RELATIVE VALUATION OF DOMINO'S PIZZA, INC.

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M.M. (CORPORATE FINANCE)

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ABSTRACT

This thematic paper evaluates the valuation of Domino's Pizza (DPZ) by relative approach. The domestic peer consists of PZZA, YUM, QSR, WEN, CMG while the international peer contains DOM, DMP, and PZA. All companies are franchise limited-service restaurants and the most comparable to DPZ. In December 2021 and December 2022, the target prices are USD 390.73 and USD 427.90 respectively. Whereas the current market price is at USD 474.55 (8 July 2021), it is overvalued relatively to its peer. However, none of the companies have an identical business structure. DPZ has always been outgrown the industry owing to its outstanding performance. This indicates an insufficiency in relative valuation to support the investment conclusion. DCF valuation prices the stock from its fundamental which is more reliable. Lien (2021) has evaluated DPZ by this approach, target prices are USD 538.43 for December 2021 and USD 526.33 for December 2022. The investment risk level of DPZ is moderate. The probable risks arise from competitive risk and economic risk at tolerance level. The only intolerance risk is the cyber risk which leads to operation disruption and sensitive data exposure nevertheless the risk is improbable. The recommendation of DPZ is HOLD.

KEY WORDS: DPZ/ Relative Valuation

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LIST OF ABBREVIATION

Abbreviation	**Meaning**
DPZ	Domino's Pizza, Inc.
US	United States
USD	U.S. dollar ($)
RSP	Retail Selling Price
QSR	Quick Service Restaurants
PE	Price to Earning
EV	Enterprise Value
EBITDA	Earnings before interest, taxes, depreciation, and amortization
EPS	Earnings Per Shares
SD	Standard Deviation
AVG	Average
DCF	Discounted Cash Flow

CHAPTER I
ABOUT DOMINO'S PIZZA

Domino's Pizza is one of the notable leading players in the quick-service industry under the pizza category. The pizza manufacture has rapidly grown in customer base and price since its establishment in the 60s. To further understand the business, including the business model, the drivers for profit and growth, past performance, and the corporate governance, this chapter will discuss and perform the visualized data about domino's Pizza regarding the abovementioned aspect of the business. Firstly, the company's broad background and historical price performance will be illustrated, followed by the revenue and segment breakdown. Afterward, a more qualitative aspect of the company is described later in the strategy and the corporate governance under the current CEO.

1.1 Overview

Domino's Pizza, Inc. (DPZ) is a well-known pizza corporation that originated in America in 1960. Domino's Pizza has incorporated a small company in convenient pizza delivery and earned income from carryout customers. In addition, the company has continuously expanded its franchises to other countries and continents. With over 17,600 locations in more than 90 markets around the world as of January 2021, the company is recognized as one of the largest pizza companies worldwide.

The symbol "DPZ" is referred to Domino's Pizza, Inc. in the New York Stock Exchange (NYSE). It was first publicly traded in July 2004. At the very beginning, DPZ was traded at around 10 U.S. dollars (USD) per share; not until 2013 that the stock was traded at more than USD 40 per share. Since then, the price of DPZ has rapidly grown from

USD 40 to USD 460. Figure 1.1 illustrates the incremental in DPZ's price over the past 17 years

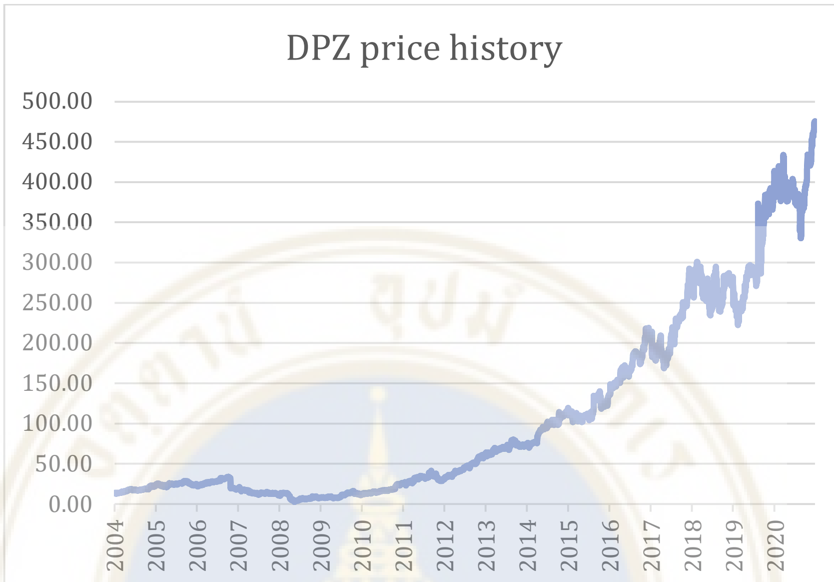

Figure 1.1 DPZ's price history
Source: Team assessment from Refinitiv, (2021)

Sustainably growing dividend payment to the shareholders of DPZ has positively affected its price. Table 1.1 demonstrates the dividend growth rate from 2013 up until the current year. On average, the company has a dividend growth rate of approximately 20% while a dividend yield of about 1% per year. The data in 2021 is only up to June.

