

RELATIVE VALUATION OF TOA PAINT (THAILAND)

CHAYAKARN TESSAWASDI

A large, faint watermark of the Mahidol University seal is centered on the page. The seal is circular and contains a central emblem with Thai script around the perimeter.

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RELATIVE VALUATION OF TOA PAINT (THAILAND)

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M.M. (CORPORATE FINANCE)

THEMATIC PAPER ADVISORY COMMITTEE: PROF. ROY KOUWENBERG,
Ph.D., ASST. PROF. SIMON ZABY, Ph.D., EAKAPAT MANITKAJORNKIT, Ph.D.**ABSTRACT**

This thematic paper presents the valuation of TOA Paint (Thailand) Public Company Limited which applies relative valuation methods in order to evaluate TOA's target price for 2023. The paper covers business description, macroeconomic and industry analysis, competition analysis, valuation, and investment risk. Then, the relative valuation is conducted in terms of both historical multiple bands and peer group multiples by using three multiples which are P/E, P/BV, and EV/EBITDA. Nonetheless, the method that is most suitable for TOA in this thematic paper is historical multiple bands because TOA and its peers are quite different in terms of fundamental outlooks. Regards to the findings, investors are recommended to "Hold" TOA because the target price for 2023 is THB 34.4, while the current price as of March 2, 2023, is at THB 31.5 which implies only 9% upside potential.

KEY WORDS: Relative valuation / Historical multiple bands / Peer group multiples /
TOA

59 pages

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LIST OF ABBREVIATIONS

AEC	ASEAN Economic Community
AGM	Annual General Meeting of Shareholders
AKZO.AS	Akzo Nobel NV
BOD	Board of directors
BOT	Bank of Thailand
CAPEX	Capital expenditure
CG	Corporate Governance
D/E	Debt-to-equity ratio
DCC	Dynasty Ceramic Public Company Limited
Dimet	Dimet (Siam) Public Company Limited
Dpaint	Delta Paint Public Company Limited
EPS	Earnings per share
EV/EBITDA	Enterprise value to earnings before interest, taxes, depreciation, and amortization
FED	US Federal Reserve
GDP	Gross Domestic Product
IMF	International Monetary Fund
IPO	Initial public offering
MD&A	Management discussion and analysis
P/E	Price to earnings ratio
P/BV	Price to book value ratio
PPG	PPG Industries Inc
ROE	Return on equity
SET	Stock exchange of Thailand
SG&A	Selling, general, and administration expense
SHW	Sherwin-Williams Company
THB	Thai Baht
TOA	TOA Paint (Thailand) Public Company Limited

CHAPTER I

INTRODUCTION

TOA Paint (Thailand) Public Company Limited is paint manufacturing and distributing company in Thailand. The company has listed in the stock exchange of Thailand (SET) in 2017 which is categorized in the construction material sector within the property and construction industry.

Products of TOA can be categorized into two types which are decorative paint and coating products, and non-decorative paint and coating products. The company's main source of revenue in 2021 is decorative paint and coating products which is 63% of the company's total revenue and non-decorative paint and coating products is about 34%. Also, the company's sales in Thailand are 85% while overseas sales are 15%.

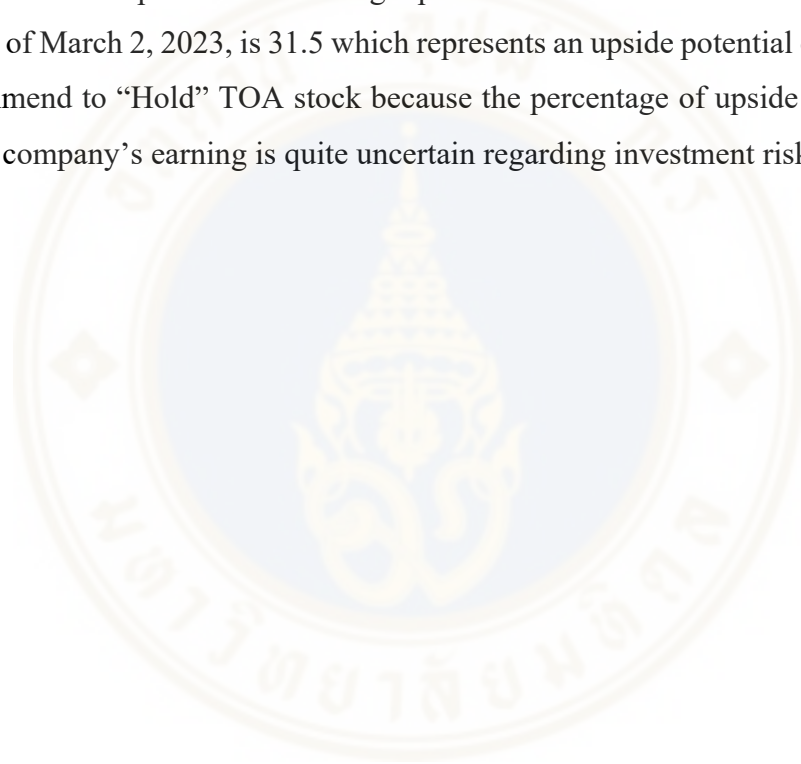
During COVID-19, the global economy contracted which caused a supply disruption and a rising in fuel price that affected TOA's raw material price became higher. However, the property and construction industry has expanded in 2021 and expected to grow regards to an economic rebound.

Revenue of TOA decreased in 2020 due to the pandemic that affected the company's performance and the net profit growth also decreased due to a lower gross profit and higher SG&A expenses. In 2022, the revenue of TOA increased because the company increased selling price of non-decorative products and sales volume through retail and modern trade channels, but its net profit margin decreased due to a higher raw material cost that leads to a lower gross profit.

For TOA's relative valuation, I provide both trailing and forward of price to earnings ratio (P/E), price to book value ratio (P/BV), and enterprise value to earnings before interest, taxes, depreciation, and amortization (EV/EBITDA) in order to find the target price of TOA. Based on the historical multiple bands, the results show that trailing P/BV, forward P/BV, and forward EV/EBITDA indicate TOA as undervalued but trailing P/E represents that TOA is overvalued while trailing EV/EBITDA and forward P/E indicate that TOA is not over-or-undervalued, compares to its own history.

Moreover, based on peer group multiples, I selected six peers of TOA which consists of both domestic and international companies that are in the same industry. Both peer group trailing, and forward multiples represent that TOA is overvalued when compared with peer median. However, TOA and its peers are different in several outlooks such as market capitalization that TOA has market capitalization as of March 2, 2023, at \$1.8 billion while most peers have a market capitalization larger than \$10 billion.

Hence, the historical multiple bands are more appropriate for the relative valuation of TOA, and I decided to take average of target price from all multiples based on historical multiple bands. The target price for 2023 is 34.44 while the current share price as of March 2, 2023, is 31.5 which represents an upside potential of 9%. However, I recommend to “Hold” TOA stock because the percentage of upside potential is low, and the company’s earning is quite uncertain regarding investment risks.



CHAPTER II

BUSINESS DESCRIPTION

2.1 Business Overview

TOA Paint (Thailand) Public Company Limited is a company in the construction materials sector that produces and distributes paint and coating products in Thailand. Formerly, the business was established by the Tangkaravakoon family in 1964 as a family business which imported Japanese paint to sell in Thailand. In 1977, the company was incorporated with TOA in Thailand then tried to expand to other countries in Southeast Asia. The first foreign subsidiary was established in Vietnam in 1995. The company changed its legal status to public limited company in 2017 and registered ordinary shares for an initial public offering (IPO) of 254,000,000 shares at a par value of THB 24 per share which the company raised approximately THB 5,887.2 million which the company received to expand and develop its business, and for its working capital.

The vision of the company is “to become a leader of the end-user paint and coating industry in ASEAN Economic Community (AEC) through product differentiation and the provision of service solutions” and the company’s goal is “to be the market leader in the paint and coating industry in the AEC and successfully capitalize on the high potential growth of the region’s markets”. (TOA, 2021)

2.2 Company’s Group Structure

TOA company’s group structure as of July 1, 2022 is as below:

Figure 2.1 TOA’s Group Structure



Sources: TOA annual report 2021

2.3 Business Lines

2.3.1 Products

The company's main products are decorative paint topcoats, sealers, and primers. Topcoats are used as the topmost coating to improve the aesthetics for either interior or exterior. In addition, sealers are used on the surface to prevent the disintegrating between substrate and topcoat, but primers will help paint adhere to the surface smoothly. Hence, it can be divided into two main categories which are decorative paint and coating products, and non-decorative paint and coating products.

2.3.1.1 Decorative Paint and Coating Products

There are three types of decorative paint and coating products which consists of premium grade products, medium to economy grade products, and other decorative paint products as follows:

- **Premium Grade Products**

Premium paint and coating products provide some specific characteristics such as easy-to-use, better washability, enhanced surface coverage, and more durability. Technologies used for producing premium products can create value-added to satisfy customers' needs while it allows the company to charge premium prices. Moreover, this premium product was developed according to the concept of eco-friendly which it was one of the company's strategies.

- **Medium to Economy Grade Products**

Medium grade paints and coating products use raw materials at standard level with a different formula to produce compares to the premium product, so its price is cheaper. Additionally, the target group for medium grade paints and coatings are the first-time end users and the state sectors due to its reasonable price and its quality that was qualified as Thai Industrial Standards.

- **Other Decorative Paint Products**

To improve its product and service and respond to all customers' preferences, the company has launched Auto Tinting Machine to service customers which can produce various color shades within 3 minutes. Therefore, customers can customize color apart from those available colors in store or catalog.

2.3.1.2 Non-Decorative Paint and Coating Products

There are three types of non-decorative paint and coating which are construction chemicals products, heavy-duty coating products, and other non-decorative paint products. The details for each type are as follows:

- **Construction Chemical Products**

Construction chemical products can be used on materials or added to other materials that will be used at construction sites. There are numerous types of construction chemicals such as tile adhesive mortar, filler and sealant, wall rendering, concrete bonding and repairing, and wall rendering that are usually used together with construction materials which provides specific features such as increasing functionality and improving the capacity that can help to increase workability in constructing.

- **Heavy-Duty Coating Products**

This type of product is the topcoats under the “HeavyGuard” brand. It is often used on surfaces that must withstand intense conditions such as corrosion and heavy weights. Furthermore, it can be applied with several surfaces such as pipes, concrete walls, and steel structure and it will help to prevent cracks on surfaces.

- **Other Non-Decorative Paint Products**

Other Non-Decorative Paint Products are paint and coating products for wood, hardware, products under Shell brand and Chiandrite brand, particular paints, auto tinting machines, gypsum boards, and tiles.

2.3.2 Revenue Structure

According to the table below, it illustrates the company's sales breakdown from 2019 to 2021 which can be obviously seen that the highest proportion of sales was decorative paint and coating products.

Table 2.1 TOA’s Revenue Structure

Year ended December 31	2019		2020		2021	
	THB million	%	THB million	%	THB million	%
Decorative Paint and Coating Products	11,635.0	68.5	10,774.3	66.1	11,078.0	63.0
Non-Decorative Paint and Coating Products	4,866.1	28.7	5,185.2	31.8	5,938.3	33.8
Other Products	477.2	2.8	336.5	2.1	554.2	3.2
Total	16,978.3	100.0	16,296.0	100.0	17,570.5	100.0

Sources: TOA annual report 2021

2.4 Strategies

- **Enhance brand engagement to be No.1 in the customer's mind**

To maintain leadership as a top-of-mind brand, the company utilized cutting-edge technology to manufacture high-quality products and try to satisfy all customers with a comprehensive selection through differentiated products based on either pricing or functionality. Due to the company's strong research and development capabilities, it is devoted to sophisticated technology such as the auto tinting machines that can respond to an upcoming trend and customer's demand quickly which enable the company to capture at competitive prices through these better functionalities and greater value propositions. In addition, the company will benefit from this competitiveness and economies of scale which creates a greater opportunity for the company to grow further and earn more profit.

- **Expand into new potential markets**

Expanding into a new potential market will provide the company with more availability in reaching distribution networks. Additionally, the company has expertise in the expansion into AEC markets where the company has already operated in Vietnam, Indonesia, Myanmar, Cambodia, Laos, and Malaysia. Hence, enhancing the company's presence in the AEC can stimulate the demand for products. Apart from that, more product segments will also help the company to stably increase sales growth and can take advantage of the market that has high growth potential. The company expanded its product segment by providing construction materials that cover entire processes since the beginning of the construction until painting and renovate. Therefore, a wider range of product lines will let end users have more choices to consider and can respond to their wants and needs so these will help to stimulate the company's total sales.

- **Develop innovative products and services for target segments**

The company has a strong emphasis on research and development which has already successfully responded to changes in climate conditions, technology improvements, and consumer demands by efficiently using existing products technical. Furthermore, the company has made a commitment to develop eco-friendly products to

satisfy customers who are aware about environmental issues which the company already succeeded in developing with recyclable raw materials while its production and technologies are environmentally friendly, as well.

- **Strengthen distribution channels**

The company would like to reach every customer's segment as much as possible and also has an intention to expand their distribution channels by applying the strategy of both direct and indirect sales. First, the company has chosen the retail distributors to directly introduce and promote products to the retail shop's owners/customers. Secondly, the company ensures that the product consultants will provide in-depth information and recommendations to the end-users in order to let them get the suitable product through modern trade distribution channels. Lastly, the company sells the products through the project sales teams which sell directly to the project owners and customers for the project-based work. In addition, the project sales teams and sales spec teams will design the logistic system together with the project owners and customers. Apart from the existing products, the company would bring out the synergy from the expanding distribution channels by distributing the new product to the markets including construction chemicals, which would support the company's growth.

- **Embrace digital platform**

Due to the era of digital transformation together with the price competitive, the company introduced the digital platform to support the changes. Customers' behavior has been changed over the period and technology is the key to influence the customers' decision, economic and social. The company built "www.whoservice.com" to match the demand of the house's owner who would like to fix, renovate, or build a new home with the professional subcontractors who passed the TOA standard and provide the total solution to the customers as one-stop service. Additionally, the company also created "www.toasamart.com", which not only provides e-commerce, but also the design service that customers can select the color shade and other TOA products. Moreover, the company also uses PR channels through social media such as Facebook and Youtube in order to create brand image for TOA products.

