KHR6,325
EV/EBITDA Target Price (15%)	KHR6,300
P/E Target Price (15%)	KHR9,258
Target Price (52 weeks)	KHR6,760
Dividend Per Share	KHR307
Investment Return (52 weeks)	4.97%

Major Shareholders	
Ministry of Economics and Finance	80%
Mekong Strategic Infrastructure	5.95%
ESOP	1.66%
Other Private Shareholders	12.39%

2. BUSINESS OVERVIEW

Phnom Penh Autonomous Port (PPAP) is an **international river port in Phnom Penh, Cambodia**, operating under the supervision of Ministry of Economy and Finance (MEF) and Ministry of Public Works and Transport (MPWT). It is currently one of the only two international ports in Cambodia. Its headquarter is based 2-kilometer north of the Chaktomuk confluence in the heart of Phnom Penh. Established in 1905, the port formerly operated as conventional cargo terminals along its commercial zone. PPAP's 166-kilometer commercial ground stretches from Tbong Kmum Province all the way to Neak Leoung District in Prey Veng Province. In 2002, PPAP started its containerized cargo operation to present days and is currently the key port facilitating shipments between Cambodia and its 3 major trading partners including China, Japan and the United States. PPAP was publicly listed on CSX in December 2015. PPAP has guaranteed a dividend policy of at least 5% of its IPO price for the initial 5 years from the public listing date. As of Q1 FY18, the dividend rate is 6%.

2.1 BUSINESS SEGMENTS

PPAP is the only international river port in Cambodia that provides import/export services for containerized cargoes and general goods. Its mission is to manage and improve the port's infrastructure and provide port-related services to ensure the sustainability of economic growth and social development of Cambodia. PPAP drives its revenue from **port operation, port administration, and other services**. Port operation includes stevedoring service, lift-on/lift-off (LOLO) and other cargo handling services, pilotage/berthing service, and passenger and tourist terminal services. Port administration involves legal enforcement of port and waterway maintenance services. Other services include dredging services, surveying and equipment installment, container repair and maintenance, and property and machinery concession (Appx.6). The port currently oversees 4 terminals: container terminal LM17, multi-purpose terminal TS3, Tonle-bet terminal UM2, and passenger terminal TS1 (Appx.7).

In FY17, port operation contributed the highest revenue (82%), followed by port administration (17%) and other services (1%) (Fig.2). Three main activities that constituted the majority of PPAP's revenue stream includes stevedoring (41.03%), LOLO (34.99%) and port duty (16.79%). In FY17, PPAP reported a net income of USD 5.4MM, a 31% increase from FY16 (USD 4.1MM), which is 40% higher than anticipated (USD 3.8MM) (Fig.3).

As of FY17, PPAP reported 22% increase in throughput. This increase stems from the soaring import activities attributed to the rise of construction materials (52%) for construction and raw materials importation for garment and textile production (20%) while export consists mainly of garment and textile (83%) and rice (11%) (Fig.4-5).

2.2 MARKET STRATEGY

PPAP is committed to a number of objectives that it aims to accomplish in 2018 (Fig.1). To achieve these goals, PPAP has initiated development plans in order to maintain a strong market presence as the go-to international river port in Cambodia.

PPAP development plan. The port's main priority is to **expand the current existing service and business lines and explore new services related to port and logistic sector.** PPAP has divided its development plan into short-term, medium-term and long-term plan (Appx. 8).

Short-term plan.

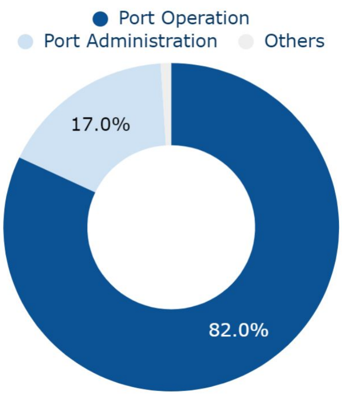
- **Land lease** PPAP has leased 9.3 ha of land for a commercial center project and one more for the City Gate Project
    - Provide passive long term revenue from the lease
    - Generate roughly 20,000 TEUs worth of containers to PPAP, thereby increase revenue from port service

Figure 1. (2018) Strategic Goals

Continuing Phase 2 and 3 Expansion Plan	Maintain competitive price, quality, efficiency and speed of the service
Strengthen strategic partnerships with regional and international ports	Capture new sources of revenue (Trucking, rice processing)
Increase capabilities to meet economic demands	Modernize terminals (TS1, TS3) and port technology

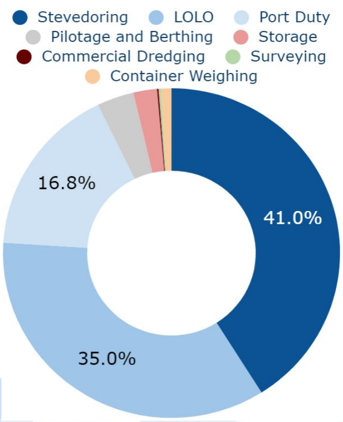
Source: PPAP Report (2017)

Figure 2. (2017) Revenue Channel



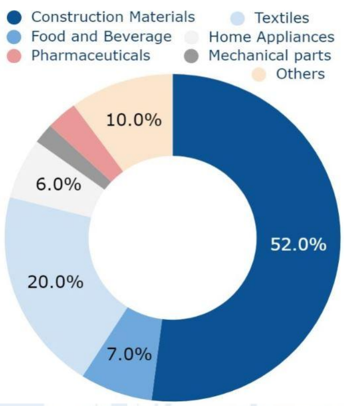
Source: PPAP Report (2017)

Figure 3. (2017) Revenue Segmentations



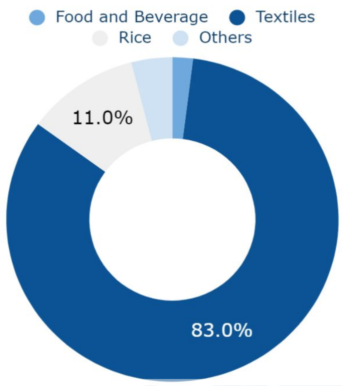
Source: PPAP Report (2017)

Figure 4. (2017) Import Through PPAP



Source: PPAP Report (2017)

Figure 5. (2017) Export Through PPAP



Source: PPAP Report (2017)

- **Dry/cold warehouse** will give PPAP the capability to handle organic products
  - Provide storage for organic products that require dry condition or refrigeration
  - Increase the revenue from storage of this type of goods.
- **Trucking service** will provide a new transportation option for clients
  - Have the capability to compete with other inland logistic companies
  - Generate revenue from trucking service

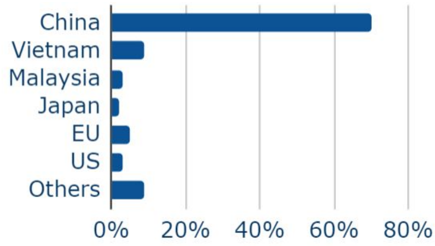
Medium-term plan.

- **Phase 2 and Phase 3 expansion** Increasing the capacity of LM17 to a total of 500,000 TEUs annually and adding new equipment
  - Generate revenue from port services

Long-term plan.

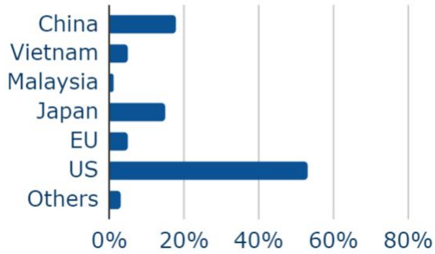
- **Specialized bulk terminal** provides a mean to store grain-like agricultural products
  - Ease agricultural goods transfer from storage to vessels
  - Incentivize more clients from agriculture sector to utilize PPAP's services
- **Rice processing facilities**
  - New revenue stream for PPAP from processing rice
  - Value added service to improve customer experience
- **Development of logistic center and network of sub-feeder ports**
  - Encourage the use of inland waterway
  - New revenue stream from trucking service

Figure 6. (2017) Import through PPAP by Countries



Source: PPAP Report (2017)

Figure 7. (2017) Export through PPAP by Countries



Source: PPAP Report (2017)

3. INDUSTRY & COMPETITIVE LANDSCAPE

3.1 INDUSTRY LANDSCAPE

PPAP's market is heavily dependent on domestic and international demands. Domestic demand is contingent on consumer, factories, industry, and construction. However, the current production output is insufficient to supply the domestic demand, so importation plays a vital role in fulfilling the demand. As mentioned above, major imports that come through PPAP are garment raw materials, and construction materials for the garment industry and the booming construction sector. The international demand is subjected to global demand, quotas and policy changes from its major trading partners including the United States, China, and Japan. Currently, Cambodia enjoys many economic incentives and trade preferences from these respective countries. As previously mentioned, major exports are textiles and agricultural products.

Real estate: China's investments drive construction sector. With the Belt and Road Initiative (BRI) in process, many state-backed Chinese real estate development investors see Cambodia as a very attractive target due to its close diplomatic relationship with Beijing, friendly government and foreign investment policy. Multi-million dollar Chinese construction projects, including Yuetai Group's 24-stories City Gate and Sun Kian Ip's USD 2.7 billion trade center, come to Phnom Penh.(1) Meanwhile, the rising Cambodian middle class also hops on to the lucrative real estate business, causing a dramatic increase in the demand for housing. Import of construction materials skyrocketed due to surging demand in real estate development, resulting in import through PPAP from China occupying 70% of total imports in 2017 (Fig.6) while 52% of total imports were construction materials in 2017 (Fig.4). However, the growth of construction is forecasted to start slowing down. Therefore, we expect that PPAP will receive substantial negative impacts to its import revenue in the next few quarters.

Garment and textile remains Cambodia's largest export goods. Due to Cambodia's competitive labor price, many garment and textile companies, the majority of which are of Chinese origin, have established manufacturing factories in Cambodia. Low labor costs combined with tax exemption policies offered by major trading partners, particularly, the United States which incentivizes garment and textile companies to ship raw materials and finished products through PPAP to produce and sell, respectively. In 2017, garment and textile raw materials are the second largest import recorded through PPAP (20%) and also the largest exports (83%) (Fig.4-5), the majority of which is exported to the United States, marking 53% of total export through PPAP (Fig.7).

3.2 COMPETITIVE LANDSCAPE

In terms of competition, although PPAP is the only authorized river port to provide containerized cargo service, there are also small domestic river ports that are PPAP's potential competitors. The ports are located on the Mekong river including one in Kampong Cham province and Kampong Ampil port in Takeo province. These ports generally handle only domestic goods with the exception of Kampong Ampil port where there are some trading activities with Vietnam, but the trade is very small, with most boats capped at a capacity of 25-30 tons.(2)

1. Heijmans, Philip, "Chinese Money Is Driving One of Asia's Fastest Property Booms," Bloomberg, September 11,
2018, https://www.bloomberg.com/news/features/2018-09-10/chinese-money-is-driving-a-property-boom-in-Cambodia (accessed November 15, 2018).

On top of that, there are logistic service companies that also handle imports and exports including trucking service and air transport. These methods are faster alternatives to waterway transportation. However, they are more expensive compared to waterway transportation. Therefore, PPAP has to constantly be cost-efficient and provide competitive pricing in order to maintain a competitive position. In addition, PPAP has other competitive advantages that allow it to outcompete its competitors such as:

Competitive pricing. PPAP's ability to maintain low and flexible pricing makes it an attractive choice for customers. On top of that, logistic companies are given a preferential rate on a pro-rata basis depending on the volume of the shipment. Additionally, agricultural products import or export through PPAP are charged with a lower price. Rice transportation, in particular, is exempted from gate charge.

Strategic location. PPAP is located in the capital city, Phnom Penh, which is a potential and strategic location as it is the center of business, industry, factories, consumers, and manpower. The port's relative distance to trading partners, such as Vietnam, China, Japan and the United States, compared to other local ports, makes PPAP a convenient, fast and cheap option for the transportation of goods to these respective key trading partners. PPAP's location also ensure that it does not compete with the other international port in the country, namely, Sihanoukville Autonomous Port (PAS), because PAS has a different connecting route with different trading partners.

The port's capacity and capability. At the end of 2018, PPAP will have the capacity to accommodate 300,000 TEUs cargo traffic annually. Additionally, PPAP also provides a wide range of services to provide added value to the experience of their customers such as free or low-charged storage and warehousing services. Other expansion plans such as inland trucking service, the establishment of bulk container terminal and rice processing facilities will allow PPAP to explore new market and revenue streams.

Due to its increasing size and range of services, small competitors cannot compete with PPAP whereas trucking and air transport are blocked out by PPAP's competitive pricing and cost efficiency.

3.3 CORPORATE LIFECYCLE

We have determined that PPAP is a **mature stable company** due to the following reasons: 1) capability to finance the expansion of its current lines of business 2) ability to remain competitive in the industry, and 3) high barrier to entry.