Table 1.1 Annualized dividend and its yield

Year	Annualized Dividend	Dividend Growth Rate	Price at Year BGN	Dividend Yield
2021*	1.88	N/A	370.76	0.51%

Table 1.1 Annualized dividend and its yield (cont.)

Year	Annualized Dividend	Dividend Growth Rate	Price at Year BGN	Dividend Yield
2020	3.12	20.00%	281.75	1.11%
2019	2.6	18.20%	283.73	0.92%
2018	2.2	19.60%	216.85	1.01%
2017	1.84	21.10%	174.54	1.05%
2016	1.52	22.60%	113.93	1.33%
2015	1.24	24.00%	99.05	1.25%
2014	1	150.00%	70.61	1.42%
2013	0.4	N/A	46.57	0.86%
2012	-	-	32.65	-
2011	-	-	16.4	-
2010	-	-	11.3	-
2009	-	-	6.69	-
2008	-	-	13.61	-
2007	-	-	28.57	-
2006	-	-	24.91	-
2005	-	-	16.68	-

Source: Team assessment from Refinitiv, (2021)

In addition to the dividend yield that DPZ has returned to its shareholders, the company also launched repurchase programs to purchase shares back from investors. The compensation is usually higher than the current market price and at the value that the company believes their stock value deserves. The repurchase is a signal of strength in DPZ. The market has a positive view on the repurchase program that its price has increased years over the years. Figure 1.2 shows the ten-year historical repurchase programs of DPZ, with the price of repurchasing per share being average for the whole year.

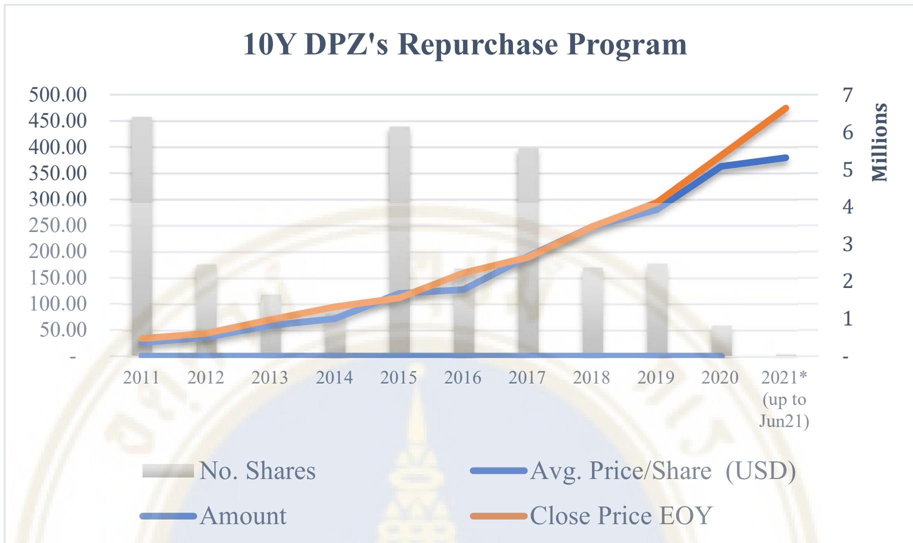

Figure 1.2 10-years of DPZ's repurchase program
Source: Team assessment from DPZ's annual reports, (2020), (2017), (2014), (2011)

1.1.1 Product, Service, and Brand

Even though DPZ started by producing pizza to serve various customer needs, the company has expanded the product lines to non-pizza items, such as breadsticks, crust pizza, and buffalo wings with different products in different regions. However, the core menu always is pizza as they are more focused on expanding delivery and franchise than the food line.

DPZ has derived from carryout pizza stores to delivery service. The company has expanded many company-owned stores in the United States (US) and provided franchise services. Franchise service enables the franchisee to have the right to operate the pizza stores as an owner of Domino's pizza stores in different regions. As of the year ended 2020, DPZ has 363 company-owned stores and 5,992 franchised stores located in the US. The company also provides franchise agreements internationally.