2.5 Management and Governance

2.5.1 Management

Table 2.2 TOA's Management Team

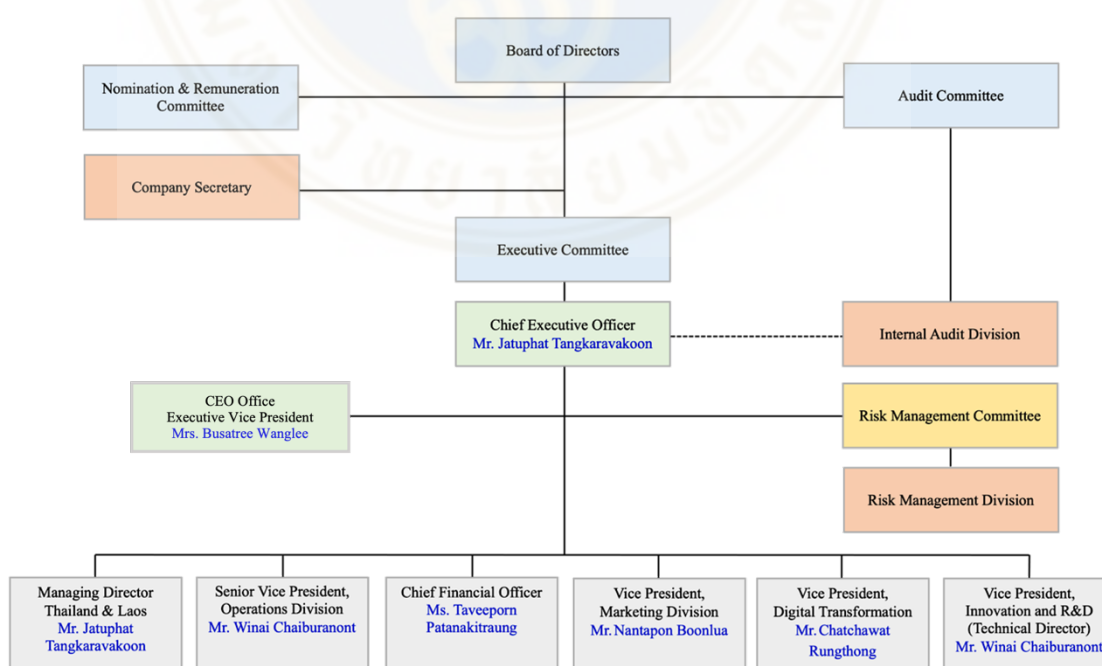
Name	Position (as of March 1, 2022)
1. Mr. Jatuphat Tangkaravakoon	Chief Executive Officer, and Acting Managing Director, Sales Division-Thailand & Laos
2. Mrs. Busatree Wanglee	Executive Vice President, Office of Chief Executive Officer
3. Miss Taveeporn Patanakitraung	Chief Financial Officer, and the person supervising accounting
4. Mr. Winai Chaiburanont	Senior Vice President, Operation Division, and Vice President, Innovation and R&D (Technical Director)
5. Mr. Nantapon Boonlua	Vice President, Marketing Division
6. Mr. Chatchawat Rungthong	Vice President, Digital Transformation

Sources: TOA annual report 2021

2.5.2 Corporate Governance (CG)

Figure 2.2 TOA's Corporate Governance Structure

As of March 1, 2022



Sources: TOA annual report 2021

According to the annual report, the company complied with the CG code, which is the SET's principles of good Corporate Governance for Listed companies. Apart from CG code, the company also complies with Corporate Governance Report (CGR), ASEAN CG Scorecard, and AGM checklist as well as the ESG reporting enhancement.

For the company performance regarding the CG, the company gets a full score of 100% AGM quality by Thai Investors Association, and 5-star - excellent level for CGR assessment result under the CGR of Thai Listed companies 2021.

2.5.3 Major Shareholders

The major shareholders of TOA are Tangkaravakoon family, which ranks 9th of Thailand's 50 Richest in 2022 with net worth of \$2.8 billion. The family started from the hardware business and expanded to paint supplies by importing paint from Japan. As this is the family business, Mr. Prachak has 4 children and equally gave the shares to them as below list shows. The family holds 75% of the total number of shares, which means that there are only 25% of minor shareholders or 25% of free float, which is considered as low free float.

Table 2.3 Top 10 major shareholders of TOA

Shareholder (as of March 14, 2022)	No. of Shares	% Shareholding
1. TOA Group Holding Co., Ltd.	608,400.000	30.0
2. Mr. Vonnarat Tangkaravakoon	182,600.000	9.0
3. Mr. Jatuphat Tangkaravakoon	182,600.000	9.0
4. Mr. Nattavuth Tangkaravakoon	182,600.000	9.0
5. Mrs. Busatree Wanglee	182,600.000	9.0
6. Mr. Prachak Tangkaravakoon	91,300.000	4.5
7. Mrs. Laor Tangkaravakoon	91,300.000	4.5
8. MORGAN STANLEY & CO. INTERNATIONAL PLC	75,300.000	3.7
9. Bualuang Long Term Equity Fund	53,115.500	2.6
10. Bualuang Top Ten Fund	32,865.500	1.6

Sources: TOA annual report 2021

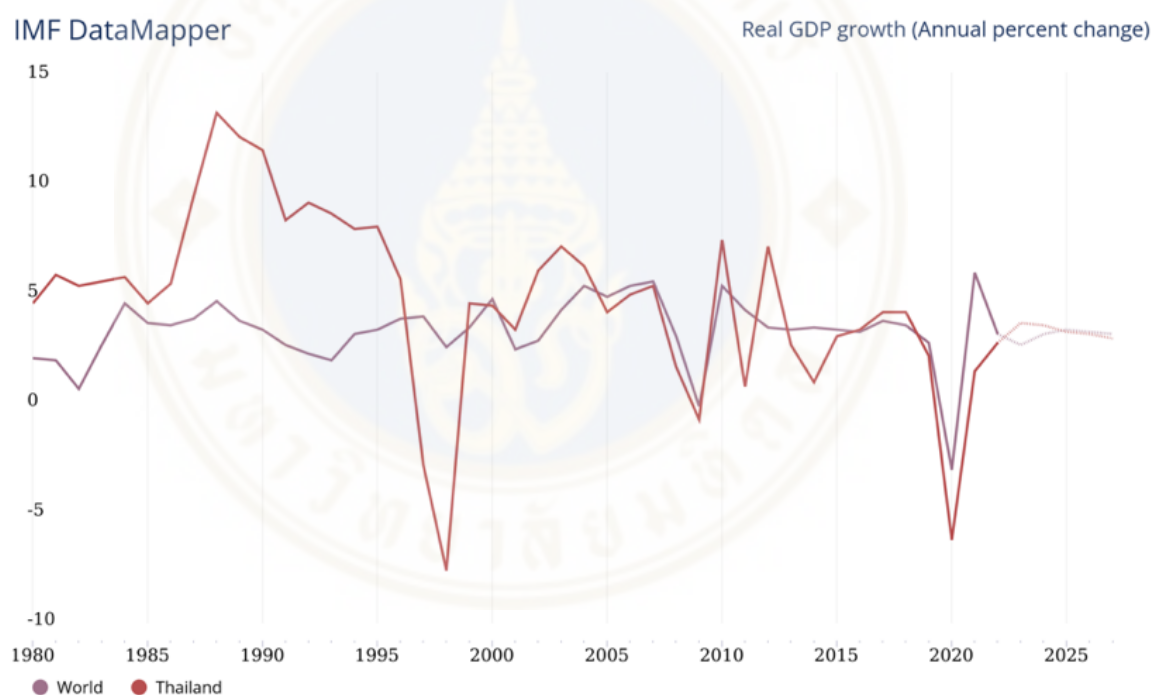
CHAPTER III

MACRO-ECONOMIC, INDUSTRY, AND COMPETITION ANALYSIS

3.1 Macro-Economic Analysis

3.1.1 Global and Thai GDP

Figure 3.1 Real GDP growth

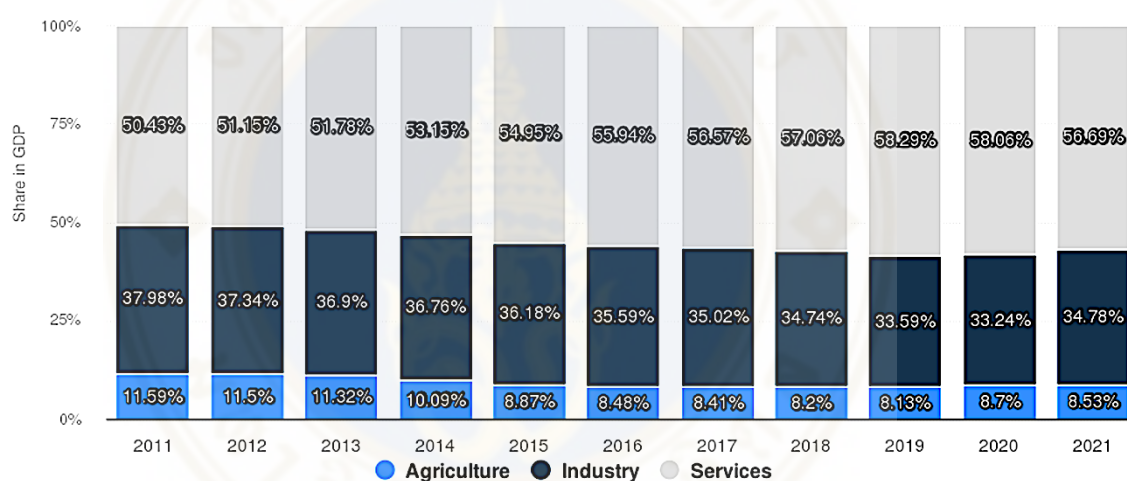


	2019	2020	2021	2022	2023F	2024F	2025F
Global	2.8%	-3.0%	6.0%	3.2%	2.7%	3.2%	3.4%
Thailand	2.2%	-6.2%	1.5%	2.8%	3.7%	3.6%	3.3%

Sources: IMF data mapper

According to the Figure 3.1 from the International Monetary Fund (IMF), it illustrates real GDP growth between Thailand (red line) and the global (purple line). Real GDP growth of both global and Thailand decreased significantly in 2020 due to COVID-19 outbreak that affect the whole economy. The global GDP growth reduced from 2.8% in 2019 to -3% in 2020 then rose to 6% in 2021 but growth will decelerate which will remain approximately at 3% for the following year. For Thailand, GDP growth also decreased from 2.2% in 2019 to -6.2% in 2020 then gradually increased to 1.5% and 2.8% in 2021 and 2022, respectively. IMF expected that Thai GDP will remain around 3% to 4%.

Figure 3.2 Share of economic sectors in Thai GDP



Sources: Statista 2023

In 2019, COVID-19 pandemic began in Wuhan, China that quickly and widely spread leads the global economy in 2020 experienced a severe recession along with the lockdown policy that was used to mitigate and control the outbreak. The global economy was in a downturn aligned with the decline in global demand which related to several parts including private consumption, investment, manufacturing production, international trade, and tourism. For Thailand, according to the Figure 3.2, it represents that the main component of Thai GDP is the services sector followed by industry and agriculture, respectively. Since the government announced the lockdown policy and other restrictions, it also impacted service sectors such as entertainment, sports venues, hotel, and restaurant. People avoided going and eating outside while they were more

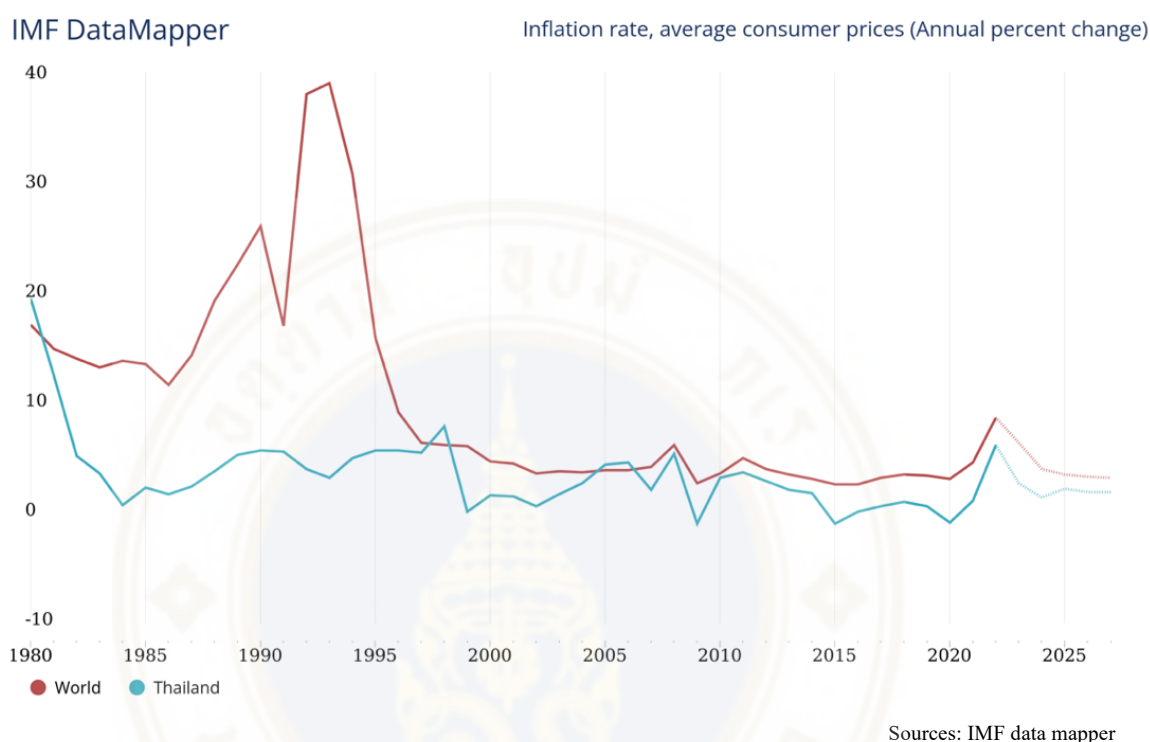
careful about spending. There was a decline in the numbers of foreign tourists and Thai people did not travel to other provinces which may cause local businesses to shut down permanently. However, GDP growth in the future is expected to be higher when there is a relaxation of restrictions. For example, China announced the lessening of international travel restrictions in 2023 which will benefit the tourism sector in Thailand that also drives Thai GDP.

Moreover, TOA is a company in the construction material sector in the property and construction industry so the impact on the company was aligned with the contraction of the property market and TOA faced late payment from some customers that might result in the company's bad debt. Several companies decelerated their investment while ongoing construction has been ceased due to worker movement prohibition. From the customer's side, they were more cautious when the economic slowdown that impacted customer's ability to pay so they delayed their purchasing decision. In addition, COVID-19 affected the production of TOA because it imported raw materials from overseas, so its raw materials price relates to petrochemical prices and foreign exchange rates. "TOA's cost of sales was attributable to the average cost per unit of main raw material increased (TOA MD&A, 3/2022)". However, when people get vaccinated, and it has a decline in number of infection cases, every country started to alleviate the restrictions then economy recover considerably in 2021 but growth will slow down in the following year because it already experienced high growth with the max capability of recovery. But Thai GDP growth also increased from 2021 to 2022 that might be because Thai government relief measures are quite delayed. After easing restrictions, it will stimulate the economy and boost the demand for construction materials, as well. Hence, TOA will have positive effects on its future cash flow and performance from the country's economic recovery after Covid-19.