Because the port is committed to being cost efficient, maintaining low price and ensuring the quality and timeliness of its services, we believe that it will continue to remain competitive and has a strong market position. Positive growth is also

4. FINANCIAL ANALYSIS

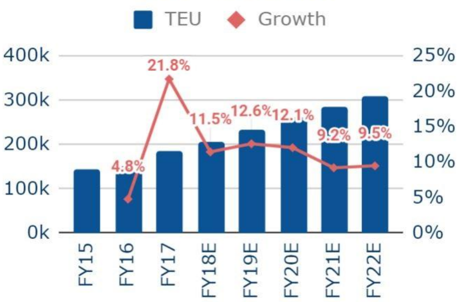
Increasing historical revenue growth and slower revenue growth outlook. PPAP's revenue had grown at an average rate of approximately 12% from FY12 to FY16 and the revenue growth for FY17 has increased to 15.68% with annual revenue of USD 18.8 MM. However, we expect the revenue to grow at only 13.1% in FY18 and continue to dampen gradually to 9.6% in FY22 due to the expected slower importation of construction materials, as mentioned above (Fig.8). We have projected the sales for the next 5 years based on historical data, market and macroeconomic expectations, and global outlook. Approximately 80% of the revenue is generated from port operation and the other 20% is from port admin and services; hence, the revenue growth is mainly due to the growth of container throughput. Therefore, we index the port operation revenue growth rate against the number of TEU capacity in accordance with the company's TEU forecast. We projected the revenue growth for port admin and services by using a constant growth rate of 10.2% which is based on the average historical growth rate (Fig.9).

Solid cost structure with stable EBITDA margin. In FY17, cost of sales and services (34.26%) and operating expenses (29.49%) made up the highest percentage of PPAP's expenditure (Fig.10). Out of cost of sales and services, depreciation made up the highest proportion of 38.83% (Fig.11). As for operating expenses, salaries and wages made up the largest percentage of 56.57%, followed by utilities and fuel (7.92%), and depreciation (6.93%) (Fig.12) The EBITDA Margin is expected to be stable over the projected period. However, the current EBIT margin for FY17 is 39.45% and is expected to decrease slightly over the next 5 years to around 37% in FY22 as the depreciation and amortization expenses increase to USD 3.2MM in 2018 (Fig.13). The increase is owing to the expected depreciation expense of the newly bought equipment for the cold storage facilities (Appx.9).

Figure 8. Revenue Growth

Source: PPAP Report (2017), Team Assessment

Figure 9. TEU Growth

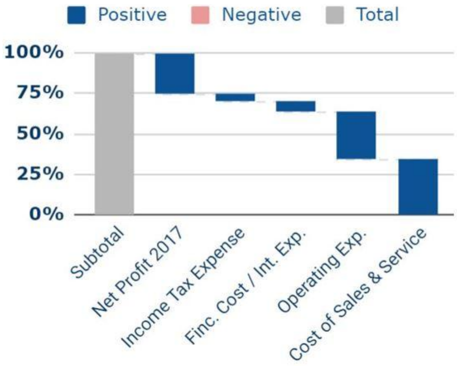


Source: PPAP Report (2017), Team Assessment

2. Runckel & Associates, Business-in-Asia, http://www.business-in-asia.com/cambodia/cambodia_ports.html (accessed November 15, 2018).

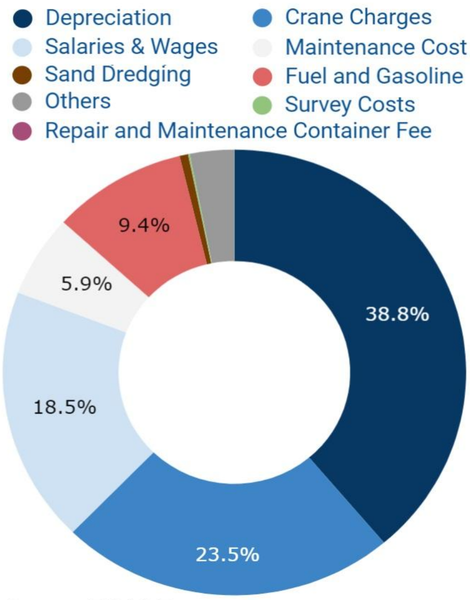
Increasing net income margin due to decreasing financing costs. PPAP is more efficient in converting their top lines into their bottom lines due to decreasing financing cost. In FY17, the company's net income margin is 28.44% (as compared to the peer average of 23.68%), an increase of 31% from FY16 (Appx.11). In FY15, PPAP reported total debt of USD 30.5MM. 87% of the amount is long-term borrowings used to finance the LM17 Terminal expansion. The loan is amortized on a 20-year term with an interest rate of 4% per annum. In addition, the management has no plan in the near future to take on further debt (Appx.18). Their short-term and medium-term expansion plans, including the LM17 Phase II and Phase III expansion, will be funded by the PPAP's cash reserved from IPO and land concessions in 2018. Due to the amortization of the old debt and plan to not taking further loans, PPAP's long-term loan and annual financing cost are going down gradually. As evidence, net debt to EBIT ratio decreased from 4.41 in FY15 to 3.09 in FY17, and we expect the number to go down to 1.58 in FY22 (Fig.14).

Figure 10. (2017) Cost Bridge



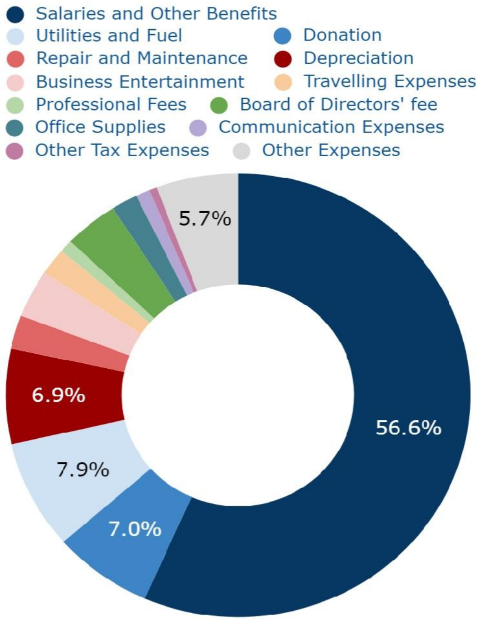
Source: PPAP Report (2017)

Figure 11. Cost of Sales & Services



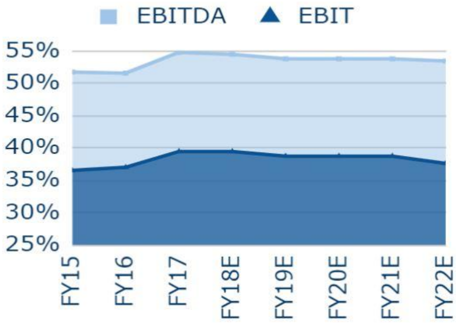
Source: PPAP Report (2017)

Figure 12. Operating Expenses



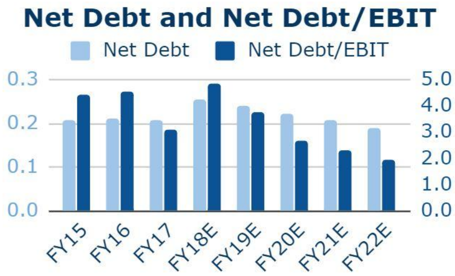
Source: PPAP Report (2017)

Figure 13. EBITDA and EBIT Margin



Source: PPAP Report (2017), Team Assessment

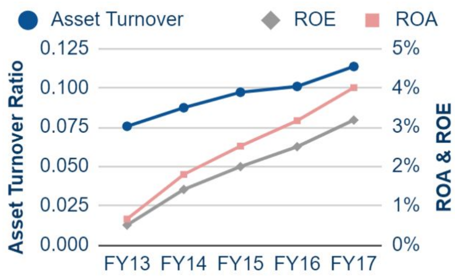
Figure 14. Deleverage



Source: PPAP Report (2017), Team Assessment

Lower operating efficiency and lower liquidity than peer average. In FY17, PPAP's asset turnover ratio is relatively lower than its peer average which indicates low efficiency in utilizing its assets. The company's ROA and ROE is also lower compared to its peer average (Appx.10). However, PPAP has been working on improving its efficiency as its asset turnover ratio, ROA, and ROE have increased since 2013 (Fig.15). Moreover, PPAP has lower liquidity as the current ratio, quick ratio, and cash ratio stood at only 2.9, 2.9, and 1.7, respectively. Meanwhile, the peer average current ratio, quick ratio, and cash ratio were 4.6, 4.3, and 3.6 (Fig.16). The reason is that PPAP has less current assets when compared to its peers. PPAP's days in receivables are 58 days, relatively higher than the peer average days in receivable of 43 days. The company also has 142 days in payables, which is relatively higher than the peer average of only 39 days in FY17 (Fig.17). Consequently, PPAP has slower cash collection and takes a longer time to fulfill its obligations to pay short-term liabilities comparing to its peers.

Figure 15. Efficiency of Asset Utilization



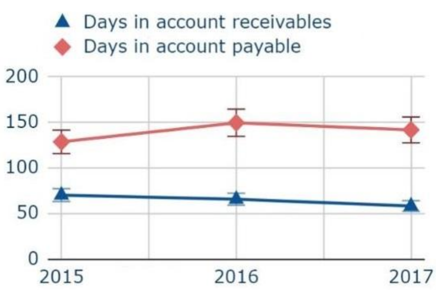
Source: PPAP Report (2017)

Figure 16. Peer Liquidity and Benchmarking

Ratio / Company	Current	Quick	Cash	Days in Payables	Days in Receivables	Asset Turnover Ratio
	2017	2017	2017	2017	2017	2017
Dinh Vu Port	5.68	5.59	5.12	10.58	31.74	0.58
VSC	1.31	0.95	0.60	58.50	35.61	0.65
Hai Phong Port	4.18	3.71	3.28	9.22	37.66	0.38
Hai An Port	1.33	1.05	0.71	93.59	50.30	0.89
Cat Lai Port	10.47	10.04	8.27	26.31	62.48	0.68
Average	**4.59**	**4.27**	**3.60**	**39.64**	**43.56**	**0.64**
PPAP	2.86	2.86	1.70	141.85	58.25	0.11

Source: Bloomberg

Figure 17. Cash to Cash Conversion



Source: PPAP Report (2017)

5. VALUATION

We issue a hold recommendation on PPAP with a target price of KHR 6,760 which represents an upside of around 4% from the closing price as of November 30 at KHR 6,440. Our target price calculation is based on a combination of DCF to the firm's projected free cash flow with a target price of KHR 6,326 and CCA with a target price of KHR 7,779 (Appx.22). We attributed weights of 70% and 30% to each methodology, respectively. The choice of attributing more weight to DCF than CCA is due to the lack of companies with a comparable business concentration, size, and potential growth.

High risk-adjusted discount rate. We apply a WACC discounted rate of 18.07% (Fig.18) to the free cash flow forecast. The following are the inputs for the Capital Asset Pricing Model used to compute for the cost of equity: 1.) risk-free rate equals the risk-adjusted annual fixed deposit rate of 3% as Cambodia has yet to issue its own government bond 2.) Risk premium of 22.7% by summing altogether equity risk premium of 11.4%, country risk premium of 6.3% and illiquidity risk premium of 5% 3.) beta of comparable companies re-levered to PPAP beta of 0.83 using PPAP's current capital structure (Appx.21).

Illiquidity discount. As mentioned below in the investment risk, accounting for the liquidity risk of the stock and the markets which it operates in, we assigned a liquidity risk premium of 5%. This is based on the reasoning that the company was requested by the MEF – its majority stockholders – to give out a guaranteed 5% dividend to attract investors to the illiquid stock.

Also previously mentioned in the competitive landscape section, the illiquidity of the market also causes Cambodian stocks to not correlate with the efficient market theory where the stock price would closely follow the news. With the untraditional condition of a young, yet flat stock market like CSX, we believe the current price as of the valuation date at KHR 6,440 is likely to remain within a small variation in the long run compared to our targeted price. Therefore, we concluded that investors who purchased the stock at IPO price and hold for a long position will benefit, both from the price difference between the IPO and the current price and the dividend the company gives. However, those who do not already own the stock should not jump into position as the investment will not generate a justifiable return.

Terminal growth calculation. Terminal growth rate is computed by weighing the long-term GDP projections of PAPP's main geographical markets in their revenue composition (Fig.19). This approach results in a terminal growth rate of 2.74%.