3.1.2 Inflation rate, Interest rate, and Exchange rate

- Inflation rate

Figure 3.3 Inflation rate



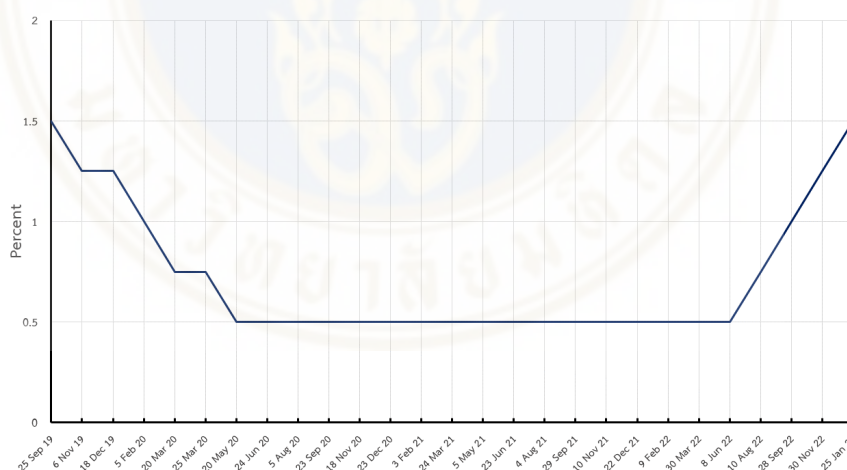
According to the figure above, global inflation rate in the past few years was approximately 3% while Thailand has inflation around 1%. In 2020, global inflation rate was 3.2% while Thailand inflation dropped to -0.8%. Then, inflation rate gradually increased until 2022 when global inflation rate was 8.8% and Thailand inflation rate was at 6.3%. A rising in global inflation was because of an imbalance between supply and demand, as well as the effect of the war in Ukraine of energy prices. From the demand-side factor, there is an increasing trend in line with the global economic recovery because many countries have focused on distributing vaccines instead of implementing strict control of an outbreak as well as there was financial relief from the government to households that also help to boost people's purchasing power and demand was rapidly return. At the same time, the manufacturing sector that had been disrupted at the beginning of the outbreak has gradually returned but it is still not enough to meet demand. As a result, overall product prices have increased considerably such as

semiconductor products and commodities. Moreover, Thailand's inflationary pressure from both the demand-side and the supply-side factors is lower than many countries partly because Thai economy is still in a recovery phase and it is expected to return to pre COVID-19 levels in early 2023, as the Thai economy is highly dependent on the recovery of the tourism sector and labor income remains fragile.

In 2022, several central banks contracted their monetary policy in order to maintain inflation rate within the target range and IMF expected that it will decrease in 2023 and slightly drop toward the target inflation rate. Additionally, as stated in the monetary policy report from the bank of Thailand (BOT), “inflation rate increased as energy price and electricity cost increased which are the supply-side factor”. TOA imports raw materials from overseas, so the price of raw materials generally fluctuates with the energy price which leads TOA to have a higher total expense.

- **Interest rate**

Figure 3.4 Policy interest rate in Thailand



Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
0.50%	0.75%	1.00%	1.00%	1.25%	1.25%	1.50%

Sources: Bank of Thailand (BOT)

The policy interest rate is the rate that the central bank pays to commercial banks who deposit money or the rate that the central bank charges from commercial banks when borrowing money. Also, policy rate is one of the central bank's instruments

to control inflation and influence the economy. For Thailand, the policy rate is a 1-day bilateral repurchase rate which influences other types of interest rates in the economy. Generally, there is a positive relationship between policy interest rate and the deposit and loan interest rate of commercial banks. When the policy rate increases, commercial banks will increase their deposit and loan interest rate, but it will not increase in the same proportion as policy rate because commercial banks need to consider several factors such as inflation, demand for loan, quantities of deposit, and other costs.

According to the Figure 3.4, Thailand's policy rate declined to 0.5% in May 2020 and remained at this rate until June 2022. To alleviate impacts of COVID-19, BOT uses an expansionary monetary policy which is reducing policy rate in order to increase money supply. Additionally, BOT implemented several policies for both businesses and retail borrowers such as debt-restructuring, debt reduction, debt holidays, loan supporting for SMEs, lowering services fees and interest rate ceiling, and minimizing repayment rate for a credit card. Although a declining policy rate can stimulate economic growth but if people overspend, it will increase the price of goods and services which might lead to hyperinflation. In the third and fourth quarter of 2022, BOT responded to Thai economic recovery and prevent inflation risk due to its previous accommodative monetary policy, so they decided to increase the policy rate by 0.25 basis points in August, September, and November, consecutively. In January 2023, the policy rate was at 1.5% which BOT tries to normalize the growth and inflation outlook.

Changing interest rate can influence consumer behaviors in several ways because a lower policy rate means that borrowing cost is lower so the customers may be more willing to spend. In contrast, depositors also obtain less interest rate for their deposit so they will try to invest in other assets such as stocks in order to lower their opportunity cost. However, when BOT increased interest rate in Thailand, it would cause a higher mortgage finance cost which will affect customers who are deciding to purchase properties that will impact to TOA's sales, as well.

- **Exchange rate**

Figure 3.5 Exchange rate (USD to THB)



According to USD to THB figure above, it represents that the exchange rate is quite volatile while Thai baht appreciated against U.S. dollar throughout 2019. The exchange rate fluctuated due to the uncertainties of COVID-19 pandemic which Thai baht depreciated against U.S. dollar in the first quarter of 2020 and then appreciated in the following quarter until it began to depreciate in the second quarter of 2021 that might be because the government implemented either monetary or fiscal policy to alleviate impacts of COVID-19. In the last quarter of 2022, Thai baht appreciated against the U.S. dollar because US Federal Reserve (FED) started to tighten its monetary policy. Recently, FED is more aggressively tightened its monetary policy by increasing policy interest rate in order to prevent higher inflation which attracted investment flow into US leads U.S. dollar to strengthen meaning that Thai baht will depreciate against U.S. dollar.

A fluctuation in exchange rate due to COVID-19 affects TOA because the company has foreign plants and operates internationally. TOA also imports raw materials from overseas so raw material prices will fluctuate according to foreign exchange rates as well as petrochemical prices. Moreover, it exports to several countries which receivable will be in foreign currency. Since TOA is both importer and exporter, the company faces foreign exchange rate risk. When Thai baht appreciated against other currencies, the company will benefit from the lower cost of importing raw materials in terms of Thai baht, but it will provide negative impacts on export side as its products

will become more expensive in foreign countries. Regards to TOA's MD&A, it indicates that exchange rate volatility has a greater impact on the exposure to import prices which it caused a higher raw material price leads to a higher expenses and lower net profit, consecutively. To sum up, COVID-19 has impacted global supply chain and led to economic uncertainty which affects TOA's production and performance.

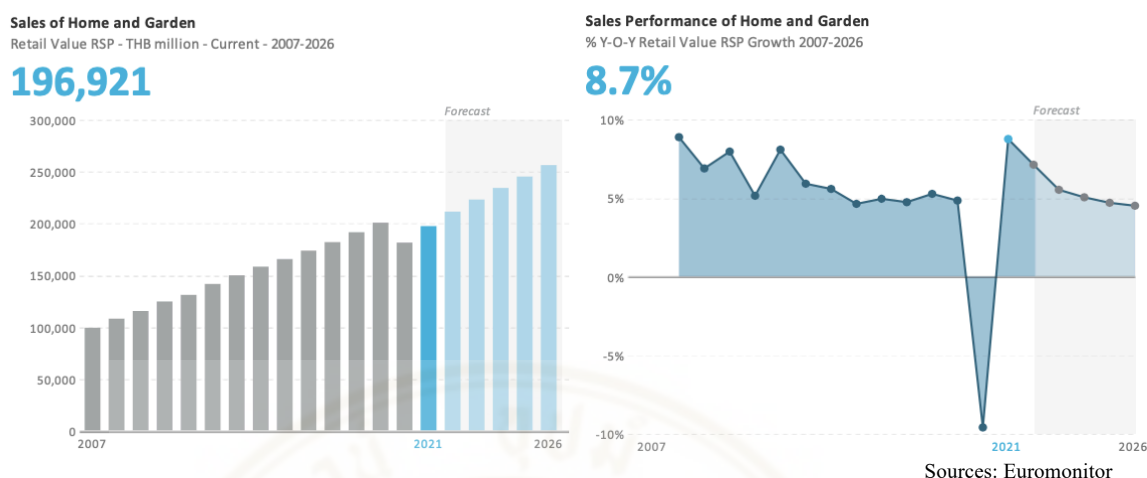
3.2 Industry Analysis

According to the industry group classification from the stock exchange of Thailand (SET), TOA operates in the property and construction industry, and is further categorized into the construction materials sector. It means that the performance of construction material companies is influenced by the property market trend.

The property and construction material industry is considered as one of the crucial industries in the economy because it has a significant role in creating jobs while the industry performance also depends on the economy. Generally, economic cycle can be divided into 4 periods which are recovery, peak, recession, and trough whereas the property and construction material industry will obtain positive effects during recovery because the interest rate will be at a low rate meaning that lending cost is cheaper. Moreover, the stocks in this industry are considered as cyclical stocks that perform correlated with the overall economy that is influenced by business cycles.

During COVID-19, Thailand's GDP growth decreased while the inflation rate increased due to an increase in oil prices. Customer's spending is lower because they did not purchase any assets and preferred to save their money for emergencies due to a decline in purchasing power. Moreover, property developers also postponed their projects because of uncertainties about COVID-19 controlling leads to a declining in demand for construction materials. In terms of production, the pandemic caused disruption due to the lockdown restriction that decreased raw material availability while transportation was also delayed which these leads to a higher input cost.

Figure 3.6 Sales of Home and Garden in Thailand



According to figure above, the industry has a strong growth in 2021 after a contraction period in 2020 but it is still not able to recover to the level in 2019. Most company implemented the work from home policy, so people's behaviors have been changed which people spent more time at home and cooked by themselves more than before. Hence, they would decorate their home to be furnished as home office and would notice some spot to repair which these will support growth in several sectors such as home furnishing and home improvement. On the other hand, producers also lower their price to stimulate sales. For example, Index Living Mall provides a discount up to 80% and offer interest-free payment. In addition, several companies launched new products that is more hygienic such as Cotto that promoted touchless sanitaryware products. Also, TOA was the first developer of innovative new normal house paints in Thailand which provides new standards to protect customers from the COVID-19. Its decorative paints have a silver nano technology that provides 1+ ions, thus effectively and rapidly trapping and eliminating the corona virus, which was tested by the Faculty of Tropical Medicine, Mahidol University.

Nevertheless, government has implemented the policy to help this industry such as reducing transfer ownership fees and mortgages for properties valued under 3 million baht to 0.01% until 31 December 2022 which will attract investors and can stimulate economy. When the economy is recovering during 2022 to 2023, this industry is expected to grow as customers are more willing to invest in residential and properties and construction spending is expected to grow approximately 5%. Additionally, the

public sector will spend on infrastructure megaprojects in the Eastern Economic Corridor (EEC) including developments of Map Ta Phut Port and a high-speed railway which will lead to a construction of private sector surrounding there.

Property and construction industry is expected to continue expanding according to a rebound of economy which will stimulate demand. Even e-commerce tends to grow because people are familiar with online shopping, but the nature of this industry requires customers to visit stores in order to review products before purchasing, although it is not all products that need to be tested. Additionally, the upcoming trend for this industry is smart products and sustainability. Nowadays, smart products trend becomes more popular because it is convenient and can support many functions. For example, the lighting manufacturers create smart lighting that can control by voice. Moreover, sustainability is a growing trend in the construction industry because customers are more socially conscious and environmentally responsible. The green building standards have become more common which encourage the use of eco-friendly materials and energy-efficient designs such as energy-efficient lighting that can reduce energy consumption and carbon footprint.

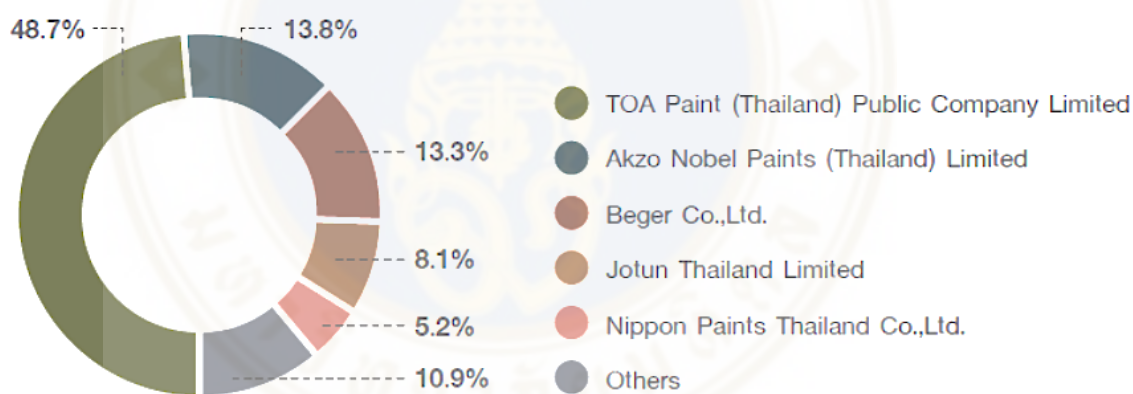
To sum up, the COVID-19 pandemic impacts several parts of construction material industry such as high cost of raw materials because of inflation and a global supply chain disruption including transportation obstacles. However, the industry earnings are expected to grow during the current economic recovery period. Several analysts estimated that TOA's performance will strengthen because of the increase in price of goods and a higher demand from either domestic or foreign countries.

3.3 Competition Analysis

According to the Figure 3.7, it shows that the main competitors are mostly international brands which are Akzo Nobel from Netherlands, Jotun from Norway, Nippon paint from Japan and other local paint manufactures. For the local paint manufactures, they compose of Delta Paint and Dimet Siam, which are listed in the Thailand's stock exchanges. All global brands are the direct competitors of TOA, who produce and sell the products like TOA including paints and coating. TOA gained almost 50% market share due to the competitive advantage that the company focuses on

distributing their product to the end-users through the retail distribution channel. To be more comparable in Thailand market, Delta Paint and Dimet Siam will be analyzed. For Delta Paint, the company was actually established from the same family of Tangkaravakoon, who is the brother of the founder of TOA. Delta Paint or Dpaint also produces and sells paint for buildings. Their main customers are subcontractors and painters, homeowners, and project owner for private and public sectors. Dpaint has their own research and development team to develop high quality paints such as Toptech, which reduce 75% of working time by painting only 1 time. For Dimet Siam, the company only provides the coating products, which are divided into three main groups including industrial coating for engineering use, architectural coatings for building, home, hotel or office building and contractor service groups for both interior and exterior construction.

Figure 3.7 Market share for decorative paints and coatings in Thailand in 2016



Sources: TOA annual report 2021

CHAPTER IV VALUATION

4.1 Financial Analysis

4.1.1 Growth analysis

- Revenue growth

Table 4.1 Revenue growth (Annual)

	Revenue From Operations (Million Baht)				Growth (%YoY)		
	31 Dec 18	31 Dec 19	31 Dec 20	31 Dec 21	31 Dec 19	31 Dec 20	31 Dec 21
TOA	16,256.83	16,978.30	16,296.00	17,570.47	4.44%	-4.02%	7.82%
Dpaint	523.44	585.75	596.16	749.46	11.90%	1.78%	25.71%

Revenue of TOA has increased from every year except the year 2020 due to COVID-19 pandemic which affected the company's performance; however, the performance has been turn around in 2021. For the Dpaint, the sector competitor, the revenue of Dpaint has increased more than TOA in term of percentage due to the fact that it launched new products between the year 2021 and 2022.