EBITDA and FCF estimations. We forecast capital expenditure in the following three years to increase from the company guidance of just 15% to 40% instead as the PPAP plans to start its medium-term development plan (Phase 3) of LM17 terminal expansion and bring in addition of new equipment, etc. Hence, the expansion that is reflected in our Capex Forecast exceeds the annual depreciation and amortization by approximately 150%. Additionally, we indexed our forecast of the company's net working capital at around 50% against the revenue as set by the company's management. The company received a 500% tax incentive on profit and income tax from SECC for having gone public with their company. The incentive lasted for three years starting from 2016. After 2018, PAPP is obligated to pay a regular income tax of 20%.

Free cash flow to firm. Due to the stable nature of the company, PPAP has a stable free cash flow which the company keeps as fixed deposits. The cash flow is expected to increase over time (Fig.21).

Figure 18. WACC Computation

WACC Computation	
Market Risk Premium	22.70%
Risk Free Rate	3.00%
Beta	0.83
Cost of Equity	22.00%
Pre-tax Cost of Debt	4.00%
After-tax Cost of Debt	3.40%
Tax Rate	15.00%
Net Debt (MM USD)	$ 34.70
Market Capitalization (MM USD)	$ 32.70
Enterprise Value (MM USD)	$ 28.80
WACC	**18.07%**

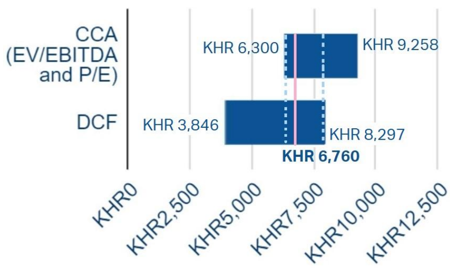
Source: Team Assessment

Figure 19. Terminal Growth Rate

Country	Weight	LT GDP Growth	Weighted GDP Growth
China	31%	4.50%	1.40%
Vietnam	6%	5.00%	0.32%
Malaysia	3%	1.60%	0.05%
Japan	13%	0.50%	0.07%
Europe	6%	1.60%	0.10%
USA	35%	2.00%	0.70%
Others	6%	2.00%	0.12%
Weighted Average Terminal Growth Rate			**2.74%**

Source: Trading Economics, Team Assessment

Figure 20. Football Chart



Source: Team Assessment (Appx.24-25)

Figure 21. Free Cash Flow to Firm

	FY 15	FY 16	FY 17	FY 18E	FY 19E	FY 20E	FY 21E	FY 22E	Terminal Value
Date	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22	12/31/22
EBIT	$ 5,527,678	$ 6,028,951	$ 7,438,251	$ 8,410,898	$ 9,263,944	$10,348,361	$ 11,321,964	$ 12,302,513	
Less Tax	$ (1,185,267)	$ (669,176)	$ (821,651)	$ (1,073,420)	$ (1,201,377)	$ (1,364,039)	$ (1,510,080)	$ (1,619,724)	
Add Depreciation & Amortization	$ 2,305,546	$ 2,378,131	$ 2,894,175	$ 3,211,179	$ 3,601,147	$ 4,022,689	$ 4,401,155	$ 4,825,131	
Less Change in NWC	$ (7,873,389)	$ 2,228,883	$ (2,689,384)	$ 4,086,358	$ (4,433,731)	$ (5,482,296)	$ 314,312	$ (691,760)	
Less CAPEX	$ (1,642,787)	$ (8,162,727)	$ (3,031,183)	$ (6,500,000)	$ (3,497,705)	$ (4,022,689)	$(11,333,333)	$ (11,333,333)	
Free Cash Flow	**$ (2,868,219)**	**$ 1,804,062**	**$ 3,790,208**	**$ 8,135,016**	**$ 3,732,278**	**$ 3,502,026**	**$ 3,194,019**	**$ 3,482,827**	**$23,340,696**

Source: PPAP Report, Team Assessment

5.1 COMPARABLE COMPANY ANALYSIS

In performing the Comparable Company Analysis, we use both P/E and EV/EBITDA multiples. We have looked up over 20 publicly traded companies in Southeast Asia that are operating in the same industry as port operators. However, for the purpose of the analysis, we narrow down the peer group to only five comparable companies in Vietnam in order to make the analysis more reliable due to their similar characteristics in terms of their main services, revenue concentration, geographic location, and size. By looking at these multiples within the peer group, PPAP is trading at a slight discount with P/E of 6.19x and EV/EBITDA of 5.41x, whereas the peer averages are at P/E of 9.40x and EV/EBITDA of 3.34x. These are due to the higher country and equity risks in Cambodia as well as the lack of volume on CSX. Therefore, we applied discount rates to the multiples of the comparable companies to account for those risks existing in the Cambodian market when compared to the Vietnamese market. Overall, by taking the average of peers' P/E and EV/EBITDA medians (FY17) as the proxy for PPAP's share price results in a target price range of KHR 7,779 per share (Appx. 25).

5.2 RISK TO TARGET PRICE

Our forecast assumptions may change if there are any unexpected changes in PPAP's port activities, possibly due to several reasons including 1.) negative changes in trading policies or economic conditions of Cambodia's major trading partners that PPAP's logistical traffics come from or go to - mainly due to possible consequences of the US-China trade war, 2.) other ports are authorized and licensed to operate in containerized cargo logistics, and 3.) political changes that deteriorate Cambodia's stock market and country risks conditions. **To evaluate the sensitivity of PPAP's share prices against simple adjustments of our forecast assumptions, we have performed a sensitivity analysis to study the impact of PPAP's WACC and Perpetual Growth Rates (Appx.24), as well as a Bull and Bear Scenarios study on the stock prices (Appx.13-14).**

WACC and terminal growth rate sensitivity analysis. To access the robustness and determine the full range of outcome of our DCF valuation, we conducted a sensitivity analysis on our results using the most significant assumptions used in the model which are: WACC and terminal growth rate. As a result, we received a downside of 40% in the most conservative scenario (using a discount rate of 19.07% and a terminal growth rate of 1.74%) and an upside of 29% (using a discount rate of 17.07% and terminal growth rate of 3.74%) (Fig.22) (Appx.24). **This result strengthens our negative view of market liquidity that is currently not justified by the present share price. We recommend waiting for the buying signal, which is until the stock price increases to KHR 7,406 (10% higher than the target price) before buying.**

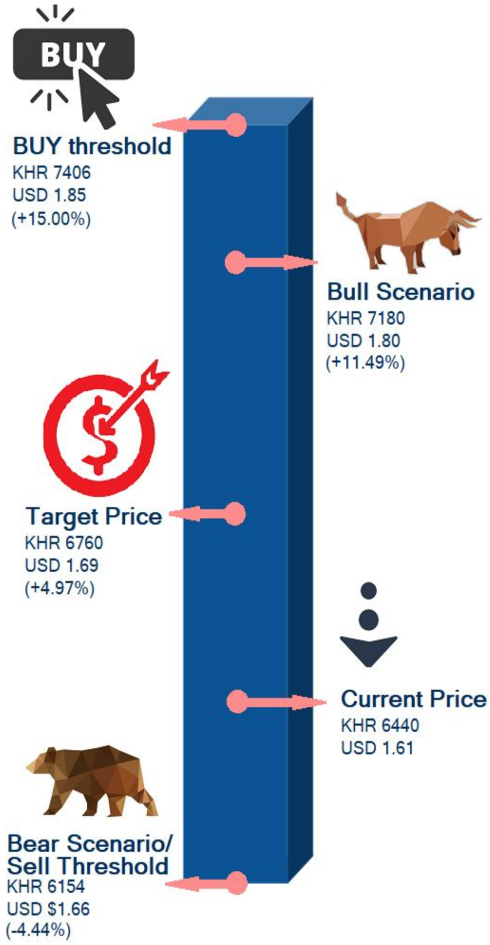
Bull and Bear scenarios. We have performed a sensitivity analysis of the revenues received from the two major segments - port operations and port admin services. **Only when PPAP's revenue growth rate for both segments decreased by more than 10% that we would change our HOLD recommendation to a SELL**. However, the same 10% increase in PPAP's revenue growth rate still puts the company's share prices within our HOLD recommendation threshold. **We would issue a BUY recommendation only if PPAP's actual revenue growth rate turns out to be more than 11.5% higher than our projected rates (Fig.23) (Appx. 13-14).**

Figure 22. WACC and Terminal Growth Rate Sensitivity Analysis

Scenario	Negative	Target	Positive
Terminal Value	$ 20,446,122	$ 23,340,696	$ 27,103,830
Stock Price in USD	$ 0.96	$ 1.58	$ 2.07
Stock Price in KHR	KHR3,846	KHR6,326	KHR8,297
Current Stock Price		KHR6,440	
% Change	-40.28%	-1.77%	28.83%

Source: Team Assessment

Figure 23. Bull and Bear Scenarios



Source: Team Assessment (Appx.13-14)

6. INVESTMENT RISKS

6.1 ILLIQUIDITY RISK

Stocks and market index illiquidity risks. PPAP maintains a free float of 18.34% of their total issued shares of 4.2 million. This relatively small free float has made the market inactive and illiquid. The daily trading volume ranges from a low of 0 to a high of 10,000 shares with an average daily volume of merely 1,700 shares. In addition, CSX and financial market are rather new and shallow with a low level of awareness and interest from local and foreign investors. The CSX index has been on a declining trend since its first listing in 2012 and has been trading at low volumes despite the increase of the number of listed stocks to a total of five companies.

6.2 FINANCIAL RISKS

Trade receivables. PPAP's trade and other receivables account for 20-25% of its current assets. Moreover, PPAP has longer days in receivables compared to the industrial average in our CCA (Fig.16). Delayed or uncollectible receivables may adversely impact PPAP's profitability.

6.3 INDUSTRY RISKS

Regulations in logistics. PPAP operates as a part of a logistics chain. If regulations were to increase tariffs or impose price ceilings, the company may face lowered efficiency and loss of customers.

The city-port conflict. Regulations on truck-banning in the city have deactivated the conventional and container activities of the TS1 and TS3. In order to keep pace with the fast-growing economy of Phnom Penh and/or Cambodia, PPAP's growth plan must include investment in more locations around Phnom Penh. Any delay or failure to complete existing expansion plans and projects may affect the company's competitiveness, results of operations, and financial conditions.

Cambodia-US/China trade war. As previously mentioned, both the US and China have contributed generously to Cambodia's economic growth. As Cambodia increasingly shifts its focus to capture more of Chinese investments, it is able to worry less about abiding by the preferential agreement conditions imposed by the US. With recent political development involving China-US trade war, Cambodia might lose its economic privilege from the US which would result in less export to the US and hence PPAP could expect less export traffic to the US.

Everything But Arm (EBA) termination. Cambodia is under the threat by the EU that it could lose its EBA status if it does not resolve the current political unjust. Since exports to the EU account for only 5% of PPAP's total export traffic, we expect that the impact will not be substantial to PPAP.

Minimum wage hike put pressure on companies. Many manufacturing companies, especially those in the garment sectors, are worried about the rising minimum wage. The garment sector has seen a declining growth in 2017 at 4% compared to 7.2% in 2016.[3] Cambodia's minimum wage is expected to reach USD 182 per month starting 2019. This is a major threat, considering neighboring countries minimum wages are lower. Consequently, it is possible that the rising wage could reduce textile and garment profitability, which could potentially discourage manufacturing companies from continuing their operation in Cambodia and move their factories to neighboring countries where labor is cheaper. Since garment and textile export accounts for more than two-thirds of PPAP's total export traffic, reduction in garment output would reduce the amount of export as well.

Slow down in the construction sector. In 2014, construction sector overtook agriculture and tourism to be the second-largest driver of Cambodia's economic growth backed by booming real estates and infrastructure projects, fueled mainly by Chinese investors.[4] As a result, there was a huge demand for construction materials to fulfill these needs and PPAP benefited from the import that follows these demands. Since the construction sector is expected to slow down, PPAP should also see a decrease in revenue coming from the import of construction materials in the following years as well.

6.4 OPERATIONAL RISKS

Key person risk. At the age of 63, the CEO, Mr. Hei Bavy, who is also the Chairman of the company's BoD, has been sitting for

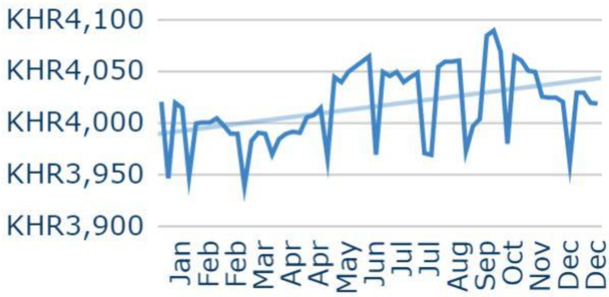
risks of Mr. Hei Bavy will directly impact the two key

enured senior-level employees. Newly elected leaders

which can affect PPAP's operational and financial

Exchange rate risk and trade flows. The rising value of dollar against world currencies (i.e. KHR) (Fig.24) make it more expensive for other non-USD denominated countries to import from Cambodia. This might potentially put Cambodia's export in a less competitive position and could adversely affect PPAP's traffic volume.

Figure 24. Exchange Rate - 1 USD to KHR



Source: Google Finance

Uninsured assets. PPAP does not purchase any insurance coverage while putting in a bank a large sum of fixed cash deposits. If any accidents or serious events occur, the company may be accounted to full absorption of any financial liability incurred.

Minimum wage. On top of the potential reduction in garment export resulted by the increase in Cambodia's minimum wage, PPAP's workers may demand higher wages and thus higher labor costs for PPAP. If PPAP's workers are not satisfied with their wages, any labor unrest or strikes could also impact PPAP's operational and financial performance.

3. Southern, P. Nathan, "China's construction bubble may leave Cambodia's next generation without a home," Southeast Asia Globe, November 6, 2017, http://sea-globe.com/construction-cambodia/(accessed November 20, 2018).

4. Hor, Kimsay, "Early data show decline in garment sector growth," The Phnom Penh Post, March 13, 2018, https://www.phnompenhpost.com/business/early-data-show-decline-garment-sector-growth (accessed November 18, 2018).

6.5 NON-OPERATIONAL RISKS

Buyer concentration. Imports and exports from China and the US make up the majority of Cambodia's international trade traffic. However, the same amount of goods occupies only a minuscule portion of those two countries' total trade volume. This indicates that China and the US can have an indifferent attitude towards their trade policies with Cambodia. Dependent on Cambodia's trade volume, PPAP's results of operation may be adversely affected if China or the US substitutes Cambodia with other trade partners.

Dependence of service quality on third parties. With a Logistics Performance Index (LPI) of 2.58, Cambodia's infrastructure is ranked at the 98th place globally and is not robust enough to effectively and efficiently handle the country's trade logistics[5]. PPAP's reliance on security procedures of the General Department of Customs and Excise and CAMCONTROL means that PPAP may face delays in product throughput time. This may adversely impact PPAP's service quality, performance, and efficiency.

Dams along the upper mekong. Constructions of hydroelectric dams in countries along the upper part of Mekong River may lower the water level and require more dredging to support port activities, in which case more expenditures will be incurred and PPAP may face difficulty in maintaining its environmental sustainability.

6.6 REGULATORY AND LEGAL RISKS

Changes in Operating under the MEF and MPWT, PPAP's operations and business are governed by the laws and regulations of the government of Cambodia. Laws and regulations are constantly evolving and subject to ongoing changes which could create a lack of consistency and predictability in PPAP's enforcement and interpretation. In addition, there could be a risk that the new regulations may give authority to other river ports to operate containerized cargoes or introduce an increase in administrative procedures, compliance requirements on environment and safety that could bring about an increase in operational costs to PPAP.

7. CORPORATE GOVERNANCE

7.1 COMMITTEE GROUPS AND BOARD OF DIRECTORS

PPAP has three main committee groups - the Audit Committee, Risk Management Committee, and Appointment Committee. All committee group members are senior-level employees at PPAP (Fig.26) (Appx.2). PPAP's current board of directors (BoD) are composed of seven members (Fig.25). H.E. Hei Bavy has been the CEO/Chairman of the BoD since 2000. Three other members were re-elected and another three were newly elected in June 2016. Most members of the BoD are qualified with their high educational level and experience from working at/with other institutes such as MEF, MPWT, MC, and Foreign Trade Bank (FTB). Such experienced leaders form a better fit of the board for a mature stable company like PPAP. However, since the next election for the members of the board will be held in Q2 of 2019, we are concerned by **the Key Person Risk** mentioned above.

Figure 25. Board of Directors

Board of Directors					
H.E. Hei Bavy	Chairman & CEO	- Ph.D. in Economics - Chairman of Risk Management Committee	**Mr. Gui Anvanith**	Independent Director	- General Director and member of BoD of FTB - Chairman of Audit Committee
H.E. Suon Rachana	Rep. of MPWT	- Health Science background - Chairman of Appointment Committee	**Mrs. Chuon Sokhem**	Rep. of Employees of PPAP	- Public Administration and Finance Background
H.E. Ken Sambath	Rep. of MEF	- Ph.D. in Economics	**Mr. Dith Sochal**	Non-Executive Director, Rep. of Private SH	- Deputy General Director of FTB
H.E. Penn Sovicheat	Rep. of MC	- General Director of MC - National Committee for Intellectual Property Mgmt.			

Source: PPAP Report (2017)

Figure 26. Committee Group

Committee Group	
Audit Committee	
Leader	Independent Director
Co-Ldr.	State Inspector
Member	Deputy Director General of Operation
Member	Head of Planning/Marketing Dept.
Member	Head of Internal Audit Dept.
Risk Management Committee	
Leader	Chief Executive Officer
Co-Ldr.	Rep. of MEF
Member	Rep. of MC
Member	Non-Executive Director, Rep.of Private Shareholders
Member	Head of Personnel/HR Dept.
Appointment Committee	
Leader	Rep. of MPWT
Co-Ldr.	Rep. of MEF
Member	Non-Executive Director, Rep. of Private Shareholders

Source: PPAP Report (2017)

5. The World Bank, Global Rankings 2018| Logistics Performance Index, https://lpi.worldbank.org/international/global (accessed November 18, 2018).

PPAP has recently leased a 9.25-hectare land for USD 16.5MM to Chean Chhoeung Thai Group for the development of a mixed trade center "The City Gate." The fact that the decision was made by the board and committee groups has raised our concern in terms of the company's **transparency in decision making** as the property was leased at a price level that was much lower than the market value. PPAP's compensation rate is aligned with its operational performance. After reservation for legal and free reserve, CRS, dividends, and development plans, excess cash from operating activities is given as bonuses for senior-level employees.

7.2 SHAREHOLDER BASE

PPAP has three classes of shares - class A (20%), B (80%) and C (not included in # of share outstanding). Although shareholders of class A and B shares possess the same voting rights, class A shareholders are promised 5 years of dividend payout for at least 5% of PPAP's IPO share price, starting from 2015. Class C shareholders have no rights to vote nor to receive dividend. As demonstrated (Fig.27-28) (Appx.3), PPAP's substantial shareholders include MEF (80% a.k.a. All class B shares), and Mekong Strategic Infrastructure (MSI) Ltd (5.95%). With 1.66% of the company's share reserved for ESOP, only 12.39% is left for public investors. This reflects our concern in terms of **an investor's weak influence on decision making**. PPAP's cash dividend for 2015, 2016, and 2017 was KHR 25.60, KHR 256.00, and KHR 307.00 per share, respectively.

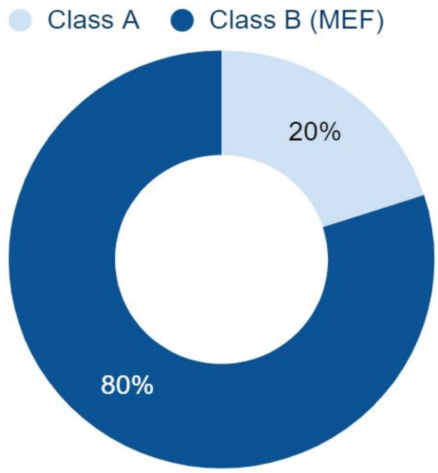
7.3 ENVIRONMENTAL SUSTAINABILITY & SOCIAL RESPONSIBILITIES

PPAP has a good start in its journey of environmental sustainability. The company has been implementing a proper operating system aiming to reduce negative impacts to air, noise, traffic congestion, land, and water. Since 2017, the company has been pursuing more clean energy consumption through collaboration with the R&D department of Solar Partner Asia (Cambodia) Ltd. and Infunde Development Pte. Ltd. on the **installation of solar-based electricity providing system at LM17 container terminal**. In terms of social responsibilities, PPAP has contributed to **river bank claims and the corrections of water flow** using the sand and mud acquired from its dredging activities. PPAP has also contributed to the community through facilitating government projects on **poverty reduction and rehabilitation of infrastructures in rural areas**. Besides, PPAP has included in its medium and long-term plans to develop a rice processing facility at LM17 under the MEF for greater national capacity in rice processing. PPAP also plans to introduce more operational terminals at Prek Kdam and Prek Tamaek, nearby where agricultural sites are located, in order to **encourage the utilization of waterway transportation** in Cambodia's agriculture sector.

8. CONCLUSION

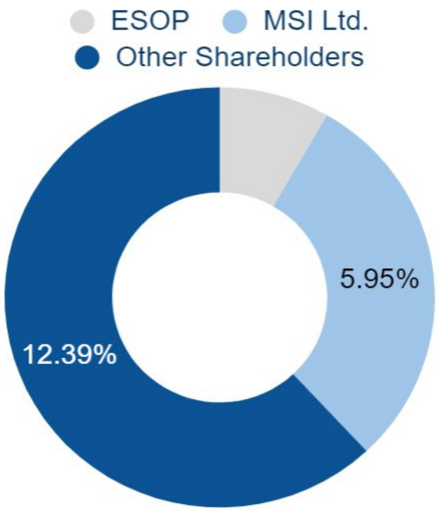
Based on the above analysis, PPAP is in a mature stable stage of its corporate life cycle, currently with good competitive advantages, but with slower revenue growth outlook, and an average financial position. PPAP stock does not follow the efficient market theory due to the illiquidity of the stock market in general. **These factors justify our recommendation to maintain a HOLD**.

Figure 27. PPAP Shares by Class



Source: PPAP Report (2017)

Figure 28. Class A Shareholders



Source: PPAP Report (2017)

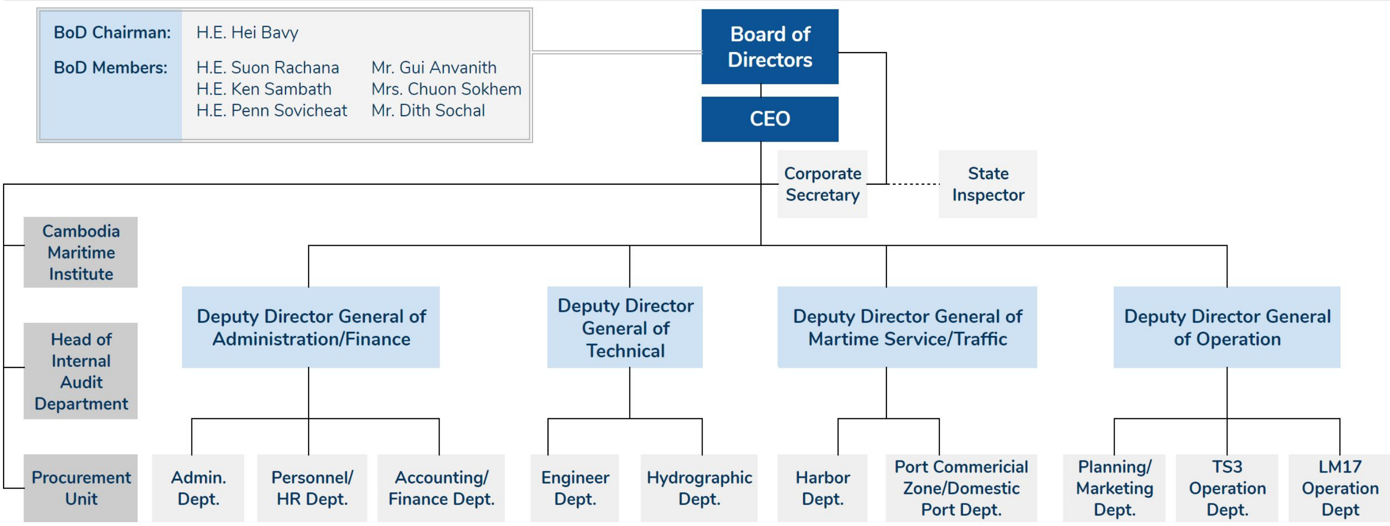
Appendices

Appendix 1. Share Price

Source: CSX, Team Assessment

Appendix 2. Organizational Chart

Source: PPAP Report



6. May, Kunmakara, "Phnom Penh port's revenue up 14 percent," Khmer Times, January 16, 2018, https://www.khmertimeskh.com/50102226/phnom-penh-ports-revenue-up-14-percent/ (accessed November 10, 2018)

7. Cambodia Constructors Association, "Four main projects in Phnom Penh put into service this April," March 07 2018, https://www.construction-property.com/read-news-1055/ (accessed November 12, 2018).

8. Vin, Vat, "Developer has big plans for prime riverfront land," The Phnom Penh Post, April 27, 2018, https://www.phnompenhpost.com/post-property/developer-has-big-plans-prime-riverfront-land (accessed November 12, 2018).