Table 4.2 Revenue growth (9M/2021 and 9M/2022)

	Revenue From Operations (Million Baht)		Growth (%YoY)
	30 Sep 21	30 Sep 22	30 Sep 22
TOA	12,898.81	15,204.22	17.87%
Dpaint	541.5	649.39	19.93%

In addition, for the latest period, the revenue of TOA also increased by 17.87% due to the fact that the company increased selling price of non-decorative product and sales volume through retail and modern trade channels. For the Dpaint, the sector competitor, the revenue of Dpaint has increased more than TOA in term of percentage due to the fact that it launched new products between the year 2021 and 2022, which led a sharp revenue increase those periods, also affecting the year-on-year quarterly growth by 19.93%.

- **Cost growth**

Table 4.3 Cost growth (Annual)

	Cost (Million Baht)				Growth (%YoY)		
	31 Dec 18	31 Dec 19	31 Dec 20	31 Dec 21	31 Dec 19	31 Dec 20	31 Dec 21
TOA	10,871.81	11,026.14	10,286.87	11,823.35	1.42%	-6.70%	14.94%
Dpaint	358.39	370.80	346.57	440.13	3.46%	-6.53%	27.00%

In the past, cost has increased and decreased aligned with the revenue growth trend until the latest year. The price of raw materials has increased a lot and affected both companies, TOA and Dpaint, to show the higher increase in cost than increase in the revenue due to the higher material costs. This led to a lower profit margin for both companies.

Table 4.4 Cost growth (9M/2021 and 9M/2022)

	Cost (Million Baht)		Growth (%YoY)
	30 Sep 21	30 Sep 22	30 Sep 22
TOA	8,563.57	10,783.47	25.92%
Dpaint	317.91	396.97	24.87%

For 9-month comparison, both companies' cost of sales is affected by the same reasons that the raw material prices increased.

- **SG&A growth**

Table 4.5 SG&A growth (Annual)

	SG&A (Million Baht)				Growth (%YoY)		
	31 Dec 18	31 Dec 19	31 Dec 20	31 Dec 21	31 Dec 19	31 Dec 20	31 Dec 21
TOA	3,152.81	3,361.86	3,510.06	3,515.56	6.63%	4.41%	0.16%
Dpaint	148.27	168.60	193.98	243.57	13.71%	15.05%	25.56%

SG&A growth is different between both companies. For TOA, SG&A has increased over the period until the year 2021 due to the fact that the company tried to control their selling expenses; however, it was offset by increasing administrative expenses of depreciation and amortization together with the incurred expenses of

COVID-19 prevention for employees. For Dpaint, as the company is newer and just went IPO in 2021, the company spend more on marketing and selling expenses since the company expand their branch and have to hire more salesperson to promote their product in the branches; however, Dpaint tried to control their administrative expenses which mainly back-office expenses.

Table 4.6 SG&A growth (9M/2021 and 9M/2022)

	SG&A (Million Baht)		Growth (%YoY)
	30 Sep 21	30 Sep 22	30 Sep 22
TOA	2,608.87	2,908.69	11.49%
Dpaint	170.32	205.19	20.47%

For 9-month comparison, both companies' SG&A are in the same trend of an increase in SG&A expenses due to the same reason as above.

- **Net Profit growth and EPS growth**

Table 4.7 Net Profit and EPS growth (Annual)

Net profit	Net Profit (Million Baht)				Growth (%YoY)		
	31 Dec 18	31 Dec 19	31 Dec 20	31 Dec 21	31 Dec 19	31 Dec 20	31 Dec 21
TOA	1,824.88	2,162.48	2,031.16	1,955.05	18.50%	-6.07%	-3.75%
Dpaint	12.08	36.20	42.90	52.59	199.67%	18.51%	22.59%
EPS	EPS (Baht)				Growth (%YoY)		
	31 Dec 18	31 Dec 19	31 Dec 20	31 Dec 21	31 Dec 19	31 Dec 20	31 Dec 21
TOA	0.90	1.07	1.00	0.96	18.89%	-6.54%	-4.00%
Dpaint	0.05	0.16	0.19	0.28	220.00%	18.75%	47.37%

The growth trend of net profit has decreased for TOA due to lower gross profit and increase SG&A expenses over the period. For Dpaint, the net profit has increased overtime since 31 Dec 2018 to 31 Dec 2021.

Table 4.8 Net Profit and EPS growth (9M/2021 and 9M/2022)

Net profit	Net Profit (Million Baht)		Growth (%YoY)
	30 Sep 21	30 Sep 22	30 Sep 22
TOA	1,482.54	1,131.69	-23.67%
Dpaint	42.71	38.71	-9.37%
EPS	EPS (Baht)		Growth (%YoY)
	30 Sep 21	30 Sep 22	30 Sep 22
TOA	0.73	0.55	-24.66%
Dpaint	0.18	0.18	0.00%

For 9-month period comparison from the year 2021 and 2022. TOA has performed worse as the net profit margin has dropped by 24% due to the lower gross profit, which is mainly from higher in raw material cost. For Dpaint, the net profit just dropped in the last quarter comparing to the same quarter in prior year due to the increase in raw material price and the increase in selling expenses of promoting the new product.

- **Free Cash flow growth**

Table 4.9 Free Cash flow growth (Annual)

	Free Cash Flow (Baht)				Growth (%YoY)		
	31 Dec 18	31 Dec 19	31 Dec 20	31 Dec 21	31 Dec 19	31 Dec 20	31 Dec 21
TOA	1,168.56	1,680.33	1,520.08	2,175.06	43.79%	-9.54%	43.09%
Dpaint	8.38	15.79	62.84	-8.69	88.42%	297.97%	-113.83%

Free cash flow of TOA has decreased between the year 2019 and 2020 due to the fact that the company repaid their debt and purchased investment during that period. For Dpaint, free cash flow has sharply decreased over the 5-year period and became negative in the year 2021 due to repaying of debt, and large purchases of property plant and equipment including machines to expand capacity.

Table 4.10 Free Cash flow growth (9M/2021 and 9M/2022)

	Free Cash Flow (Baht)		Growth (%YoY)
	30 Sep 21	30 Sep 22	30 Sep 22
TOA	1,968.43	737.25	-62.55%
Dpaint	-73.74	-113.18	53.49%

For the 9 months between 30 Sep 2021 to 30 Sep 2022, TOA's free cash flow has decreased due to new acquisitions including Gypmantech and Fast mix. For

Dpaint, it is the same effect as above that after IPO, the company repaid their debt and also purchased the machine for capacity improvement.

4.1.2 DuPont Analysis

Table 4.11 Dupont Analysis of TOA

TOA	31 Dec 18	31 Dec 19	31 Dec 20	31 Dec 21	30 Sep 21	30 Sep 22
Net Profit Margin	11.23%	12.74%	12.46%	11.13%	11.49%	7.44%
Asset Turnover	1.09	1.08	0.99	0.95	0.71	0.77
Equity multiplier	1.60	1.48	1.45	1.49	1.52	1.50
ROE	19.49%	20.37%	17.81%	15.70%	12.45%	8.61%

For TOA, regarding the DuPont analysis, ROE has decreased over the 5-year period, especially in the last quarter as of 30 Sep 2022. To breakdown in the detail, the company has lower net profit margin in the last quarter, while the company used to maintain the net profit margin around 11-12%. This is due to the fact that the company has to bear the higher raw material costs, which increased more than the rate of increase in selling price. The company may seem to worsen their asset utilization; however, the company just invested in software which make the portion of asset higher.

Table 4.12 Dupont Analysis of Dpaint

Dpaint	31 Dec 18	31 Dec 19	31 Dec 20	31 Dec 21	30 Sep 21	30 Sep 22
Net Profit Margin	2.31%	6.18%	7.20%	7.02%	7.89%	5.96%
Asset Turnover	1.12	1.13	0.89	0.76	0.71	0.65
Equity multiplier	100.86	8.01	3.26	1.66	3.51	1.56
ROE	260.34%	56.11%	20.91%	8.78%	19.66%	6.07%

For Dpaint, ROE is quite high in 2018 due to the fact that the company has high leverage that most assets are financed by debt, which is shown the very high equity multiplier. After its IPO in 2021 the ROE dropped to 8.78% since the equity multiplier decreased to 1.66 times. In addition, over the 5-year period, the company improved their profit margin. However, the asset turnover has decreased due to the fact that the company invested in facilities to improve their capacity to support the higher revenue. Nevertheless, in the latest quarter, their net margin dropped to 5.96% since the company spent more money on the salespersons to boost their sales which led to a decrease in ROE.

4.2 Relative Valuation

4.2.1 Historical multiple bands

I collected 5 years historical information of the company from Refinitiv to plot graphs which will provide both trailing and forward of P/E, P/BV, and EV/EBITDA bands. Trailing is based on historical earnings while forward will be based on the estimation of company's earnings in the future. Then, I used these data to compute the average and standard deviation for observe the trend of each multiple which will be shown as follows.

4.2.1.1 P/E Band

First of all, price to earnings ratio or P/E ratio indicates the linkage between stock price and earnings per share (EPS) of the company which often used to represent the worth of the company. It is widely used to define the market expectation through the price that investors are willing to pay for company's earnings which can compare with another's stock P/E multiple as well. If the P/E ratio is high, it either indicates that investors are more willing to pay per unit of earnings or the company is expected to have better future performance. Moreover, a high P/E ratio might show that a stock is overpriced, whilst a low P/E ratio can show that a business is undervalued. In addition, trailing P/E is computed by using a current stock price divided by the most recent four quarter's EPS. On the other hand, forward P/E is calculated by using a current stock price divided by estimated EPS of next fiscal year, using the average analyst EPS estimate.

According to the Figure 4.1, it illustrates the trailing P/E band which can be seen that the current trailing P/E as of March 1, 2023, is 44.35 that almost reach the 2SD band which it also higher than the 5 years average trailing P/E at 36.71. It indicates that TOA stock is overvalued relates to its own history. On the contrary, regarding to the Figure 4.2, it represents the forward P/E band which it has the current forward P/E as of March 1, 2023, at 29.39 that is just slightly lower than the 5 years average forward P/E at 30.62 but still above -1SD band of 27.25 meaning that it is not over- or undervalued compared to its own history.

Figure 4.1 Trailing P/E Band

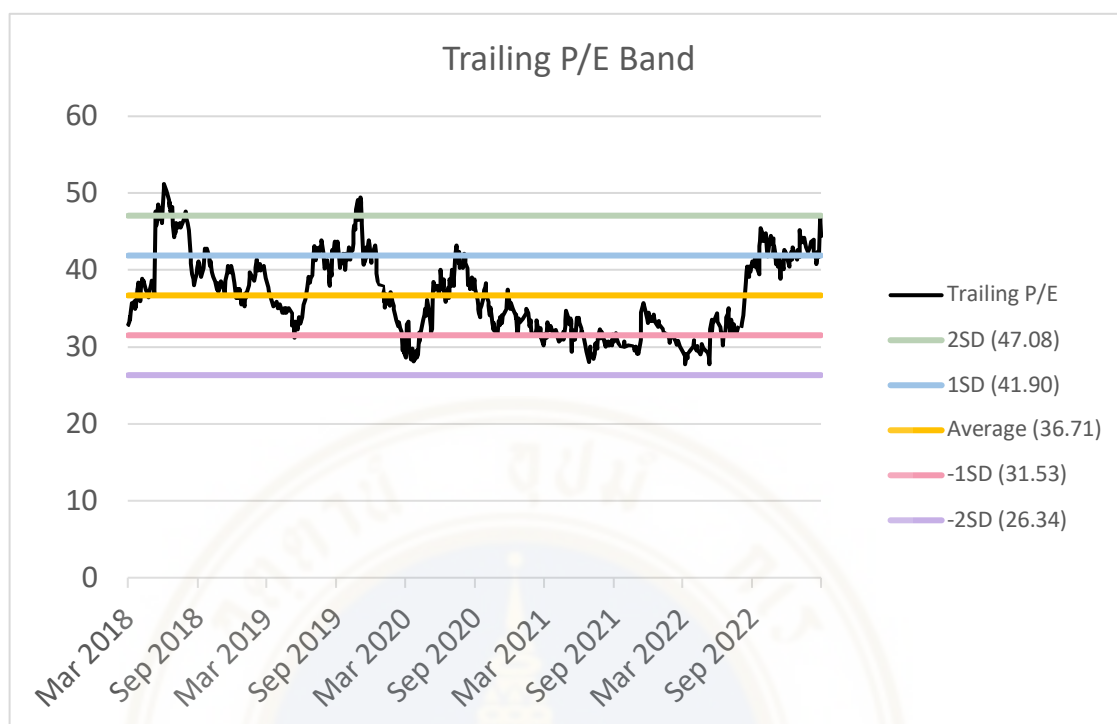
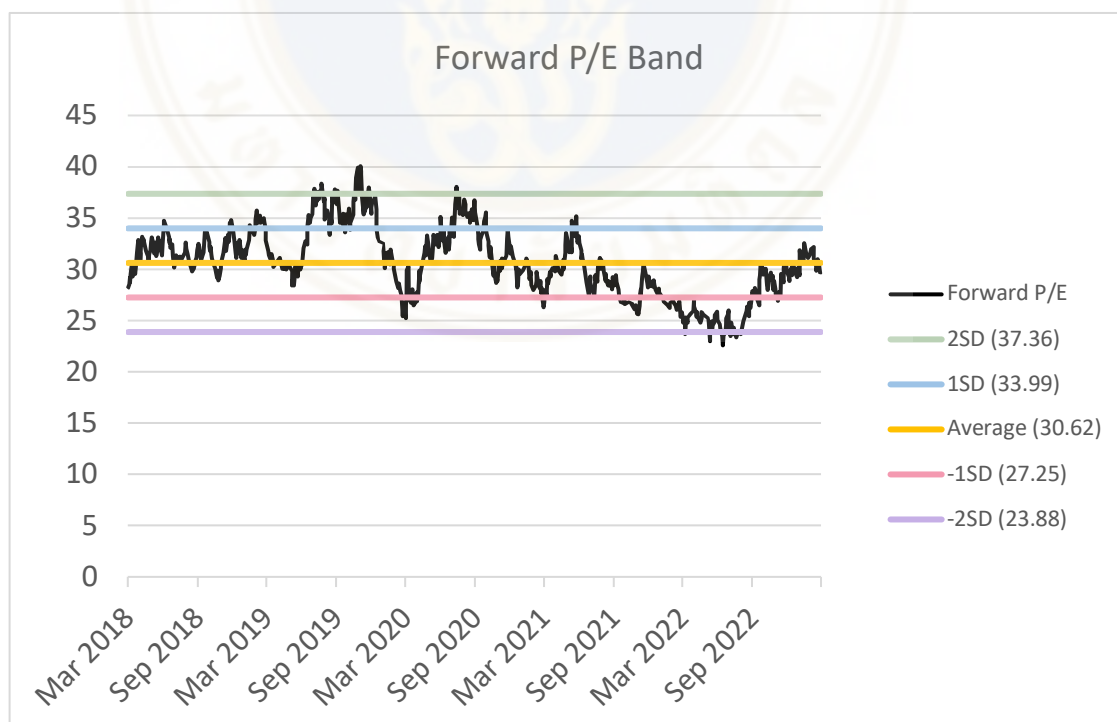


Figure 4.2 Forward P/E Band



As we can see, both trailing and forward P/E band decreased in the early of 2020 which below -1SD band because of COVID 19 that affect TOA stock price to drop from THB 45.75 in October 2019 to remain at THB 31 in March 2020. Moreover, TOA's earnings also drop due to a disruption of supply chain which caused an increase in several expenses such as cost of sales and raw material price as well as a declining in customer's demand. Then, stock price rose to THB 40.25 in July 2020 while the earnings also increased which these led both trailing and forward P/E to increase. After that, it has a downward trend but recover to the upward trend since September 2022. However, trailing P/E is higher than forward P/E which might be because analysts estimate that company's earnings will increase in the future or EPS of the next fiscal year will be higher than the trailing EPS.

4.2.1.2 P/BV Band

Secondly, price to book value ratio (P/BV ratio) reflects a company's market value to its book value per share. It is computed by dividing stock price by book value per share which is the book value of common equity, or company's assets minus its liabilities, divided by number of outstanding shares. For trailing P/BV, it is calculated by dividing a stock price by the historical BV per share. On the other hand, forward P/BV is computed by dividing a stock price by the estimate BV per share. This ratio is used to measure whether the stock is overvalued or undervalued compares to company's book value.

According to Figure 4.3, the trailing P/BV as of March 1, 2023, is 4.92 which is lower than the 5 years average trailing P/BV at 6.62 and also below -1SD band that is 5.23 meaning that it is undervalued compared to its own history. Additionally, Figure 4.4 shows that the forward P/BV as of March 1, 2023, is 4.42 which is also lower than the 5 years average forward P/BV at 5.75 but it slightly below -1SD band of 4.58 meaning that it is undervalued relative to its own history, as well. In addition, it can be seen that both trailing and forward P/BV has a similar trend which it also impacted from COVID19 through a declining in stock price that led P/BV become lower, but it has an increasing trend in mid-2022 because stock price has increased since July 2022.

Figure 4.3 Trailing P/BV Band

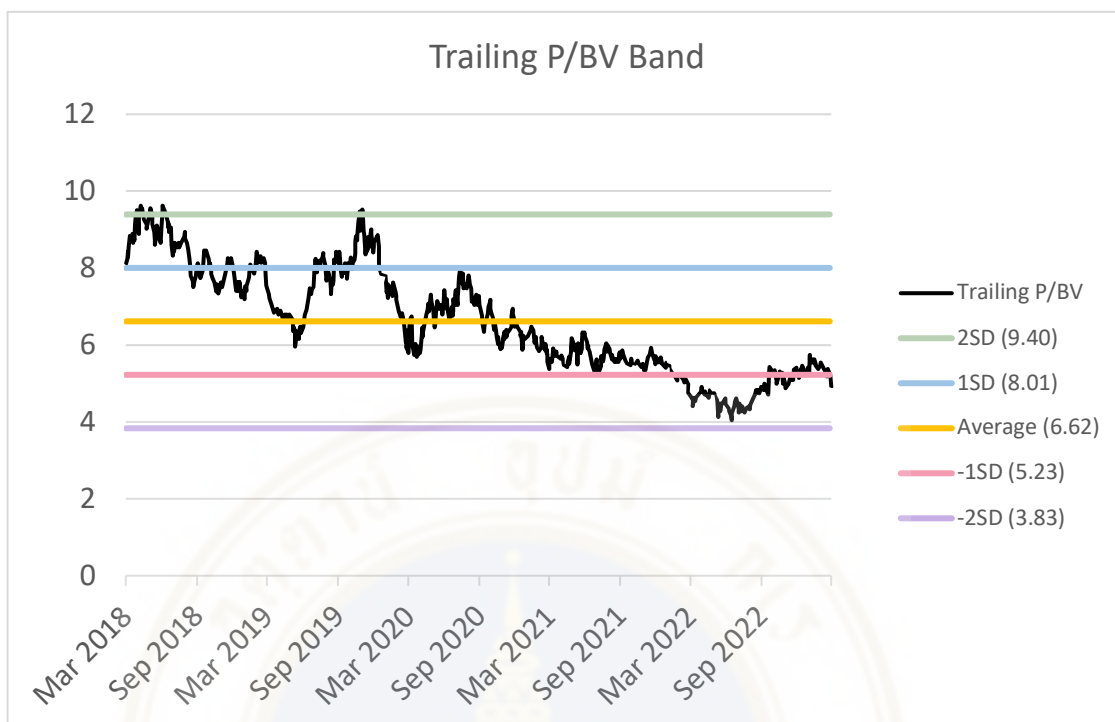
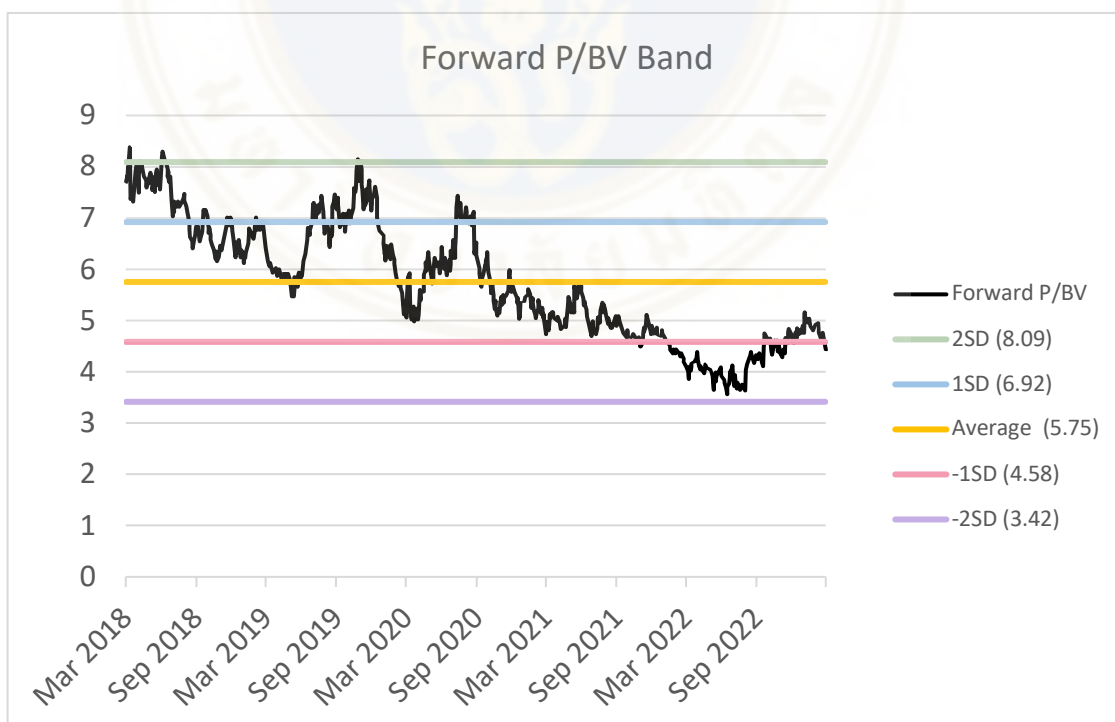


Figure 4.4 Forward P/BV Band



4.2.1.3 EV/EBITDA Band

Another historical band is enterprise value (EV) to EBITDA ratio which compares between value of company to its earnings before interest, taxes, depreciation, and amortization. EV is the equity value plus total debt and deducted by non-operating assets. Generally, higher EV/EBITDA represents that a company has high growth opportunities or is overvalued, but the interpretation also depends on many factors including industry circumstances. Trailing EV/EBITDA is computed by dividing current EV by the historical EBITDA while forward EV/EBITDA is calculated by dividing by the estimate EBITDA.

As shown in Figure 4.5, it illustrates that trailing EV/EBITDA as of March 1, 2023, is 21.71 which is slightly below 5 years average of 22.88 and still above -1SD band at 18.86 but it is not over-or-undervalued compares to its own history. Also, according to Figure 4.6, it indicates forward EV/EBITDA as of March 1, 2023, at 17.54 which also lower than 5 years average of 19.36 but higher than -1SD band at 16.59 meaning that it is undervalued compares to its own history, as well. Furthermore, both trailing and forward EV/EBITDA almost has the same trend which it relatively lower than the average. But trailing EV/EBITDA is higher than forward EV/EBITDA that might be because analysts expect that EBITDA in the next fiscal year will be higher than previous fiscal year.

Figure 4.5 Trailing EV/EBITDA Band

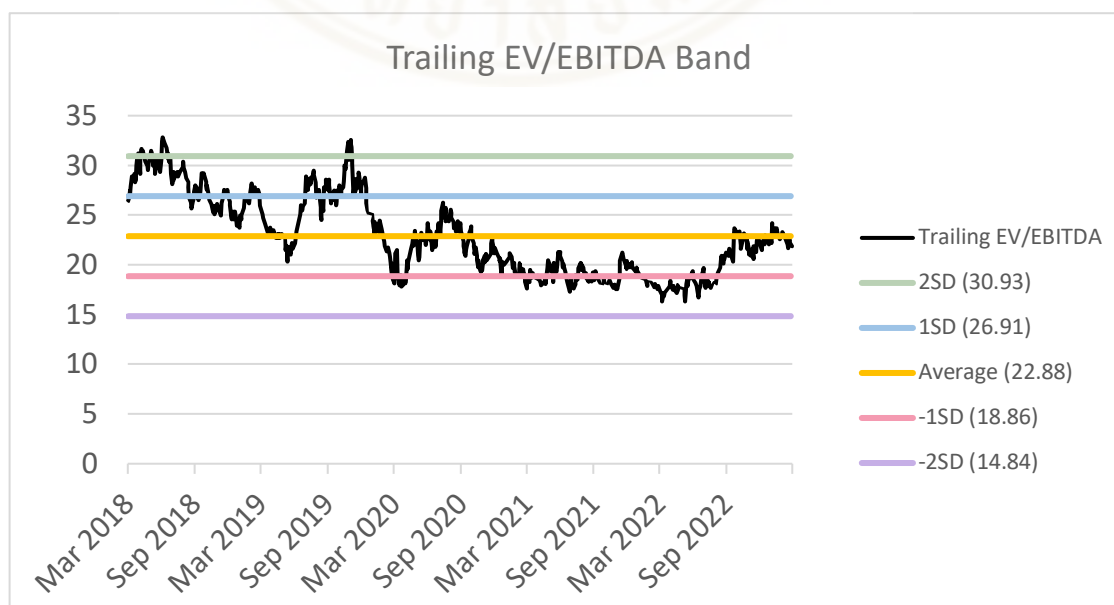
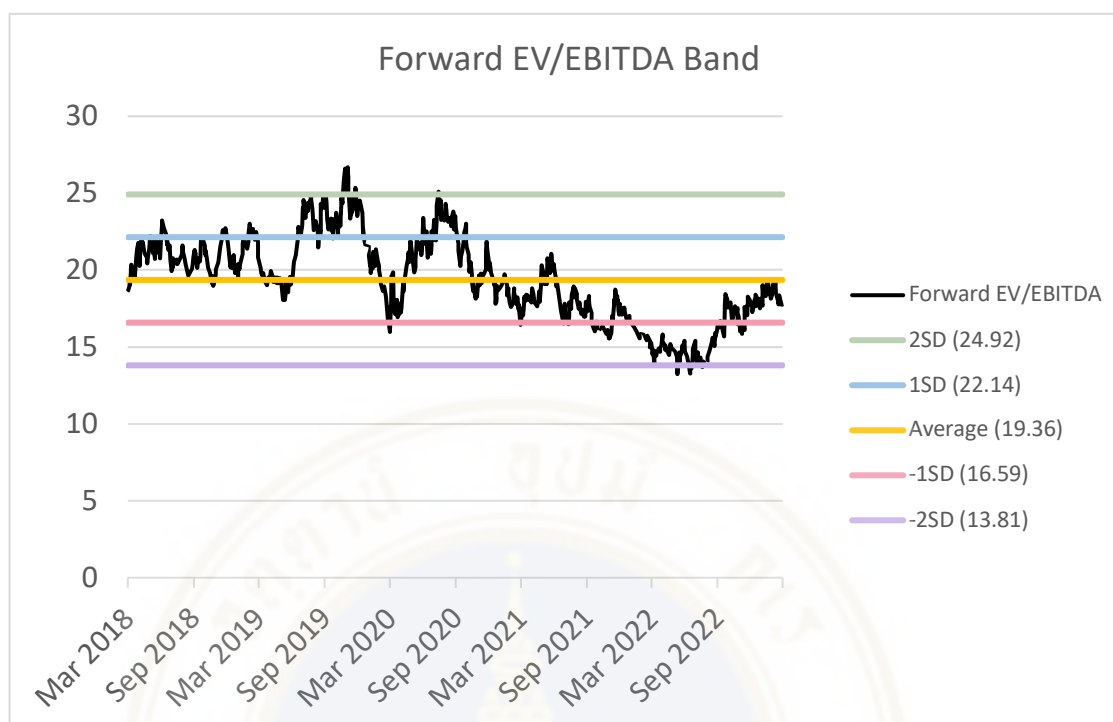


Figure 4.6 Forward EV/EBITDA Band



In this part, I apply the most widespread multiples which are P/E ratio, P/BV ratio, and EV/EBITDA ratio, both trailing and forward. Compares to its own history, the results represent that all multiples indicate TOA as undervalued except trailing P/E which shows that TOA is overvalued while trailing EV/EBITDA and forward P/E indicates that TOA is not over-or-undervalued as it is too close to the average.

The first multiple is P/E ratio which is widely used because it reflects earnings power that drive a company's stock price. But using P/E ratio also has some disadvantage and will not reasonable when the company has zero or negative earnings. Also, it does not take company's leverage into account, so it tends to be different when comparing with other firms due to its differences in leverage level.

Next multiple is P/BV ratio which is more stable because BV is generally positive even the company has zero or negative earnings. This ratio will be more reasonable for the company with high proportion of tangible assets such as banks. In contrast, it will not be useful for the company that has lots of intangible assets such as technology companies. Also, it can provide misunderstanding for investors because they might think that the stock is attractive because it has positive P/BV while they will neglect to consider on company's earnings.

Last multiple in this part is EV/EBITDA which is more reasonable to use for comparing companies with a different leverage level because EBITDA is a pre-interest earnings while EPS is after-interest earnings. This ratio is appropriate to use when a company has a negative EPS, but the drawback of this ratio is it does not take capital expenditure (CAPEX) into account which it might be significant for some industry in valuation than EBITDA and the data of company's EV/EBITDA is not always available.

In my opinion, P/E will be a good ratio for TOA's valuation because TOA has positive earning even during COVID-19. This ratio is commonly used in valuation and easy to compare with the company's historical data. Investors can approach to the data quickly which always available and quite easy to evaluate whether the company is trading at premium or discount. Moreover, a major value driver for a stock price is company's earnings which this ratio can reflect market sentiment. However, I prefer forward multiples because the stock market is forward-looking so it will be better to concern on what is expected to happen in the future rather than what already happened in the past. The forward P/E indicates how much investors prepare and willing to pay now for the company's earnings in the future. Using trailing P/E will not provide any signal to the future behaviors which it based only on a company's past performance. Generally, investors will commit their money based on future earnings and the number of outstanding shares will remain constant even stock price fluctuate so trailing P/E will has less reflective on this adjustment.

- **Target price based on historical multiple bands**

Furthermore, I also provide the target price of the company as shown below in the Table 4.13 which based on average of all multiples in order to increase the robustness of errors.