9. May, Kunmakara, "Mammoth commercial complex to be raised at capital's port," Khmer Times, July 25, 2018, https://www.khmertimeskh.com/50515141/mammoth-commercial-complex-to-be-raised-at-capitals-port/ (accessed November 14, 2018)

10. Hin, Pisey, "Firm puts down $531M for capital plot," The Phnom Penh Post, August 30, 2018, https://www.phnompenhpost.com/post-property/firm-puts-down-531m-capital-plot (accessed November 14, 2018)

Appendix 3. Board of Directors

Source: PPAP Report

Chairman, Chief Executive Officer	H.E. Hei Bavy	Chairmain since 2000	- Chairman of the BoD and CEO of PPAP - Started working at PPAP since 1979 - Ph.D. in Economics, Masters in Business Administration - Chairman of Risk Management Committee
Rep. of MPWT	H.E. Suon Rachana	Member since 2015	- State Secretary of Ministry of Public Works and Transport - Chairman of Appointment Committee - Health Science background
Rep. of MEF	H.E. Ken Sambath	Member since 2013	- Deputy General Director of the General Department of Taxation since 2013 - Ph.D. in Economics, Masters in Public Politics
Rep. of MC	H.E. Penn Sovicheat	Member since 2014	- General Director of MC - Committee member for National Intellectual Property Management of Cambodia - General Director of the National Trade Department of Ministry of Commerce
Independent Director	Mr. Gui Anvanith	Member since 2016	- Masters in Commercial Management - Previously worked at Toronto-Dominion Bank and Bank of Montreal - General Director and member of BoD of Foreign Trade Bank - Chairman of Audit Committee
Rep. of Employees of PPAP	Mrs. Chuon Sokhem	Member since 2016	- Public Administration and Finance Background - Started working at PPAP since 2005
Non-Executive Director, Rep. of Private Shareholders	Mr. Dith Sochal	Member since 2016	- Deputy General Director of Foreign Trade Bank - Previously worked at ANZ Royal Bank

Appendix 4. SWOT Analysis

Source: Team Assessment

Strengths

- The only international river port in Cambodia that is authorized to conduct containerized cargo shipments.
- Advantage of terminal locations that are close to and in the capital city
- Close proximity to other hub ports (i.e. Cai Meb hub port in Vietnam) enable direct access to larger ports including Hong Kong, Japan and the US.
- PPAP has a competitive pricing. Currently, river transport is the cheapest form of logistic.
- Tariff free incentive for agricultural products increase traffic of agricultural products exports through PPAP

Weaknesses

- Port has no direct access in Cambodia and must be connected through Cai Meb hub port in Vietnam.
- Heavy reliance on Cambodia's economy
- Revenue streams are not diversified.
- Slowest form of logistic

Opportunities

- Establishment of rice processing facilities could increase agricultural products traffic
- Dredging for new access through the mouth of Basacc River in Vietnam (Cai Meb) for shorter distance
- Yuan in circulation in Cambodia can increase trade activities with China[11]
- China's BRI could facilitate rail road transportation of the terminals
- Trade war between US and China can shift industrial demand from China to Cambodia

Threats

- Potential US Economic sanction with the rumor of China's navy base in one of Cambodia's port
- Weak monetary policy due to dual and tri-currency circulation in Cambodia making the company susceptible to fluctuating exchange rate
- Slowing real estates growth in Cambodia could reduce demand for construction materials
- Rising minimum wage in the garment sector could push factories out of the country, affecting the garment material import and export of finished products[12]

11. Hor, Kimsay, "More trade in Chinese yuan," The Phnom Penh Post, October 2018, https://www.phnompenhpost.com/business/more-trade-chinese-yuan(accessed November 20, 2018).

12. Meta, Kong, "Minimum wage for 2019 set to be decided," The Phnom Penh Post, October 2018, https://www.phnompenhpost.com/national/minimum-wage-2019-set-be-decided (accessed November 22, 2018)

Appendix 5. PEST Analysis

Source: Team Assessment

Political	**Political Stability**	Cambodia has just finished its national election recently and there has been no further heated political conflict thus far. The current government is expected to continue the mandate for another 5 years.
	Foreign Trade policy	There has been an increasing concern over Cambodia's democracy development. Since the crackdown of the opposition, foreign countries, especially the West has been exerting pressure over Cambodia's setback of democracy and human right. The EU has placed Cambodia on the EBA termination notice. The US has also warned Cambodia of potential economic sanction in the event that Cambodia-US diplomatic relation turns sour.
	Tax Policy	Cambodia has started strengthening its tax regime. However, there is no expected amendment to the rate of tax involving in business for the time being. In terms of foreign tariff, US economic sanction could result in a higher tax rate for Cambodian's products, which could potentially reduce the number of exports to the US.
	Labor Law	Minimum wage is expected to rise to USD 182 in the following year. Unlike neighboring countries, where high minimum wage is offset by government subsidiary and lower logistic cost, the minimum wage hike could make Cambodia a less attractive destination for manufacturing companies, especially, the garment sectors which make up more than 80% of Cambodia's total exports. This could adversely affect PPAP's export traffic and volume.
Economic	**Economic Growth**	Cambodia's economy has been growing at a constant rate of approximately 7% over the past 6 years. This trend is expected to continue in the following 5 years. The stable economic growth has made Cambodia one of the fastest growing economy in Southeast Asia, promoting it to the Lower Middle Income Bracket in World Bank Index. Fueled by China's huge investment, Cambodia has also become an attractive destination for foreign investments in general.
	Exchange Rate	Cambodia is a dual currency country, where both US Dollar and Khmer Riel are in circulation in the market. Currently, given the high value of US Dollar relative to world currencies and its stable exchange rate with Khmer Riel, it makes it more expensive for other non-USD denominate countries to import product from Cambodia. Hence, this exchange rate risk makes Cambodia less competitive for its non US Dollar denominate export products. On another note, Cambodia has started allowing Chinese Yuan into circulation. As a result, it is expected to draw in more Chinese investors to Cambodia.
	Diversific-ation	Cambodia relies on 4 pillars for its economic growth - Garment, Construction, Agriculture and Tourism. Construction has recently taken over agriculture and tourism to be the second largest growth factor for Cambodia's economy. However, in 2018, construction sector reported a 20% drop in growth, due to the number of projects approved last year and the uncertainty of the election. On top of that, the construction sector is expected to slow down starting from 2019. If the trend continues, it will affect Cambodia's economic performance as a whole.
Social	**Lower-middle Income Economy**	Cambodia GDP per capita has reached USD 1,384 in 2017. [13] This placed it in the lower middle-income economy bracket according to The World Bank. With higher household and disposable income, Cambodia saw a rise in the middle-class population who are willing to spend and invest more.
	Attitude Towards Housing	Because the construction sector drives real estates growth, many Cambodians' hop on to the lucrative real estates business. However, Cambodians prefer houses in a community setting rather than isolated condominium lifestyle. Therefore, there is a huge surge of development of Boreys (satellites city) throughout the capital and neighboring provinces, which drove up the land price as well.
	Potential Housing Shortage and Housing Bubble	Although real estates are booming, there has been a rising concern on the shortage of affordable housing in Phnom Penh. The capital's population is expected to increase to 7.9MM people, more than 50% by 2030. The government projected that 800,000 houses needed to be built in the next 13 years to accommodate this population growth. Unfortunately, the current construction industry focuses more on investment in the luxury market. The particular disconnect in the narrative could lead to a housing market crash in the following years. The bubble is growing as many invested in buying houses that they do not intend to live in. Chinese investors, on the other hand, invest in cash, and they do not worry about the liquidity as they can hold on to the properties for much longer.

Technological	
The Internet of Things in Logistic	Other than the implementation of the Automated System for Customs Data (ASYCUDA), the rise in the Internet of Things (IoT) has helped many logistic firms optimize and improve their operational efficiency through the use of real-time data and the analysis of big data. Mobile equipment embedded with IoT technology allows companies to track their inventory, avoid congestion, manage real-time fleet traffic, eliminate wasted time and resources and more. Hence, companies that do not implement IoT to their operation will soon be outcompeted by firms who do due to their higher efficiency and lower waste.

Appendix 6. PPAP Services

Source: PPAP Report

PPAP Serivices	Type of Services	Description
Port Operation	**Lift-on lift-off, storage, stuffing/unstuffing, consolidation/deconsolidation, and trucking services**	Service involved in handling cargo on the terminal
	Stevedoring service	Transferring of cargos from the vessels onto the terminals and vice versa with cranes
	Passenger and tourist terminal service	Permit parking of passenger vessels on TS1
	Pilotage and berthing service	Guiding and assisting vessels in entering/berthing/exiting the port
Port Administration	**Legal enforcement on waterway**	Take various measures in order to ensure the enforcement of laws and legal norms related to port and means of water transportation
	Port and waterway maintenance services	Maintenance of navigation systems, navigation equipment, such as signal buoy and direction markers for navigation, docking and maintenance of the environment in the port center
Other Services	**Dredging service**	Including maintenance and capital dredging to maintain the depth of waterway
	Surveying service	Survey and equip lifejacket/lifesaver onto the vessel upon clients' requests
	Commercial sand dredging	PPAP holds a license to conduct commercial dredging when there are excesses from maintenance or capital dredging
	Container maintenance and repair service	Provide container maintenance and repair service upon clients' request
	Property and machine concession	Lease vacant or unused properties/machineries for profit to PPAP

Appendix 7. PPAP Terminals

Source: PPAP Report

Terminal Names	Key Information
Tonle Bet Terminal (UM2)	- Signed MoU with Meang Lyheng Investment (MLI) to cooperate and develop UM2 in 2012. - PPAP to handle stevedoring service, MLI to handle storage service. - The goal of UM2 is for it to become the main hub for agricultural products transportation.
Multipurpose Terminal (TS3)	- 'Port-city conflict' limits TS3 capacity expansion. - Main development plan shift to LM17. - Become a multipurpose port that handle small and containerized cargo as well as passenger and tourist terminal.
Passenger and Tourist Terminal (TS1)	- Main terminal for domestic and international waterway travel.
Container Terminal (LM17)	- LM17 has the capacity to handle 150,000 TEUs annually. - Phase 2 and Phase 3 expansion plans will increase LM17's capacity to a total of 300,000 TEUs per year.

Appendix 8. PPAP Development Plan

Source: PPAP Report

Timeline	Development Plan	Details
Short-term	**Trucking service**	Expand into the logistic service with competitive price to capture new source of revenue.
	Cambodia Triumph Commercial Center	Leased 9.3 ha to develop the commercial center. Provide additional revenue from lease and expected to increase the container volume of PPAP by 20,000 TEUs.
	Dry/Cold Warehouses	New capability to store organic products that require dry condition or refrigeration.
	The City Gate Project	Provide a new administrative building and two extra multipurpose terminals. Expected to increase the container volume and provide a long term revenue for PPAP from the lease.
	New Container Terminal Expansion - Phase 2	To be completed by the end of FY18. Increase total capacity of LM17 to 300,000 TEUs.
Medium-term	**New Container Terminal Expansion - Phase 3**	To begin in FY20. Expected to increase the total capacity of LM17 to 500,000 TEUs.
Long-term	**Development of specialized bulk terminal**	Provide storage for agricultural products in form of grains. Vessels can also conveniently transfer the products to their cargo.
	Development of rice processing facility	Expand the capability to process rice before export. Increase the value of rice exported and improve the agriculture sector.
	Development of logistic center within port supporting areas	Provide space for PPAP's logistic service including the trucking service.
	Build network of sub-feeder ports as multipurpose terminals	Increase access for agricultural products transport through inland waterway. Encourage agriculture sector clients to utilise inland channels more with competitive price.
	Channel improvement	Conduct capital dredging to deepen the channel for larger shipment. Establish a new shorter route through Bassac river to Cai Meb hub port in Vietnam.
	Modernizing passenger and tourist terminals	Make the terminal more attractive for domestic and international waterway travels.

Appendix 9. Financial Analysis

Source: PPAP Report, Team Assessment

PPAP Solvency								
	FY15	FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Debt	$ 33,128,418	$ 34,284,674	$ 34,718,640	$ 47,605,376	$ 46,075,370	$ 44,289,084	$ 42,443,152	$ 40,564,451
Debt/Asset ratio	0.21	0.21	0.21	0.26	0.24	0.22	0.21	0.19
Debt/equity ratio	0.26	0.27	0.26	0.34	0.32	0.29	0.26	0.24
Net dept/EBIT	4.41	4.57	3.09	4.87	3.78	2.68	2.33	1.95
Asset/Equity	1.26	1.27	1.26	1.34	1.32	1.29	1.26	1.24
Interest Coverage	4.77	4.74	5.93	6.70	7.38	8.25	9.02	9.80

PPAP Liquidity								
	FY15	FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Current Asset	$ 11,662,401	$ 9,686,270	$ 14,727,252	$ 10,449,268	$ 15,313,510	$ 21,254,045	$ 21,267,840	$ 22,240,553
Current Liabilities	$ 2,540,972	$ 2,793,724	$ 5,145,322	$ 4,916,651	$ 5,562,353	$ 5,936,046	$ 6,271,552	$ 6,551,618
Current ratio	4.59	3.47	2.86	2.13	2.75	3.58	3.39	3.39
Quick ratio	4.59	3.47	2.86	2.13	2.75	3.58	3.39	3.39
Cash and Cash Equivalent	$ 8,749,221	$ 6,751,489	$ 11,717,944	$ 6,666,527	$ 11,071,391	$ 16,515,353	$ 16,083,318	$ 16,556,591
Cash ratio	3.44	2.42	2.28	1.36	1.99	2.78	2.56	2.53

PPAP Operating Cycle								
	FY15	FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Revenue	$ 15,137,484	$ 16,300,422	$ 18,856,296	$ 21,327,917	$ 23,917,992	$ 26,717,779	$ 29,231,464	$ 32,047,414
Average receivables	$ 2,913,180	$ 2,934,781	$ 3,009,308	$ 3,782,741	$ 4,242,119	$ 4,738,692	$ 5,184,522	$ 5,683,962
Receivable turnover	5.20	5.55	6.27	5.64	5.64	5.64	5.64	5.64
Days in account receivable	70	66	58	65	65	65	65	65
Cost of sales and services	$ 5,388,585	$ 5,619,645	$ 6,460,794	$ 7,417,594	$ 8,318,391	$ 9,292,124	$ 10,166,353	$ 10,896,121
Average payable	$ 1,900,091	$ 2,304,463	$ 2,510,885	$ 2,846,677	$ 3,192,379	$ 3,566,072	$ 3,901,578	$ 4,181,644
Payable turnover	2.84	2.44	2.57	2.61	2.61	2.61	2.61	2.61
Days in account payables	129	150	142	140	140	140	140	140
Operating cycle ratio	14763	15396	17701	20322	22790	25458	27853	29852

PPAP Profitability								
	FY15	FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Gross profit margin	64.40%	65.52%	65.74%	65.22%	65.22%	65.22%	65.22%	66.00%
EBITDA	$ 7,833,224	$ 8,407,082	$ 10,332,426	$ 11,622,078	$ 12,865,091	$ 14,371,050	$ 15,723,120	$ 17,127,644
Revenue	$ 15,137,484	$ 16,300,422	$ 18,856,296	$ 21,327,917	$ 23,917,992	$ 26,717,779	$ 29,231,464	$ 32,047,414
EBITDA margin	51.75%	51.58%	54.80%	54.49%	53.79%	53.79%	53.79%	53.44%
Pretax profit	$ 4,368,492	$ 4,756,566	$ 6,183,484	$ 7,156,131	$ 8,009,177	$ 9,093,594	$ 10,067,197	$ 11,047,746
Pretax profit margin	28.86%	29.18%	32.79%	33.55%	33.49%	34.04%	34.44%	34.47%
Income Tax Expense	$ 1,185,267	$ 669,176	$ 821,651	$ 1,073,420	$ 1,201,377	$ 1,364,039	$ 1,510,080	$ 1,619,724
Effective tax rate	27.13%	14.07%	13.29%	15.00%	15.00%	15.00%	15.00%	14.66%
Net Income	$ 3,183,225	$ 4,087,390	$ 5,361,833	$ 6,082,711	$ 6,807,800	$ 7,729,555	$ 8,557,117	$ 9,428,022
Other Income	$ 360,285	$ 967,904	$ 603,968	1,200,000	1,177,350	1,315,168	1,438,903	1,217,802
Net Profit	$ 2,822,940	$ 3,119,486	$ 4,757,865	$ 4,882,711	$ 5,630,450	$ 6,414,387	$ 7,118,214	$ 8,210,220
Net profit margin	18.65%	19.14%	28.44%	28.52%	28.46%	28.93%	29.27%	29.42%

Appendix 10. Profitability Analysis

Source: PPAP Report, Bloomberg, Team Assessment

Gross Profit Margin	2016	2017
PPAP	**65.52%**	**65.74%**
Dinh Vu Port	48.97%	49.28%
VSC	36.58%	31.30%
Hai Phong Port	37.90%	34.75%
Hai An JSC	34.20%	26.17%
Cat Lai Port	39.07%	44.09%

EBITDA Margin	2016	2017
PPAP	**51.58%**	**54.80%**
Dinh Vu Port	53.77%	53.62%
VSC	47.01%	40.64%
Hai Phong Port	45.74%	44.74%
Hai An JSC	43.25%	30.54%
Cat Lai Port	52.08%	57.26%

ROA	2016	2017
PPAP	**2.50%**	**3.18%**
Dinh Vu Port	20.65%	17.79%
VSC	10.87%	9.73%
Hai Phong Port	8.82%	6.73%
Hai An JSC	14.18%	12.94%
Cat Lai Port	12.16%	13.70%

EBIT Margin	2016	2017
PPAP	**36.99%**	**39.45%**
Dinh Vu Port	41.44%	40.58%
VSC	30.62%	25.48%
Hai Phong Port	28.18%	24.60%
Hai An JSC	27.56%	20.34%
Cat Lai Port	35.01%	38.52%

Pretax Profit Margin	2016	2017
PPAP	**29.18%**	**32.79%**
Dinh Vu Port	37.67%	35.87%
VSC	28.76%	22.91%
Hai Phong Port	28.92%	27.11%
Hai An JSC	30.49%	22.19%
Cat Lai Port	35.40%	41.46%

ROE	2016	2017
PPAP	**3.17%**	**4.01%**
Dinh Vu Port	24.18%	19.97%
VSC	17.33%	15.16%
Hai Phong Port	13.83%	10.10%
Hai An JSC	23.16%	22.35%
Cat Lai Port	14.23%	14.23%

Net Income Margin	2016	2017
PPAP	**25.08%**	**28.44%**
Dinh Vu Port	33.22%	31.16%
VSC	23.22%	18.21%
Hai Phong Port	19.19%	16.86%
Hai An JSC	27.44%	18.93%
Cat Lai Port	28.27%	33.14%

Pretax ROA	2016	2017
PPAP	**2.91%**	**3.67%**
Dinh Vu Port	23.41%	20.48%
VSC	13.20%	12.00%
Hai Phong Port	13.79%	9.15%
Hai An JSC	15.57%	13.19%
Cat Lai Port	15.54%	17.04%

Pretax ROE	2016	2017
PPAP	**3.68%**	**4.62%**
Dinh Vu Port	27.42%	22.99%
VSC	20.87%	17.40%
Hai Phong Port	18.50%	11.96%
Hai An JSC	26.19%	20.65%
Cat Lai Port	18.18%	17.69%

ROIC	2016	2017
PPAP	**3.58%**	**4.16%**
Dinh Vu Port	40.75%	25.89%
VSC	13.76%	13.28%
Hai Phong Port	12.39%	9.16%
Hai An JSC	16.37%	15.35%
Cat Lai Port	12.05%	12.41%

Appendix 11. Peer Top to Bottom

Source: Bloomberg

PPAP				
in MM USD		FY16		FY17
Revenue	$	16.3	$	18.9
Growth				15.7%
Gross Profit	$	10.7	$	12.4
Gross Profit Margin		65.5%		65.7%
EBITDA	$	8.4	$	10.3
Growth				22.9%
EBITDA Margin		51.6%		54.8%
EBIT	$	6.0	$	7.4
Growth				23.4%
EBIT Margin		37.0%		39.4%
PBT	$	4.8	$	6.2
Growth				30.0%
PBT Margin		29.2%		32.8%
Net Income	$	4.1	$	5.4
Growth				31.2%
Net Income Margin		25.1%		28.4%

Dinh Vu Port				
in MM USD		FY16		FY17
Revenue	$	29.2	$	27.6
Growth				-5.5%
Gross Profit	$	14.3	$	13.6
Gross Profit Margin		49.0%		49.3%
EBITDA	$	15.7	$	14.8
Growth				-5.7%
EBITDA Margin		53.8%		53.6%
EBIT	$	12.1	$	11.2
Growth				-7.4%
EBIT Margin		41.4%		40.6%
PBT	$	11.0	$	9.9
Growth				-10.0%
PBT Margin		37.7%		35.9%
Net Income	$	9.7	$	8.6
Growth				-11.3%
Net Income Margin		33.2%		31.2%

VSC				
in MM USD		FY16		FY17
Revenue	$	48.4	$	57.4
Growth				18.6%
Gross Profit	$	17.7	$	17.9
Gross Profit Margin		36.6%		31.3%
EBITDA	$	22.7	$	23.3
Growth				2.6%
EBITDA Margin		47.0%		40.6%
EBIT	$	14.8	$	14.6
Growth				-1.4%
EBIT Margin		30.6%		25.5%
PBT	$	13.9	$	13.1
Growth				-5.8%
PBT Margin		28.8%		22.9%
Net Income	$	11.2	$	10.4
Growth				-7.1%
Net Income Margin		23.2%		18.2%

Hai Phong Port				
in MM USD		FY16		FY17
Revenue	$	107.4	$	91.1
Growth				-15.2%
Gross Profit	$	39.8	$	31.7
Gross Profit Margin		37.1%		34.8%
EBITDA	$	49.1	$	40.7
Growth				-17.1%
EBITDA Margin		45.7%		44.7%
EBIT	$	30.3	$	22.4
Growth				-26.0%
EBIT Margin		28.2%		24.6%
PBT	$	26.8	$	21.2
Growth				-20.7%
PBT Margin		28.9%		27.1%
Net Income	$	20.6	$	15.4
Growth				-25.5%
Net Income Margin		19.2%		16.9%

Hai An JSC				
in MM USD		FY16		FY17
Revenue	$	21.8	$	34.2
Growth				56.9%
Gross Profit	$	7.5	$	9.0
Gross Profit Margin		34.2%		26.2%
EBITDA	$	9.4	$	10.5
Growth				11.7%
EBITDA Margin		43.3%		30.5%
EBIT	$	6.0	$	7.0
Growth				16.7%
EBIT Margin		27.6%		20.3%
PBT	$	6.6	$	7.6
Growth				15.2%
PBT Margin		30.5%		22.2%
Net Income	$	6.0	$	6.5
Growth				8.3%
Net Income Margin		27.5%		19.0%

Cat Lai Port				
in MM USD		FY16		FY17
Revenue	$	12.9	$	11.1
Growth				-14.0%
Gross Profit	$	5.0	$	4.9
Gross Profit Margin		39.1%		44.1%
EBITDA	$	6.8	$	6.4
Growth				-5.9%
EBITDA Margin		52.1%		57.3%
EBIT	$	4.5	$	4.3
Growth				-4.4%
EBIT Margin		35.0%		38.5%
PBT	$	4.6	$	4.6
Growth				0.0%
PBT Margin		35.4%		41.5%
Net Income	$	3.6	$	3.7
Growth				2.8%
Net Income Margin		28.3%		33.1%

Appendix 12. Revenue Growth Forecast - Base Case

Source: Team Assessment

Growth Forecast (Base Case)	FY15	FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Port Admin and Services (% Sales)	**20.0%**	**21.0%**	**20.0%**	**19.5%**	**19.1%**	**18.9%**	**19.0%**	**19.1%**
Service Revenue	$ 3,027,497	$ 3,423,089	$ 3,771,259	$ 4,154,843	$ 4,577,442	$ 5,043,025	$ 5,555,963	$ 6,121,073
Growth		13.1%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%
Port Operation (% Sales)	**80.0%**	**79.0%**	**80.0%**	**80.5%**	**80.9%**	**81.1%**	**81.0%**	**80.9%**
Port Operation Revenue	$ 12,109,987	$ 12,877,333	$ 15,085,037	$ 17,173,074	$ 19,340,550	$ 21,674,754	$ 23,675,501	$ 25,926,340
Growth		6.3%	17.1%	13.8%	12.6%	12.1%	9.2%	9.5%
Cargo Traffic TEU	**144,813**	**151,781**	**184,805**	**206,000**	**232,000**	**260,000**	**284,000**	**311,000**
Average Revenue per Cargo	$ 84	$ 85	$ 82	$ 83	$ 83	$ 83	$ 83	$ 83
Total Revenue	**$15,137,484**	**$16,300,422**	**$18,856,296**	**$21,327,917**	**$23,917,992**	**$26,717,779**	**$29,231,464**	**$32,047,414**
Growth		**7.7%**	**15.7%**	**13.1%**	**12.1%**	**11.7%**	**9.4%**	**9.6%**

Footnote: *The Cargo Traffic TEU forecast was taken from PPAP's forecast of their container throughput . Throughout the year it was seen to have a 98% accuracy. Hence, we decide to use this number to forecast our revenue.*