Table 4.13 Target price based on historical multiple bands (Base case)

	FY0 (31/12/22)	FY1 (2023)
EPS	0.7	1.08
BPS	6.31	7.27
EBITDA (in million baht)	2,702	3,442
Debt (in million baht)	1,237	1,237
Cash (in million baht)	2,208	2,208
Number of share (in million)	2,029	2,029

Target Price	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
5-Year Average Multiples	36.71	6.62	22.88	30.62	5.75	19.36
Target Price 2023	25.70	41.74	30.96	33.11	41.81	33.33
%changes	-18%	33%	-2%	5%	33%	6%
Potential	Downside	Upside	Downside	Upside	Upside	Upside

	2023F
Average target price of all multiple	34.44
%changes	9%
Potential	Upside
Share price as of Mar 2, 2023	31.5

Tables above illustrate target price of TOA in 2023 which I obtained the earning per shares (EPS), book value per share (BPS), EBITDA, debt, cash, and number of outstanding shares from Refinitiv. Also, I gather the actual data of FY0 (2022) as of December 31, 2022, while I provide the forecast of FY1 (2023) which is the mean estimate from analyst.

For target price based on P/E multiple, it computed by multiplying 5-year average multiples of P/E by EPS. And, the target price based on P/BV multiple is computed by multiplying 5-year average multiples of P/BV by BPS. For target price based on EV/EBITDA multiple, it computed by multiplying 5-year average multiples of EV/EBITDA by EBITDA and subtracted by debt then plus cash and divided by number of outstanding shares. However, each 5-year average trailing multiples are multiplied by actual fundamental data (FY0) whereas each 5-year average forward multiples will be multiplied by estimates fundamental data (FY1).

Comparing with current share price at THB 31.5 as of March 2, 2023, target price of 2023 based on trailing P/E and trailing EV/EBITDA is 25.70 and 30.96, consecutively, indicating that it has downside potential. In contrast, the target price of 2023 based on trailing P/BV, forward P/E, forward P/BV, and forward EV/EBITDA is 41.74, 33.11, 41.81, and 33.33, consecutively which all of these multiples represent upside potential. Then, I decided to take average of all multiples above which the average target price of all multiples for 2023 is 34.44 compares to current share price as of March 2, 2023, of 31.5 meaning that it has an upside potential. Hence, relative valuation in this part based on historical multiple bands illustrates that the target price of 2023 is higher than the current price by 9% which might be because TOA will have

a better performance as well as the net profit that will recover to the previous level regarding to the economy expansion after COVID-19.

To analyze the sensitivity, I provide two alternatives of sensitivity analysis which are (1) changing key parameters that adjusting by rising and dropping 20% of fundamental data, and (2) comparing between the best and worst estimation of fundamental data from analyst's aspects.

- **Sensitivity analysis of historical multiple bands (Changing key parameters)**

The first alternative of sensitivity analysis is based on changing parameters as shown in the Table 4.14 and 4.15 below.

Table 4.14 Sensitivity analysis I (+20%) based on historical multiple bands

Sensitivity (+20%)	FY0 (31/12/22)	FY1 (2023)
EPS	0.84	1.30
BPS	7.572	8.72
EBITDA (in million baht)	3,243	4,130
Debt (in million baht)	1,485	1,485
Cash (in million baht)	2,649	2,649
Number of share (in million)	2,029	2,029

Sensitivity (+20%)	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
5-Year Average Multiples	36.71	6.62	22.88	30.62	5.75	19.36
Target Price 2023	30.84	50.09	37.15	39.73	50.18	39.99
%changes	-2%	59%	18%	26%	59%	27%
Potential	Downside	Upside	Upside	Upside	Upside	Upside

	2023F
Average target price of all multiple	41.33
%changes	31%
Potential	Upside
Share price as of Mar 2, 2023	31.5

Regards to the tables above, it shows that all fundamental data increased by 20% from base case as shown in the previous table (Table 4.13). It will lead target price 2023 increase and the price potential will change. Target price based on trailing P/E has downside potential while trailing P/BV, trailing EV/EBITDA, forward P/E, forward

P/BV, and forward EV/EBITDA have upside potential. Furthermore, the average target price from all multiples is 41.33 which is higher than the current share price as of March 2, 2023, by 31% showing that it has an upside potential.

Table 4.15 Sensitivity analysis I (-20%) based on historical multiple bands

Sensitivity (-20%)	FY0 (31/12/22)	FY1 (2023)
EPS	0.56	0.86
BPS	5.048	5.81
EBITDA (in million baht)	2,162	2,753
Debt (in million baht)	990	990
Cash (in million baht)	1,766	1,766
Number of share (in million)	2,029	2,029

Sensitivity (-20%)	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
5-Year Average Multiples	36.71	6.62	22.88	30.62	5.75	19.36
Target Price 2023	20.56	33.39	24.77	26.49	33.45	26.66
%changes	-35%	6%	-21%	-16%	6%	-15%
Potential	Downside	Upside	Downside	Downside	Upside	Downside

	2023F
Average target price of all multiple	27.55
%changes	-13%
Potential	Downside
Share price as of Mar 2, 2023	31.5

This table indicates that all fundamental data decreased by 20% from base case as shown in the Table 4.13 leading target price decreases. All multiples provide downside potential of target price 2023 except trailing P/BV and forward P/BV that have upside potential. In addition, the average target price from all multiples is only at 27.55 which is lower than the current share price as of March 2, 2023, by 13% or it can be said that it has a downside potential.

- **Sensitivity analysis of historical multiple bands (Comparing between best and worst estimation from analysts)**

Another alternative of sensitivity analysis is comparing between the best and worst forecast based on analysts which shows in the Table 4.16 and 4.17 below.

Table 4.16 Sensitivity analysis II (Best estimates) based on historical multiple bands

Sensitivity (Best estimate)	FY0 (31/12/22)	FY1 (2023)
EPS	0.7	1.17
BPS	6.31	8.42
EBITDA (in million baht)	2,702	3,538
Debt (in million baht)	1,237	1,237
Cash (in million baht)	2,208	2,208
Number of share (in million)	2,029	2,029

Sensitivity (Best estimate)	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
5-Year Average Multiples	36.71	6.62	22.88	30.62	5.75	19.36
Target Price 2023	25.70	41.74	30.96	35.83	48.41	34.24
%changes	-18%	33%	-2%	14%	54%	9%
Potential	Downside	Upside	Downside	Upside	Upside	Upside

	2023F
Average target price of all multiple	36.15
%changes	15%
Potential	Upside
Share price as of Mar 2, 2023	31.5

According to Table 4.16, it indicates the best estimate of fundamental data from analysts which leads to a higher EPS, BPS, and EBITDA of FY1 (2023) while the number of outstanding shares remains the same as well as debt and cash that I provided at the same level due to lacking the estimate data. Target price of 2023 based on trailing are the same as base case because it multiplied 5-year average multiples by FY0 fundamental data that has not been changed which it also has the same potential as the base case. However, the target price based on forward P/E, forward P/BV, and forward EV/EBITDA also increases to 35.83, 48.41, and 34.24, consecutively. Moreover, the average target price from all multiples is 36.15 which is higher than the current share price of 31.5 as of March 2, 2023, meaning that it has an upside potential.

Table 4.17 Sensitivity analysis II (Worst estimates) based on historical multiple bands

Sensitivity (Worst estimate)	FY0 (31/12/22)	FY1 (2023)
EPS	0.7	1.04
BPS	6.31	6.82
EBITDA (in million baht)	2,702	3,370
Debt (in million baht)	1,237	1,237
Cash (in million baht)	2,208	2,208
Number of share (in million)	2,029	2,029

Sensitivity (Worst estimate)	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
5-Year Average Multiples	36.71	6.62	22.88	30.62	5.75	19.36
Target Price 2023	25.70	41.74	30.96	31.72	39.23	32.64
%changes	-18%	33%	-2%	1%	25%	4%
Potential	Downside	Upside	Downside	Upside	Upside	Upside

	2023F
Average target price of all multiple	33.66
%changes	7%
Potential	Upside
Share price as of Mar 2, 2023	31.5

Table 4.17 illustrates the worst estimate of fundamental data from analysts leads to a lower EPS, BPS, and EBITDA of FY1 (2023) while the number of outstanding shares is still the same but as I have mentioned before that debt and cash will be at the same level due to lacking the estimate data. Target price of 2023 based on trailing are the same as previous since it multiplied 5-year average multiples by FY0 fundamental data that has not been changed. Although it has the same potential as the base case, but the target price based on forward P/E, forward P/BV, and forward EV/EBITDA decreased to 31.72, 39.23, and 32.64, respectively. Also, the average target price of 2023 from all multiples is 33.66 which is more than the current share price as of March 2, 2023, by 7% or showing that it still has an upside potential.

Table 4.18 Comparing of all sensitivity analysis of historical multiple bands

Sensitivity 2023F	Sensitivity (+20%)	Sensitivity (-20%)	Sensitivity (Best estimate)	Sensitivity (Worst estimate)
Average target price of all multiple	41.33	27.55	36.15	33.66
%changes	31%	-13%	15%	7%
Potential	Upside	Downside	Upside	Upside
Share price as of Mar 2, 2023	31.50			

To compare sensitivity analysis from both alternative, it shows that the highest average target price from all multiple is 41.33 which is from the first alternative of sensitivity analysis that is 20% rising from base case. It also higher than the current share price as of March 2, 2023, by 31%. In contrast, the lowest average target price from all multiple is from the first alternative that dropping by 20% from base case which the target price is 27.55 that lower than the current share price of 31.50, as of March 2, 2023. Moreover, average target price of all multiple from all alternatives have upside potential except the average target price from changing parameter alternative that lowering by 20% which has downside potential. In my opinion, I prefer to use the first alternative of sensitivity analysis which is adjusting by 20% and -20% because the estimate from analyst might be too optimistic which leads TOA has upside price potential even for the worst estimate.

4.2.2 Peer group multiples

Second part of relative valuation is peer group multiples that can divided into three main parts which are selection of peers, peer group comparison of multiples, and peer group comparison of fundamental and outlook.

4.2.2.1 Selection of peers

I selected the peers of TOA from the same industry that are either selling the same products or have overlapping products, in both Thailand and other countries such as Japan, Netherlands, and US, which the details are shown as the Table 4.19.

Table 4.19 Selection of peers

Stock	Company name	Market	Product
TOA	TOA Paint Thailand PCL	Thailand	Decorative and Non-Decorative Paint and Coating Products
4612.T	Nippon Paint Holdings Co Ltd	Japan	coating materials and fine chemicals products
4613.T	Kansai Paint Co Ltd	Japan	paint manufacturing company
AKZO.AS	Akzo Nobel NV	Netherlands	paints and coatings
DCC	Dynasty Ceramic PCL	Thailand	ceramic tiles, adhesives, grout , cement adhesives and corner trim
PPG	PPG Industries Inc	US	paints, coatings and specialty material
SHW	Sherwin-Williams Co	US	paint, coatings

According to the Table 4.19, I gathered six peers of TOA which are (1) Nippon Paint and (2) Kansai paint from Japan, (3) Akzo Nobel from Netherlands, (4) Dynasty Ceramic from Thailand, and (5) PPG industries and (6) Sherwin-Williams from US. All companies in the table manufacture paint and coatings, but Dynasty Ceramic (DCC) produces ceramic tiles which is also one type of TOA's product as well.

4.2.2.2 Peer group comparison of multiples

After I obtained peers of TOA, I observed market capitalization and closing price as of March 2, 2023, to see the differences of each peer. Since peers are in various country so I provide market capitalization and closing price in both native currency and US currency.

Table 4.20 Peers group's market capitalization and closing price

As of March 2, 2023

Stock	Company Name	Market capitalization (In USD)	Market capitalization (In native)	Closing price (In USD)	Closing price (In native)
TOA	TOA Paint Thailand PCL	\$ 1,841,887,608	THB 63,913,500,000	\$ 0.90	THB 31.50
4612.T	Nippon Paint Holdings Co Ltd	\$ 21,135,442,340	JPY 2,877,801,829,010	\$ 8.88	JPY 1,214.00
4613.T	Kansai Paint Co Ltd	\$ 3,493,886,649	JPY 475,727,606,150	\$ 12.76	JPY 1,745.00
AKZO.AS	Akzo Nobel NV	\$ 12,820,805,364	€ 12,021,428,149	\$ 73.05	€ 68.94
DCC	Dynasty Ceramic PCL	\$ 604,867,606	THB 20,988,905,912	\$ 0.07	THB 2.30
PPG	PPG Industries Inc	\$ 31,333,030,467	\$ 31,333,030,467	\$ 134.84	\$ 134.84
SHW	Sherwin-Williams Co	\$ 56,601,443,962	\$ 56,601,443,962	\$ 224.02	\$ 224.02

According to the table above, TOA has a market capitalization at \$1.8 billion while the closing price is \$0.90. The company that has highest market capitalization (around \$57 billion) is Sherwin-Williams Co. (SHW) which is the US company that produces paint and coatings. On the other hand, the company that has

lowest market capitalization is Dynasty Ceramic PCL (DCC) which is Thai company that manufactures tiles. For the closing price, SHW has the highest price at \$224.02 while DCC has the lowest price at only \$0.07.

Then, I collected the data of P/E, P/BV, and EV/EBITDA of TOA's peers in both trailing and forward as shown in the Table 4.21 and 4.22 below.

Table 4.21 Peer group trailing multiples

As of March 2, 2023

Stock	Company Name	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA
TOA	TOA Paint Thailand PCL	40.8	4.9	21.8
4612.T	Nippon Paint Holdings Co Ltd	34.6	2.5	20.3
4613.T	Kansai Paint Co Ltd	18.1	1.4	11.6
AKZO.AS	Akzo Nobel NV	26.2	2.7	13.7
DCC	Dynasty Ceramic PCL	12.8	3.5	8.6
PPG	PPG Industries Inc	21.7	4.8	15.5
SHW	Sherwin-Williams Co	25.2	18.3	18.5
	Peer Average	23.1	5.5	14.7
	Peer Median	23.5	3.1	14.6
	Max	40.8	18.3	21.8
	Min	12.8	1.4	8.6

According to the table above, it indicates that TOA has the highest trailing P/E at 40.8 while DCC has the lowest trailing P/E at 12.8 which means that TOA is the most expensive and DCC is the cheapest stock among its peers. For trailing P/BV, SHW has the highest trailing P/BV at 18.3 while Kansai Paint (4613.T) has the lowest at 1.4. Additionally, for trailing EV/EBITDA, a company that has highest trailing EV/EBITDA is TOA at 21.8 while the lowest is DCC at 8.6.

Then, I computed peer average and peer median which exclude TOA. Peer average of trailing P/E is 23.1 while peer median is a bit higher at 23.5. TOA's trailing P/E exceeds both peers average and median. For trailing P/BV, peer average is 5.5 and peer median is 3.1 which TOA's trailing P/BV is below peer average but still above peer median. In addition, peer average of trailing EV/EBITDA is 14.7 whereas the peer median is just a bit lower at 14.6. TOA's trailing EV/EBITDA is higher than both peers average and median.

It seems like TOA is overvalued when comparing these trailing multiples with the median which all multiples are higher than peer median. It is the most

expensive stock in terms of P/E and EV/EBITDA while SHW is the most expensive stock in terms of P/BV. On the other hand, DCC is the cheapest stock in terms of P/E and EV/EBITDA while Kansai paint is the cheapest stock in terms of P/BV.