Appendix 13. Revenue Growth Forecast - Bull Case

Source: Team Assessment

Growth Forecast (Bull)	FY15	FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Service (% Sales)	**20.0%**	**21.0%**	**20.0%**	**19.2%**	**18.9%**	**18.6%**	**18.8%**	**18.8%**
Service Revenue	$ 3,027,497	$ 3,423,089	$ 3,771,259	$ 4,531,969	$ 5,446,123	$ 6,544,674	$ 7,864,816	$ 9,451,247
Growth (Bull Scenario)		13.1%	10.2%	20.2%	20.2%	20.2%	20.2%	20.2%
Growth (Base Case)		*13.1%*	*10.2%*	*10.2%*	*10.2%*	*10.2%*	*10.2%*	*10.2%*
% Change				*98.3%*	*98.3%*	*98.3%*	*98.3%*	*98.3%*
Port Operation (% Sales)	**80.0%**	**79.0%**	**80.0%**	**80.8%**	**81.1%**	**81.4%**	**81.2%**	**81.2%**
Port Operation Revenue	$12,109,987	$12,877,333	$15,085,037	$19,079,269	$23,395,259	$28,558,351	$34,050,341	$40,692,556
Growth (Bull Scenario)		6.3%	17.1%	23.8%	22.6%	22.1%	19.2%	19.5%
Growth (Base Case)		*6.3%*	*17.1%*	*13.8%*	*12.6%*	*12.1%*	*9.2%*	*9.5%*
% Change				*72.2%*	*79.2%*	*82.9%*	*108.3%*	*105.2%*
Cargo Traffic TEU	**144,813**	**151,781**	**184,805**	**228,866**	**280,638**	**342,572**	**408,452**	**488,128**
Average Revenue per Cargo	$ 84	$ 85	$ 82	$ 83	$ 83	$ 83	$ 83	$ 83
Total Revenue	**$ 15,137,484**	**$ 16,300,422**	**$ 18,856,296**	**$ 23,611,238**	**$ 28,841,382**	**$ 35,103,025**	**$ 41,915,157**	**$ 50,143,803**
Growth (Bull Scenario)		**7.7%**	**15.7%**	**25.2%**	**22.2%**	**21.7%**	**19.4%**	**19.6%**
Growth (Base Case)		*6.3%*	*17.1%*	*13.1%*	*12.1%*	*11.7%*	*9.4%*	*9.6%*
% Change				*92.4%*	*82.4%*	*85.5%*	*106.3%*	*103.8%*

Appendix 14. Revenue Growth Forecast - Bear Case

Source: Team Assessment

Growth Forecast (Bear)	FY15	FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Service (% Sales)	**20.0%**	**21.0%**	**20.0%**	**19.1%**	**18.7%**	**18.4%**	**18.6%**	**18.7%**
Service Revenue	$ 3,027,497	$ 3,423,089	$ 3,771,259	$ 3,777,717	$ 3,784,186	$ 3,790,666	$ 3,797,157	$ 3,803,660
Growth (Bear Scenario)		13.1%	10.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Growth (Base Case)		*13.1%*	*10.2%*	*10.2%*	*10.2%*	*10.2%*	*10.2%*	*10.2%*
% Change				*-98.3%*	*-98.3%*	*-98.3%*	*-98.3%*	*-98.3%*
Port Operation (% Sales)	**80.0%**	**79.0%**	**80.0%**	**80.9%**	**81.3%**	**81.6%**	**81.4%**	**81.3%**
Port Operation Revenue	$12,109,987	$12,877,333	$15,085,037	$15,998,036	$16,417,402	$16,757,072	$16,628,172	$16,546,202
Growth (Bear Scenario)		6.3%	17.1%	3.8%	2.6%	2.1%	-0.8%	-0.5%
Growth (Base Case)		*6.3%*	*17.1%*	*13.8%*	*12.6%*	*12.1%*	*9.2%*	*9.5%*
% Change				*-72.2%*	*-79.2%*	*-82.9%*	*-108.3%*	*-105.2%*
Cargo Traffic TEU	144,813	151,781	184,805	191,905	196,935	201,010	199,464	198,480
Average Revenue per Cargo	$ 84	$ 85	$ 82	$ 83	$ 83	$ 83	$ 83	$ 83
Total Revenue	$15,137,484	$16,300,422	$18,856,296	$19,775,753	$20,201,588	$20,547,739	$20,425,329	$20,349,862
Growth (Bear Scenario)		**7.7%**	**15.7%**	**4.9%**	**2.2%**	**1.7%**	**-0.6%**	**-0.4%**
Growth (Base Case)		*6.3%*	*17.1%*	*13.1%*	*12.1%*	*11.7%*	*9.4%*	*9.6%*
% Change				*-62.8%*	*-82.3%*	*-85.4%*	*-106.3%*	*-103.8%*

Appendix 15. P&L Statement

Source: PPAP Report, Team Assessment

USD	FY 15	FY 16	FY 17	FY 18E	FY 19E	FY 20E	FY 21E	FY 22E
Revenue	**$ 15,137,484**	**$ 16,300,422**	**$ 18,856,296**	**$ 21,327,917**	**$ 23,917,992**	**$ 26,717,779**	**$ 29,231,464**	**$ 32,047,414**
COGS	$ (5,388,585)	$ (5,619,645)	$ (6,460,794)	$ (7,417,594)	$ (8,318,391)	$ (9,292,124)	$ (10,166,353)	$ (10,896,121)
Gross Profit	**$ 9,748,899**	**$ 10,680,777**	**$ 12,395,502**	**$ 13,910,323**	**$ 15,599,601**	**$ 17,425,655**	**$ 19,065,110**	**$ 21,151,293**
Other Income/Expense	$ 360,285	$ 967,904	$ 603,968	$ 1,200,000	$ 1,177,350	$ 1,315,168	$ 1,438,903	$ 1,217,802
Operating Expense	$ (4,581,506)	$ (5,619,730)	$ (5,561,219)	$ (6,699,425)	$ (7,513,007)	$ (8,392,463)	$ (9,182,049)	$ (10,066,582)
EBIT	**$ 5,527,678**	**$ 6,028,951**	**$ 7,438,251**	**$ 8,410,898**	**$ 9,263,944**	**$ 10,348,361**	**$ 11,321,964**	**$ 12,302,513**
Interest Expense	$ (1,159,186)	$ (1,272,385)	$ (1,254,767)	$ (1,159,186)	$ (1,159,186)	$ (1,159,186)	$ (1,159,186)	$ (1,159,186)
EBT	**$ 4,368,492**	**$ 4,756,566**	**$ 6,183,484**	**$ 7,251,712**	**$ 8,104,758**	**$ 9,189,175**	**$ 10,162,778**	**$ 11,143,327**
Income Tax Expense	$ (1,185,267)	$ (669,176)	$ (821,651)	$ (1,073,420)	$ (1,201,377)	$ (1,364,039)	$ (1,510,080)	$ (1,619,724)
Net Income	**$ 3,183,225**	**$ 4,087,390**	**$ 5,361,833**	**$ 6,178,293**	**$ 6,903,382**	**$ 7,825,136**	**$ 8,652,699**	**$ 9,523,603**
EPS - Basic	0.77	0.99	1.30	1.49	1.67	1.89	2.09	2.30

Appendix 16. Balance Sheet

Source: PPAP Report, Team Assessment

	FY 15	FY 16	FY 17	FY 18E	FY 19E	FY 20E	FY 21E	FY 22E
Net Working Capital	$ 9,121,429	$ 6,892,546	$ 9,581,930	$ 5,495,572	$ 9,929,303	$ 15,411,599	$ 15,097,287	$ 15,789,047
% of Sales	60.26%	42.28%	50.82%	42.28%	42.74%	60.31%	53.71%	51.06%
Investment Properties	$ 147,921,206	$ 153,691,712	$ 153,828,720	$ 156,039,940	$ 157,014,099	$ 157,014,099	$ 163,946,277	$ 170,454,479
Other trade and recievables	$ 8,749,221	$ 6,751,489	$ 11,717,944	$ 6,666,527	$ 11,071,391	$ 16,515,353	$ 16,083,318	$ 16,556,591
Deferred Tax Liabilities	$ (1,082,617)	$ (1,183,701)	$ (1,414,296)	$ (1,599,677)	$ (1,793,943)	$ (2,003,938)	$ (2,192,474)	$ (2,403,681)
Provision for Retirement Benefit	$ (525,192)	$ (533,959)	$ (619,279)	$ (619,279)	$ (619,279)	$ (619,279)	$ (619,279)	$ (619,279)
Long Term Operating Assets & Liab.	**$ 172,091,700**	**$ 174,153,407**	**$ 181,568,722**	**$ 165,983,082**	**$ 175,601,571**	**$ 186,317,834**	**$ 192,315,129**	**$ 199,777,157**
Net Operating Assets	**$ 173,699,509**	**$ 175,871,067**	**$ 183,602,297**	**$ 168,202,038**	**$ 178,014,793**	**$ 188,941,051**	**$ 195,126,882**	**$ 202,800,117**
Cash	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Gross Debt	$ (33,128,418)	$ (34,284,674)	$ (34,718,640)	$ (47,605,376)	$ (46,075,370)	$ (44,289,084)	$ (42,443,152)	$ (40,564,451)
Net Debt	**$ (33,128,418)**	**$ (34,284,674)**	**$ (34,718,640)**	**$ (47,605,376)**	**$ (46,075,370)**	**$ (44,289,084)**	**$ (42,443,152)**	**$ (40,564,451)**
EBITDA X	**4.23**	**4.08**	**3.36**	**4.10**	**3.58**	**3.08**	**2.70**	**2.37**

Appendix 17. Balance Sheet Assumption

Source: Team Assessment

Balance Sheet Asumption		FY 15	FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
AR Days	AR/(Rev/365)	70.24	65.72	58.25	64.74	64.74	64.74	64.74	64.74
AP Days	AP/(COGS/365)	128.70	149.68	141.85	140.08	140.08	140.08	140.08	140.08

Appendix 18. Assumptions of Forecast

Source: Team Assessment

Forecast Assumption		FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Revenue	% Growth	7.7%	15.7%	13.1%	12.1%	11.7%	9.4%	9.6%
Cost of Service	% Sales	34.5%	34.3%	34.8%	34.8%	34.8%	34.8%	34.0%
Other Income	% Sales	5.9%	3.2%	5.6%	4.9%	4.9%	4.9%	3.8%
EBITDA	% Sales	51.6%	54.8%	54.5%	53.8%	53.8%	53.8%	53.4%
Depreciation & Amortization	% Fixed Asset	1.55%	1.88%	1.83%	2.04%	2.28%	2.40%	2.54%
Interest Rate	% Sales	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Tax Rate (after Tax Incentive)	% Sales	14.1%	13.3%	15.0%	15.0%	15.0%	15.0%	15.0%
Capex PPE	% Sales	50.1%	16.1%	30.5%	14.6%	15.1%	38.8%	35.4%
Dividend Yield	% IPO Price	6.4%	5.9%	6.0%	6.0%	6.0%	6.0%	6.0%

Appendix 19. Cash Flow Projection

Source: PPAP Report, Team Assessment

USD	FY 15	FY 16	FY 17	FY 18E	FY 19E	FY 20E	FY 21E	FY 22E
Net Income	$ 3,183,225	$ 4,087,390	$ 5,361,833	$ 6,082,712	$ 6,807,801	$ 0	$ 8,557,118	$ 9,178,435
Adjustment	$ 2,851,124	$ 2,516,884	$ 3,357,364	$ 3,922,342	$ 4,440,267	$ 5,024,471	$ 5,548,978	$ 5,869,198
Change in Non Cash WC	$ (1,265,984)	$ 95,148	$ 104,102	$ (437,641)	$ (113,676)	$ (122,880)	$ (110,323)	$ (219,374)
Operating Cash Flow	**$ 4,768,365**	**$ 6,699,422**	**$ 8,823,299**	**$ 9,567,413**	**$ 11,134,391**	**$ 4,901,591**	**$ 13,995,772**	**$ 14,828,259**
Capex for PP&E and Investment Property	$ (1,642,787)	$ (8,162,727)	$ (3,031,183)	$ (6,500,000)	$ (3,497,705)	$ (4,022,689)	$ (11,333,333)	$ (11,333,333)
% of Sales	10.85%	50.08%	16.08%	30.48%	14.62%	15.06%	38.77%	35.36%
Proceeds from disposal	$ 2,726	-	-	-	-	-	-	-
Investing Cash Flow	**$ (1,640,061)**	**$ (8,162,727)**	**$ (3,031,183)**	**$ (6,500,000)**	**$ (3,497,705)**	**$ (4,022,689)**	**$ (11,333,333)**	**$ (11,333,333)**
Proceed from IPO, net of transaction costs	$ 4,292,375	-	-	-	-	-	-	-
Repayments of Borrowing	-	-	-	$ (2,069,974)	$ (2,069,974)	$ (2,069,974)	$ (2,069,974)	$ (2,069,974)
Dividends Paid	$ (492,368)	$ (534,427)	$ (825,661)	$ (841,081)	$ (841,081)	$ (841,081)	$ (841,081)	$ (841,081)
Financing Cash Flow	**$ 3,800,007**	**$ (534,427)**	**$ (825,661)**	**$ (2,911,055)**	**$ (2,911,055)**	**$ (2,911,055)**	**$ (2,911,055)**	**$ (2,911,055)**
Net Cash Flow	**$ 6,928,311**	**$ (1,997,732)**	**$ 4,966,455**	**$ 156,358**	**$ 4,725,631**	**$ (2,032,153)**	**$ (248,616)**	**$ 583,871**

Appendix 20. Change in Net Working Capital

Source: PPAP Report, Team Assessment

Change in NWC	FY14	FY15	FY16	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Revenue	**$ 13,292,255**	**$ 15,137,484**	**$ 16,300,422**	**$ 18,856,296**	**$ 21,119,052**	**$ 23,230,957**	**$ 25,554,052**	**$ 28,109,458**	**$ 30,920,403**
Cost of Sales and Service	**$ (5,311,058)**	**$ (5,388,585)**	**$ (5,619,645)**	**$ (6,460,794)**	**$ (7,417,594)**	**$ (8,318,391)**	**$ (9,292,124)**	**$ (10,166,353)**	**$ (10,896,121)**
Current Assets									
Account Recievables	$ 1,375,233	$ 2,913,180	$ 2,934,781	$ 3,009,308	$ 3,745,696	$ 4,120,266	$ 4,532,293	$ 4,985,522	$ 5,484,074
Cash and Cash equivilents	$ 1,820,910	$ 8,749,221	$ 6,751,489	$ 11,717,944	$ 6,666,527	$ 11,071,391	$ 16,515,353	$ 16,083,318	$ 16,556,591
Total Current Assets	**$ 3,196,143**	**$ 11,662,401**	**$ 9,686,270**	**$ 14,727,252**	**$ 10,412,223**	**$ 15,191,657**	**$ 21,047,645**	**$ 21,068,840**	**$ 22,040,665**
Current Liabilities									
Account Payables	$ 1,628,128	$ 1,900,091	$ 2,304,463	$ 2,510,885	$ 2,846,677	$ 3,192,379	$ 3,566,072	$ 3,901,578	$ 4,181,644
Current portion of borrowings	$ -	$ -	$ 489,261	$ 2,069,974	$ 2,069,974	$ 2,069,974	$ 2,069,974	$ 2,069,974	$ 2,069,974
Provision for income tax	$ 319,975	$ 640,881	$ -	$ 564,463	$ -	$ -	$ -	$ -	$ -
Current Tax liabilities			$ -	$ -	$ -	$ -	$ -	$ -	$ -
Deferred Income	-	-	-	-	-	-	-	-	-
Total Current Liabilities	**$ 1,948,103**	**$ 2,540,972**	**$ 2,793,724**	**$ 5,145,322**	**$ 4,916,651**	**$ 5,262,353**	**$ 5,636,046**	**$ 5,971,552**	**$ 6,251,618**
NWC	**$ 1,248,040**	**$ 9,121,429**	**$ 6,892,546**	**$ 9,581,930**	**$ 5,495,572**	**$ 9,929,303**	**$ 15,411,599**	**$ 15,097,287**	**$ 15,789,047**
NWC as a percentage of sales		60.26%	42.28%	50.82%	26.02%	42.74%	60.31%	53.71%	51.06%
Change in NWC		**$ 7,873,389**	**$ (2,228,883)**	**$ 2,689,384**	**$ (4,086,358)**	**$ 4,433,731**	**$ 5,482,296**	**$ (314,312)**	**$ 691,760**

Appendix 21. Beta Calculation

Source: Bloomberg, Team Assessment

Comparables	Levered Beta	Net D/E (%)	Tax Rate (%)	Unlevered (Asset) Beta
Dinh Vu Port	0.596	-60.17%	20%	1.14915934
Westports Holdings	0.733	56.14%	24%	0.51378601
Hai Phong Port	0.408	-21.29%	20%	0.49175586
Sahathai Terminal PCL	1.087	89.66%	20%	0.63297773
Summit Alliance Limited	0.978	47.71%	25%	0.72026955
Namyong Terminal PCL	0.65	-53%	20%	1.13525220
VIP Green Port	0.706	95%	20%	0.40181214
Gemadept Port	0.891	15%	20%	0.79730117
			Average	0.73
			Median	0.68

Source: Bloomberg, Team Assetment

Selected Unlevered Beta	0.73
Debt/Equity	18%
Relevered Beta	0.83

Appendix 22. DCF Calculation

Source: PPAP Reports, Team Assessment

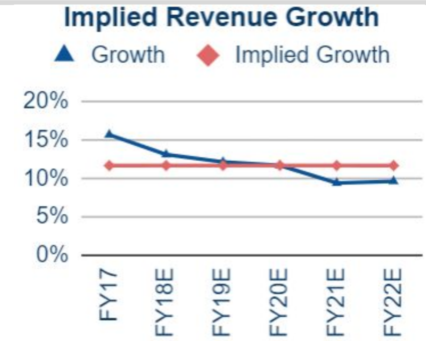
	FY 15	FY 16	FY 17	FY 18E	FY 19E	FY 20E	FY 21E	FY 22E
Revenue	$ 15,137,484	$ 16,300,422	$ 18,856,296	$ 21,327,917	$ 23,917,992	$ 26,717,779	$ 29,231,464	$ 32,047,414
Cost of Sales and Services	$ (5,388,585)	$ (5,619,645)	$ (6,460,794)	$ (7,417,594)	$ (8,318,391)	$ (9,292,124)	$ (10,166,353)	$ (10,896,121)
Gross Profit	**$ 9,748,899**	**$ 10,680,777**	**$ 12,395,502**	**$ 13,910,323**	**$ 15,599,601**	**$ 17,425,655**	**$ 19,065,110**	**$ 21,151,293**
Other Income (Expense)	$ 360,285	$ 967,904	$ 603,968	$ 1,200,000	$ 1,177,350	$ 1,315,168	$ 1,438,903	$ 1,217,802
Operating Expense	$ (4,581,506)	$ (5,619,730)	$ (5,561,219)	$ (6,699,425)	$ (7,513,007)	$ (8,392,463)	$ (9,182,049)	$ (10,066,582)
EBIT	**$ 5,527,678**	**$ 6,028,951**	**$ 7,438,251**	**$ 8,410,898**	**$ 9,263,944**	**$ 10,348,361**	**$ 11,321,964**	**$ 12,302,513**
Interest Expenses	$ (1,159,186)	$ (1,272,385)	$ (1,254,767)	$ (1,159,186)	$ (1,159,186)	$ (1,159,186)	$ (1,159,186)	$ (1,159,186)
Pre-tax Income	$ 4,368,492	$ 4,756,566	$ 6,183,484	$ 7,251,712	$ 8,104,758	$ 9,189,175	$ 10,162,778	$ 11,143,327
Income Tax Expense	$ (1,185,267)	$ (669,176)	$ (821,651)	$ (1,073,420)	$ (1,201,377)	$ (1,364,039)	$ (1,510,080)	$ (1,619,724)
Net Income	**$ 3,183,225**	**$ 4,087,390**	**$ 5,361,833**	**$ 6,178,293**	**$ 6,903,382**	**$ 7,825,136**	**$ 8,652,699**	**$ 9,523,603**
Net Margin	21.0%	25.1%	28.4%	29.0%	28.9%	29.3%	29.6%	29.7%

	FY 15	FY 16	FY 17	FY 18E	FY 19E	FY 20E	FY 21E	FY 22E	Terminal Value
Date	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22	12/31/22
EBIT	$ 5,527,678	$ 6,028,951	$ 7,438,251	$ 8,410,898	$ 9,263,944	$ 10,348,361	$ 11,321,964	$ 12,302,513	
Less Tax	$ (1,185,267)	$ (669,176)	$ (821,651)	$ (1,073,420)	$ (1,201,377)	$ (1,364,039)	$ (1,510,080)	$ (1,619,724)	
Add Depreciation & Amortization	$ 2,305,546	$ 2,378,131	$ 2,894,175	$ 3,211,179	$ 3,601,147	$ 4,022,689	$ 4,401,155	$ 4,825,131	
Less Change in NWC	$ (7,873,389)	$ 2,228,883	$ (2,689,384)	$ 4,086,358	$ (4,433,731)	$ (5,482,296)	$ 314,312	$ (691,760)	
Less CAPEX	$ (1,642,787)	$ (8,162,727)	$ (3,031,183)	$ (6,500,000)	$ (3,497,705)	$ (4,022,689)	$ (11,333,333)	$ (11,333,333)	
Free Cash Flow	$ (2,868,219)	$ 1,804,062	$ 3,790,208	$ 8,135,016	$ 3,732,278	$ 3,502,026	$ 3,194,019	$ 3,482,827	$ 23,340,696

Appendix 23. Projection of Implied DCF

Source: Team Assessment

PPAP Financial Projection	FY17	FY18E	FY19E	FY20E	FY21E	FY22E
Growth	15.68%	13.11%	12.14%	11.71%	9.41%	9.63%
Implied Growth	**11.68%**	**11.68%**	**11.68%**	**11.68%**	**11.68%**	**11.68%**
% FCF Margin	20%	38%	16%	13%	11%	11%
% Projected FCF Growth		115%	-54%	-6%	-9%	9%
% FCF Conversion		79%	32%	27%	22%	22%



Appendix 24. WACC Sensitivity Calculation

Source: Team Assessment

Terminal Value		WACC				
		17.07%	17.57%	18.07%	18.57%	19.07%
Perpetual Growth%	1.74%	$ 23,113,512	$ 22,383,478	$ 21,698,148	$ 21,053,537	**$ 20,446,122**
	2.24%	$ 24,010,193	$ 23,227,104	$ 22,493,482	$ 21,804,784	$ 21,157,005
	2.74%	$ 24,969,446	$ 24,127,614	**$ 23,340,696**	$ 22,603,486	$ 21,911,420
	3.24%	$ 25,998,056	$ 25,090,964	$ 24,245,036	$ 23,454,288	$ 22,713,490
	3.74%	**$ 27,103,830**	$ 26,123,968	$ 25,212,483	$ 24,362,458	$ 23,567,879

Scenario	Negative	Target	Positive
Terminal Value	$20,446,122	$23,340,696	$27,103,830
Stock Price in USD	$ 0.96	$ 1.58	$ 2.07
Stock Price in KHR	KHR3,846	KHR6,326	KHR8,297
Current Stock Price		KHR6,440	
% Change	-40.28%	-1.77%	28.83%

Appendix 25. Comparable Company Analysis

Source: PPAP Report, Bloomberg, Team Assessment

Comparable Company	Market Data		Financial Data (FY17)			Multiples (FY17)	
	Price ($/share)	EV ($)	EBITDA ($)	Earnings ($)	EPS ($/share)	P/E (x)	EV/EBITDA (x)
Dinh Vu Port Development and Investment JSC	$ 1.85	$ 49,500,000	$ 14,820,000	$ 12,650,000	$ 0.32	5.78	3.34
Vietnam Container Shipping JSC	$ 1.87	$ 110,582,707	$ 23,310,000	$ 9,390,000	$ 0.19	9.84	4.74
Port of Hai Phong JSC	$ 0.47	$ 119,400,000	$ 40,740,000	$ 15,340,000	$ 0.05	9.40	2.93
Hai An Transport And Stevedoring JSC	$ 0.58	$ 27,700,000	$ 10,460,000	$ 6,060,000	$ 0.17	3.41	2.65
Cat Lai Port JSC	$ 1.03	$ 30,800,000	$ 6,450,000	$ 3,450,000	$ 0.10	10.30	4.78

	Multiples (FY17)		Discounts			Risk-Adjusted Multiples	
	P/E (x)	EV/EBITDA (x)	Country Risk Premium	Equity Risk Premium	Liquidity Risk Premium	P/E (x)	EV/EBITDA (x)
Average	7.75	3.69	1.15%	1.15%	3.00%	7.34	3.49
Median	9.40	3.34	1.15%	1.15%	3.00%	8.90	3.16

Subject Company	Price ($/share)	EPS ($/share)	Share Outstanding	EV ($)	EBITDA ($)	P/E (x)	EV/EBITDA (x)
Phnom Penh Autonomous Port (PPAP)	$ 1.61	$ 0.26	20,684,365	$ 55,700,000	$ 10,300,000	6.19	5.41

	Median	Average
P/E Implied Share Price	$ 2.31	$ 1.91
	KHR9,258	KHR7,630
EV/EBITDA Implied Share Price	$ 1.58	$ 1.74
	KHR6,300	KHR6,956