Table 4.22 Peer group forward multiples

As of March 2, 2023

Stock	Company Name	Forward P/E	Forward P/BV	Forward EV/EBITDA
TOA	TOA Paint Thailand PCL	28.7	4.4	16.0
4612.T	Nippon Paint Holdings Co Ltd	28.2	2.5	17.5
4613.T	Kansai Paint Co Ltd	16.2	1.3	9.0
AKZO.AS	Akzo Nobel NV	18.3	2.4	11.6
DCC	Dynasty Ceramic PCL	13.2	2.8	8.3
PPG	PPG Industries Inc	19.6	4.4	13.7
SHW	Sherwin-Williams Co	25.0	16.5	17.9
	Peer Average	20.1	5.0	13.0
	Peer Median	18.9	2.6	12.7
	Max	28.7	16.5	17.9
	Min	13.2	1.3	8.3

Moreover, Table 4.22 illustrates the forward multiple of peers group. TOA has the highest forward P/E at 28.7 while DCC also has the lowest at 13.2 which means that the most expensive stock is TOA. For forward P/BV, a company that has the highest forward P/BV is SHW at 16.5 while the lowest is Kansai Paint (4613.T) at 1.3. Furthermore, for forward EV/EBITDA, SHW also has the highest forward EV/EBITDA at 17.9 while DCC has the lowest at 8.3.

To compare with peer average and peer median that exclude TOA, peer average of forward P/E is 20.1 and peer median is 18.9. TOA's forward P/E is higher than both peers average and median. For forward P/BV, peer average is 5 while peer median is 2.6 which TOA's forward P/BV is lower than peer average but still higher than peer median. Furthermore, peer average of forward EV/EBITDA is 13 while peer median is at 12.7. TOA's forward EV/EBITDA is greater than its peers average and peer median.

However, compares with peer group forward multiple, TOA is overvalued in terms of forward P/E which is higher than peers average and median. In addition, SHW is the most expensive stock in terms of forward P/BV and forward

EV/EBITDA. Also, DCC is the cheapest stock in terms of forward P/E and EV/EBITDA while Kansai paint is the cheapest in terms of forward P/BV.

As you can see, almost all trailing multiples are higher than forward multiples except trailing P/E of DCC that lower than forward P/E which might be because analysts predict a lower growth in company's earnings, book value, and EBITDA.

4.2.2.3 Peer group comparison of fundamentals and outlook

In order to analyze more about the possible reasons for differences in peer group multiples, I provide the peer group comparison of fundamentals in the Table 4.23 which consisted of beta, return on equity (ROE), debt-to-equity ratio, dividend payout ratio, net profit margin, and 5 years EPS growth, as of December 31, 2022.

Table 4.23 Peers group's fundamentals and outlook

As of December 31, 2022

Stock	Company Name	Beta	ROE (%)	Debt-to-Equity	Dividend Payout	Net Profit Margin	EPS Growth 2018-2022
TOA.BK	TOA Paint Thailand PCL	0.61	11.31%	0.10	0.72	6.95%	-4.90%
4612.T	Nippon Paint Holdings Co Ltd	1.36	7.53%	0.63	0.33	6.07%	3.64%
4613.T	Kansai Paint Co Ltd	1.12	5.97%	0.33	0	3.97%	8.45%
AKZO.AS	Akzo Nobel NV	1.15	7.42%	1.36	0.93	3.58%	3.20%
DCC.BK	Dynasty Ceramic PCL	0.73	27.75%	0.36	0.70	19.57%	3.71%
PPG	PPG Industries Inc	1.17	15.97%	1.03	0.55	5.98%	-4.13%
SHW	Sherwin-Williams Co	1.07	72.94%	3.41	0.31	9.12%	14.72%
Peer Average		1.10	22.93%	1.19	0.47	8.05%	4.93%
Peer Median		1.14	11.75%	0.83	0.44	6.03%	3.68%
Max		1.36	72.94%	3.41	0.93	19.57%	14.72%
Min		0.61	5.97%	0.10	0.00	3.58%	-4.90%

For beta, it is a measure of a stock's volatility related to overall market and it normally used to evaluate risk of stocks. When a stock has a beta more than 1, it means that it is more volatile than the market. On the contrary, if beta is less than 1, stock will be less volatile than the market. Regarding to the table above, TOA and DCC has beta less than 1 which means that the risk is lower than its market risk compares to Nippon paint (4612.T), Kansai paint (4613.T), Akzo Nobel (AKZO.AS),

PPG Industries (PPG), and Sherwin-Williams (SHW) that has beta more than 1 or these stocks are riskier.

Next, ROE is a measure of company's profitability which illustrates how efficiently company can generate those profits through leveraging the investment made by company's shareholders or, in other word, ROE refers to the dollar profit generated by each dollar of common shareholder's equity. High ROE means it's better to convert shareholder's equity into company's profit which an increasing trend of ROE is good because it means that company can increase its productivity and profits over time. Table 4.23 shows that SHW has the highest ROE at 72.94% while Kansai Paint has the lowest ROE at only 5.97%.

In addition, debt-to-equity (D/E) ratio can measure a company's financial leverage which high D/E ratio means a company has higher proportion of debt compares to its equity that can lead to a financial risk. From the table above, SHW has the highest D/E ratio at 3.41 while TOA has the lowest of 0.1 meaning that TOA has low financial risk.

Also, the dividend payout ratio is a measure of an earnings of a company that are paid to shareholders in terms of dividends. High dividend payout ratio means a company pay large amount of its earning to its shareholders as dividend, but it also represents that the company will have less retain earnings for reinvest in its business that might reduce the potential of company's growth. Table 4.23 indicates that dividend payout ratio of Kansai paint is 0 while AKZO.AS has the highest dividend payout at 0.93.

For net profit margin, it illustrates a company's ability to generate profit which can be adjusted by reducing company's cost or raising its price. When a company has a higher net profit margin, it means that a company has more efficient management or it might be more effective to control cost or has a better pricing strategy. From the Table 4.23, DCC has highest net profit margin at 19.57% while AKZO.AS has lowest net profit margin at 3.58%.

Lastly, for 5-years EPS growth (2018-2022), SHW has the highest EPS growth at 14.72% but TOA and PPG have a negative EPS growth as -4.90% and -4.13%, respectively. EPS is one of an important measure of a company's financial

performance that investors often used to evaluate company's profitability which high EPS can lead to a higher stock price, as well.

To compare TOA's fundamental with peer average and peer median, firstly, TOA's beta is 0.61 which lower than 1 meaning that TOA is less volatile than market or it has lower risk. Secondly, ROE of TOA is 11.31% which less than peer average and peer median indicating that TOA has lower profitability compares to its peers median. Thirdly, TOA has the lowest D/E ratio at 0.1 which lower than peer average and median or it means that TOA has low financial risk. Additionally, dividend payout ratio of TOA is 0.7 which more than peer average and median meaning that TOA pay high proportion of earnings as dividend, but it might have low retained earnings related to its peers. Another measure is net profit margin that TOA has 6.95% which is lower than peer average but higher than peer median indicating that TOA has higher profitability related to its peer median. Last but not least, EPS growth of TOA is negative which obviously seen that it lower than peer average and median. A lower EPS growth means that a company's EPS increase slower than it was in the past which this might be due to the economic recession during COVID-19.

Therefore, I use peer median as a benchmark for comparing which might be more useful than the average because it has less affected by outliers. TOA is better than its peers in several aspects which it has lower risk and slightly higher profitability, but lower historical growth.

- **Target price based on peer group multiple**

Afterward, I computed the target price of the company as shown below in the Table 4.24 which based on average of all multiples that can increase the robustness of errors.

Table 4.24 Target price based on peer group multiple (Base case)

TOA	FY0 (31/12/22)	FY1 (2023)
EPS	0.7	1.08
BPS	6.31	7.27
EBITDA (in million baht)	2,702	3,442
Debt (in million baht)	1,237	1,237
Cash (in million baht)	2,208	2,208
Number of share (in million)	2,029	2,029

Target Price	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
Multiple (Max)	40.85	18.30	21.81	28.71	16.51	17.92
Multiple (Median)	23.45	3.10	14.59	18.95	2.65	12.65
Multiple (Min)	12.85	1.38	8.57	13.23	1.28	8.26
Target Price (Max) 2023	28.59	115.44	29.53	31.04	120.03	30.87
Target Price (Median) 2023	16.42	19.59	19.91	20.48	19.24	21.94
Target Price (Min) 2023	8.99	8.71	11.90	14.30	9.31	14.48

	2023F
Average target price of all multiple (Median)	19.60
%changes	-38%
Potential	Downside
Share price as of Mar 2, 2023	31.5

Tables 4.24 shows target price of TOA in 2023 which I obtained the maximum multiples, median multiple, and minimum multiple from peer group multiple. In addition, the earning per shares (EPS), book value per share (BPS), EBITDA, debt, cash, and number of outstanding shares are derived from Refinitiv which is the same as using in historical multiple band section. Also, I collected the actual data of FY0 (2022) as of December 31, 2022, while FY1 data based on analyst's forecast of 2023. Moreover, the current share price as of March 2, 2023, is THB 31.5.

For target price based on P/E multiple, it calculated by multiplying the median (max, or min) P/E multiple of the peer group by the EPS of TOA. Additionally, the target price based on P/BV multiple is calculated by multiplying the median (max, or min) P/BV multiple of the peer group by TOA's BPS. And, for target price based on EV/EBITDA multiple, it calculated by multiplying the median (max, or min) EV/EBITDA multiple of the peer group by TOA's EBITDA subtracted by debt, plus cash, and divided by number of outstanding shares. Nevertheless, each trailing multiples are multiplied by actual fundamental data of FY0 while forward multiples are multiplied by forecast of FY1 fundamental data. After that, I take average of median target price from all multiples which illustrates that the target price of 2023 is 19.60 that also lower than the current share price of 31.5 by 38% or meaning that it has downside potential.

Moreover, I provide two alternatives of sensitivity analysis as same as historical multiple bands which are (1) changing key parameters that adjust by increase and decrease 20% of fundamental data, and (2) comparing between the best and worst estimation of fundamental data from analyst's aspects.

- **Sensitivity analysis of peer group multiple (Changing key parameters)**

The first alternative of sensitivity analysis is based on changing parameters as shown in the Table 4.25 and 4.26 below.

Table 4.25 Sensitivity analysis I (+20%) based on peer group multiple

Sensitivity (+20%)	FY0 (31/12/22)	FY1 (2023)
EPS	0.84	1.30
BPS	7.572	8.72
EBITDA (in million baht)	3,243	4,130
Debt (in million baht)	1,485	1,485
Cash (in million baht)	2,649	2,649
Number of share (in million)	2,029	2,029

Sensitivity (+20%)	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
Multiple (Max)	40.85	18.30	21.81	28.71	16.51	17.92
Multiple (Median)	23.45	3.10	14.59	18.95	2.65	12.65
Multiple (Min)	12.85	1.38	8.57	13.23	1.28	8.26
Target Price (Max) 2023	34.31	138.53	35.43	37.25	144.04	37.05
Target Price (Median) 2023	19.70	23.51	23.89	24.58	23.09	26.32
Target Price (Min) 2023	10.79	10.45	14.28	17.16	11.17	17.38

	2023F
Average target price of all multiple (median)	23.51
%changes	-25%
Potential	Downside
Share price as of Mar 2, 2023	31.5

According to the tables above, it indicates that all fundamental data rose by 20% from the base case as in the Table 4.24 that will lead target price 2023 to increase. The average median target price from all multiples is 23.51 which is less than the current share price by 25% showing that it has a downside potential.

Table 4.26 Sensitivity analysis I (-20%) based on peer group multiple

Sensitivity (-20%)	FY0 (31/12/22)	FY1 (2023)
EPS	0.56	0.86
BPS	5.048	5.81
EBITDA (in million baht)	2,162	2,753
Debt (in million baht)	990	990
Cash (in million baht)	1,766	1,766
Number of share (in million)	2,029	2,029

Sensitivity (-20%)	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
Multiple (Max)	40.85	18.30	21.81	28.71	16.51	17.92
Multiple (Median)	23.45	3.10	14.59	18.95	2.65	12.65
Multiple (Min)	12.85	1.38	8.57	13.23	1.28	8.26
Target Price (Max) 2023	22.88	92.35	23.62	24.83	96.03	24.70
Target Price (Median) 2023	13.13	15.67	15.92	16.39	15.39	17.55
Target Price (Min) 2023	7.19	6.97	9.52	11.44	7.45	11.59

	2023F
Average target price of all multiple (median)	15.68
%changes	-50%
Potential	Downside
Share price as of Mar 2, 2023	31.5

This table shows that all fundamental data fell by 20% from base case as in the Table 4.24. It leads target price 2023 decrease to 15.68 which is lower than the current share price by 50% or it can be said that it has a downside potential.

- **Sensitivity analysis of peer group multiple (Comparing between best and worst estimation from analysts)**

Second alternative of sensitivity analysis is to compare between the best and worst forecast from analysts as shows in the Table 4.27 and 4.28 below.

Table 4.27 Sensitivity analysis II (Best estimates) based on peer group multiple

Sensitivity (Best estimate)	FY0 (31/12/22)	FY1 (2023)
EPS	0.7	1.17
BPS	6.31	8.42
EBITDA (in million baht)	2,702	3,538
Debt (in million baht)	1,237	1,237
Cash (in million baht)	2,208	2,208
Number of share (in million)	2,029	2,029

Sensitivity (Best estimate)	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
Multiple (Max)	40.85	18.30	21.81	28.71	16.51	17.92
Multiple (Median)	23.45	3.10	14.59	18.95	2.65	12.65
Multiple (Min)	12.85	1.38	8.57	13.23	1.28	8.26
Target Price (Max) 2023	28.59	115.44	29.53	33.59	138.97	31.72
Target Price (Median) 2023	16.42	19.59	19.91	22.17	22.27	22.54
Target Price (Min) 2023	8.99	8.71	11.90	15.47	10.78	14.87

	2023F
Average target price of all multiple (median)	20.48
%changes	-35%
Potential	Downside
Share price as of Mar 2, 2023	31.5

Regarding to Table 4.27, it shows the best estimate of 2023 or FY1 fundamental data from analysts that leads to a higher EPS, BPS, and EBITDA whereas the number of outstanding shares does not change. For debt and cash, I provided at the same level as FY0 due to lacking the data. The average target price (median) from all multiples is 20.48 which is higher than the target price of base case. Additionally, it is lower than the current share price of 31.5 by 35% meaning that it has downside potential.

Table 4.28 Sensitivity analysis II (Worst estimates) based on peer group multiple

Sensitivity (Worst estimate)	FY0 (31/12/22)	FY1 (2023)
EPS	0.7	1.04
BPS	6.31	6.82
EBITDA (in million baht)	2,702	3,370
Debt (in million baht)	1,237	1,237
Cash (in million baht)	2,208	2,208
Number of share (in million)	2,029	2,029

Sensitivity (Worst estimate)	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA
Multiple (Max)	40.85	18.30	21.81	28.71	16.51	17.92
Multiple (Median)	23.45	3.10	14.59	18.95	2.65	12.65
Multiple (Min)	12.85	1.38	8.57	13.23	1.28	8.26
Target Price (Max) 2023	28.59	115.44	29.53	29.74	112.61	30.24
Target Price (Median) 2023	16.42	19.59	19.91	19.63	18.05	21.49
Target Price (Min) 2023	8.99	8.71	11.90	13.70	8.74	14.19

	2023F
Average target price of all multiple (median)	19.18
%changes	-39%
Potential	Downside
Share price as of Mar 2, 2023	31.5

Table 4.28 indicates the worst estimate of 2023 or FY1 fundamental data from analysts leading a lower EPS, BPS, and EBITDA. The number of outstanding shares is the same and debt and cash will be at the same level since lacking the data. The

average target price (median) of 2023 from all multiples is 19.18 which is less than the current share price by 39% or representing that it has a downside potential.

Table 4.29 Comparing of all sensitivity analysis of peer group multiple

Sensitivity 2023F	Sensitivity (+20%)	Sensitivity (-20%)	Sensitivity (Best estimate)	Sensitivity (Worst estimate)
Average target price of all multiple	23.51	15.68	20.48	19.18
%changes	-25%	-50%	-35%	-39%
Potential	Downside	Downside	Downside	Downside
Share price as of Mar 2, 2023	31.50			

To compare the target price from all alternatives of sensitivity analysis it illustrates that the highest average target price from all multiple is 23.51 from the changing parameter alternative which is 20% increasing from base case that also lower than the current share price as of March 2, 2023, by 25%. On the other hand, the lowest average target price from the same alternative that is 20% decreasing from base case. The target price is 15.68 which less than the current share price of 31.50, as of March 2, 2023. Apart from that, average target price of all multiple from all alternatives have a downside potential.

4.3 Valuation Recommendation

In my opinion, both historical multiple bands and peer group multiples are useful but the most appropriate relative valuation method for TOA is historical bands because peers that I have selected are also the foreign company which it has several differences compares to TOA. The main factor is the market capitalization which can be obviously seen that TOA is the second lowest market capitalization at \$1.8 billion as of March 2, 2023. On the other hand, other foreign companies have a market capitalization larger than \$10 billion except Kansai Paint that has market capitalization around \$3.5 billion but still larger than TOA. Although TOA is better than its peers in several outlook which it has lower risk, higher profitability, and lower financial risk but it is different from other companies in terms of company size that its market capitalization is relatively low compared to its peers.

Moreover, the target price based on historical multiple bands are calculated in order to compared with the actual current price of TOA at 31.5, as of March 2, 2023. The table below illustrates the summary of TOA's target price and sensitivity analysis based on historical multiple bands. It represents that the target price based on trailing P/E and trailing EV/EBITDA shows the downside potential or it below the current price except the sensitivity analysis (+20%) of trailing EV/EBITDA that has an upside potential. However, trailing P/BV, forward P/E, and forward EV/EBITDA has an upside potential meaning that the target price of these multiples is higher than the current price of 31.5. Also, the sensitivity analysis (-20%) of forward P/E and forward EV/EBITDA show a downside potential.

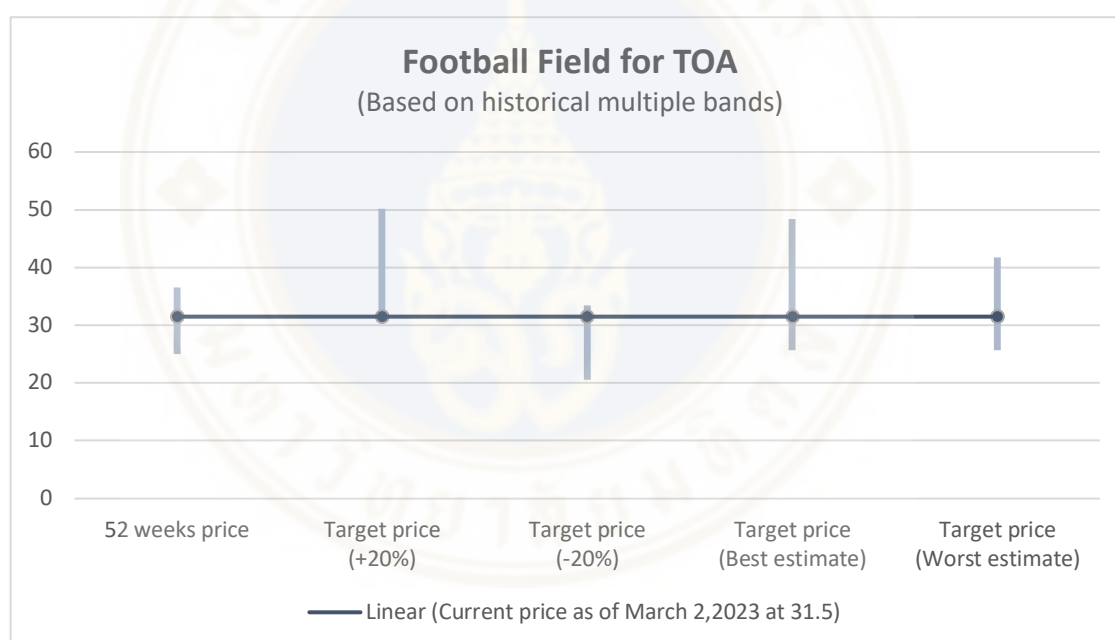
Table 4.30 Target Price and Sensitivity Analysis Summary

	Trailing P/E	Trailing P/BV	Trailing EV/EBITDA	Forward P/E	Forward P/BV	Forward EV/EBITDA	Average
Target price (Base case)	25.70	41.74	30.96	33.11	41.81	33.33	34.44
%change	-18%	33%	-2%	5%	33%	6%	9%
Potential	Downside	Upside	Downside	Upside	Upside	Upside	Upside
Target price (+20%)	30.84	50.09	37.15	39.73	50.18	39.99	41.33
%change	-2%	59%	18%	26%	59%	27%	0.31
Potential	Downside	Upside	Upside	Upside	Upside	Upside	Upside
Target price (-20%)	20.56	33.39	24.77	26.49	33.45	26.66	27.55
%change	-0.35	0.06	-0.21	-0.16	0.06	-0.15	-0.13
Potential	Downside	Upside	Downside	Downside	Upside	Downside	Downside
Target price (Best estimate)	25.70	41.74	30.96	35.83	48.41	34.24	36.15
%change	-0.18	0.33	-0.02	0.14	0.54	0.09	0.15
Potential	Downside	Upside	Downside	Upside	Upside	Upside	Upside
Target price (Worst estimate)	25.70	41.74	30.96	31.72	39.23	32.64	33.66
%change	-0.18	0.33	-0.02	0.01	0.25	0.04	0.07
Potential	Downside	Upside	Downside	Upside	Upside	Upside	Upside
Current Share price (As of Mar 2, 2023)							31.5

From my perspective, I prefer to take the average of the target price based on several multiples because it can increase the robustness or error, as shown in the yellow cell. It shows that the average target price is 34.33 meaning that it has an upside potential of 9% which the target price 2023 is higher than the current price of 31.5. It

can be implied that the current price is slightly undervalued compared to the target price in 2023. Moreover, as I have mentioned before, I prefer the first alternative of sensitivity analysis that compute by changing parameter (+20% and -20%) because it will be more realistic which I use mean estimates as FY1 fundamental data. It provides the different result which increasing 20% of fundamental data leads a target price 2023 to increase along with the upside potential. In contrast, if fundamental data decreases by 20%, the target price will be lower which will has a downside potential. However, another alternative that I gathered the fundamental data as the best and worst estimate from analysts instead of using mean estimate might be too optimistic, so the results are upside potential for both best and worst estimate.

Figure 4.7 Football Field for TOA



Furthermore, regards to the figure above, it illustrates the valuation summary based on TOA's historical multiple bands which compares TOA's current price as of March 2, 2023 (black line), with the maximum and minimum target price from each sensitivity analysis, and TOA's 52 weeks price. It can be seen that the current price of TOA is within the boundary of 52 weeks price and the sensitivity alternative of best and worst estimate. However, the current price of TOA almost reaches the lower

bound of the target price range from the sensitivity analysis (+20%) while it slightly below the upper bound of the target price range from the sensitivity analysis (-20%).

Hence, based on the relative valuation I recommend to “Hold” TOA stock even the company expects that company’s profits and growth will improve in the near future, but it still uncertain. In the past few years, TOA has faced with a high cost during the pandemic which the company has an alternative solution for this issue. According to TOA’s annual report, it stated that “TOA continually looks at alternative sources of supply as well as explores alternative materials and technological solutions to reduce costs. For example, the Company has explored a reduction in the amount of titanium dioxide (TiO₂) used to manufacture its products to decrease the consumption of titanium dioxide and costs”. In addition, according to the table below, I recommend to “Buy” TOA stock when the relative valuation gives a target price at least +15% upside and “Sell” when at least -15% downside potential.

Table 4.31 Valuation Recommendation

Recommendation	% change from the current price	Target Price (THB)	Current price (THB)
Buy	At least +15% Upside Potential	≥ 36.23	31.5 (As of March 2, 2023)
Hold	Less than +15% Upside Potential or Greater than -15% Downside Potential	Between 26.78 and 36.23	
Sell	At least -15% Downside Potential	≤ 26.78	

CHAPTER V

INVESTMENT RISK

In this chapter, the possible investment risks of TOA will be clarified into the following risk aspects.

- **Strategic risks**

To become leader in this industry, the company should outperform its competitors by revising its strategies continuously. Obviously, the company need to develop its innovation and technologies quickly in order to enhance its competitiveness and create brand awareness in both domestic and international markets. Moreover, customer preferences are changing all the time. For example, several customers prefer odorless paint that have a mild scent or chemical-free which it is safe for everyone in the house by reducing the risk of respiratory disease. Therefore, it requires development continuously in order to respond to customer wants and needs.

- **Exchange rate risks**

TOA has overseas factories and operates business worldwide, such that a change in the exchange rate will impact the company. TOA purchases raw materials from distributors in Thailand and imports from overseas such as Singapore, Taiwan, US, and Australia. Furthermore, it exports to other countries such as Vietnam, Laos, and Malaysia which its receivables will be in foreign currency. As TOA is both importer and exporter, the company will face with the risk of fluctuations in exchange rates. If the Thai baht depreciates against other currencies, TOA's raw materials price will be more expensive leading to a higher cost of goods sold which can decrease the company's net profit.

- **Economic risk**

In the future, if the economy contracts in a recession period, it could lead to a decreased in demand for TOA's products as well as a declining in purchasing power of customers.

- **Operational risks**

The company faces external factors that the company cannot control, regarding the force majeure risks including natural disasters, fires, wars, and riots. For example, there are political riots in Myanmar, which may cause the operation in that area has to stop and the factory might not be well-maintained. Therefore, the loss could occur and would affect to the company revenue and its profit. In addition, for the emerging risk on the aging society, this would affect the turnover rate of the company since the expertise and skills workforce will retire and would cause the expertise's shortage including the high skill labor shortage. This will definitely affect to the company operation and the cost of hiring and training would be higher due to the above situation.

- **Environmental risks**

To become the product innovation, regarding the sustainability direction, the risk occurs when the cost of raw materials and cost of operations might be higher when the company has to change the operation to be more environmentally friendly to the society, and has to concern about reducing its consumption of resources and energy. In addition, regarding the materials, the company want to develop products to be more environmentally friendly. For both issues, it could affect the company net income in the near future.

CHAPTER VI

CONCLUSIONS

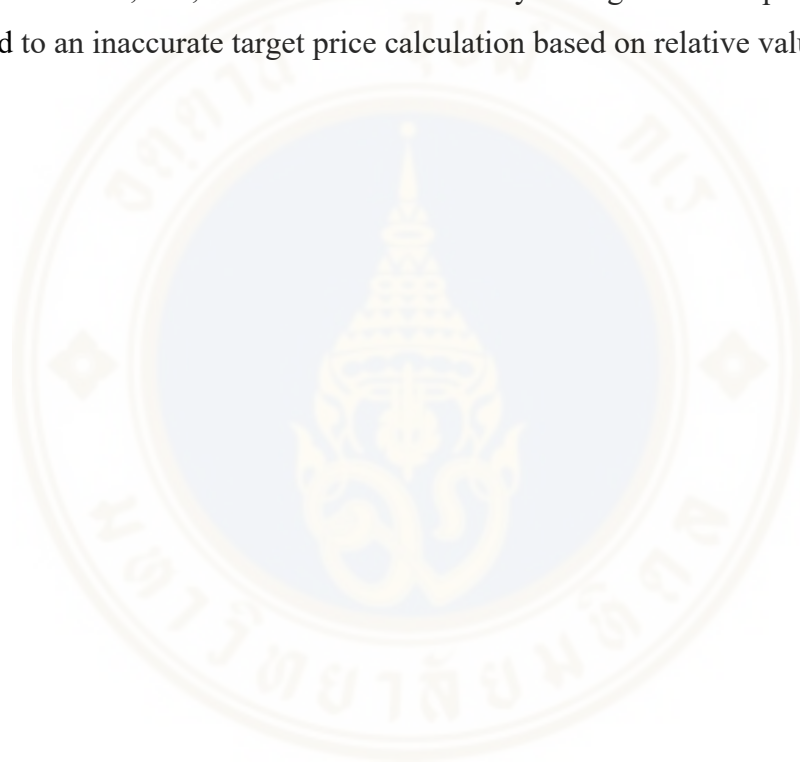
In this thematic paper, TOA Paint Thailand PCL (TOA) is evaluated by relative valuation methods to derive the target price of 2023, using both historical multiple bands and peer group multiples. The main multiples that are used to determine the value of TOA are P/E, P/BV, and EV/EBITDA, in terms of both trailing and forward estimates. I conclude that historical multiple bands are the most appropriate relative valuation method for TOA because the companies that I have selected as TOA's peers for peer group multiples have significant differences from TOA, particularly in terms of market capitalization. The market capitalization of TOA is considerably lower compared to its peers, making it different in terms of company size.

Although the P/E ratio is commonly used to indicate market sentiment towards a company's earnings, but I prefer to take the average of the target price based on multiple ratios to increase robustness and reduce errors. The current price of TOA as of March 2, 2023, is THB 31.5 compared to the average target price of 2023 at THB 34.44 which shows an upside potential of only 9%. Hence, I would like to recommend to "Hold" TOA stock because the upside potential is quite low, and the future earnings of TOA stock is still uncertain.

Moreover, in terms of triggers for re-assessment, peers of TOA are mostly foreign companies which it provides a significant difference in terms of fundamental outlook especially the market capitalization. Even TOA seems to have a high market capitalization at \$1.8 billion but other companies that I have selected as TOA's peers have market capitalization over \$10 billion. In the future, if companies in the same industry of TOA become better peers or more suitable in terms of market capitalization, fundamental outlook, products, or business operation, the method used to determine the target price may need to be reassessed. In addition, if there are some adjustments of TOA's revenue and EPS prediction from the analysts, it should lead to a re-assessment as well. Hence, the trigger for re-assessments are TOA's peers become more suitable to

compare or closely match to TOA's business and the prediction from analysts are adjusted.

However, there are some limitations to this valuation analysis, as it is difficult to find the most appropriate peers which leads the peer group multiples is not reasonable enough to evaluate TOA's target price. The historical multiple bands are better, but it relies solely on the historical data and does not consider the current situation of the company and market conditions. Therefore, it may not capture the future growth potential of the company which could provide inaccurate results. Moreover, the prediction of EPS, BV, and EBITDA from analysts might be too optimistic which can also lead to an inaccurate target price calculation based on relative valuation.



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