Franchisee companies outside the domestic market mostly enter into a distribution right agreement for an entire region or country under master franchises. Then, master franchisees would have an exclusive right to develop and sub-franchise stores in the local market. There are 11,289 international franchise stores as of the year ended 2020. Table 1.2 shows the number of international franchise stores in different markets. Each market has its master franchisees which are represented in Table 1.2 as the companies' ticker symbol in parenthesis.

Table 1.2 Numbers of international franchises stores

Market	Numbers of stores
India (JUBLFOOD: NS)	1,313
United Kingdom (DOM: L)	1,144
Mexico (ALSEA: MX)	779
Japan (DMP: ASX)	742
Australia (DMP: ASX)	709
Turkey (DPEU: L)	560
Canada	541
South Korea	466
France (DMP: ASX)	431
China	363

Source: (DPZ's annual report, 2021)

1.1.2 Sources of Revenues and Growth

In addition to food and franchise service, a supply chain segment plays a vital role in the revenue of DPZ. The company maintains and supplies materials to company-owned stores and some of the franchise stores. By running dough manufacturing and supply centers in the US and Canada, the company grows revenue along with its sales and supports stores with quality bread and vegetables.

Over the past years, DPZ's revenues continuously grew. To further analyze the development, detailed data of the company's single segments need to be illustrated (Figure 1.3).

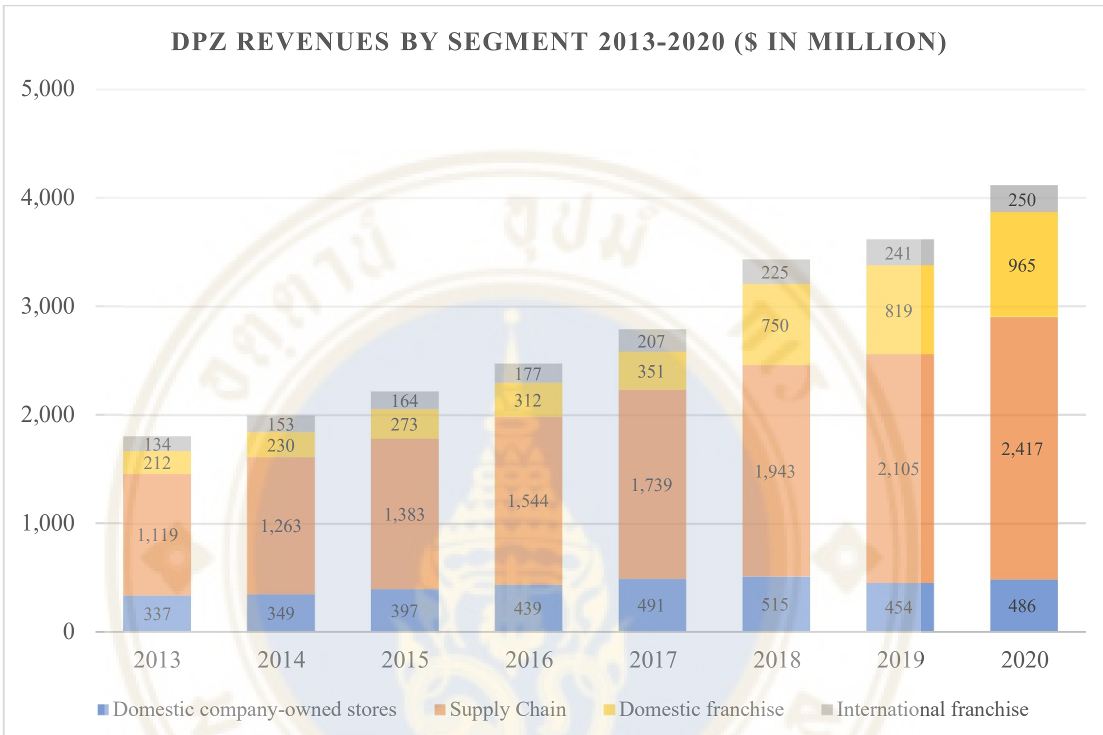

Figure 1.3 DPZ Revenues by segment 2013 – 2020
Source: Team assessment from DPZ's annual report (Inc, (2021),(2018),(2015))

DPZ has classified their revenues scheme into 4 segments which are domestic company-owned stores, domestic franchises, supply chain, and international franchises. While there are growths in the supply chain and domestic franchise, the other two segments are mostly constant. Figure 1.4 displays the summary of DPZ's revenues portion in the year 2020.

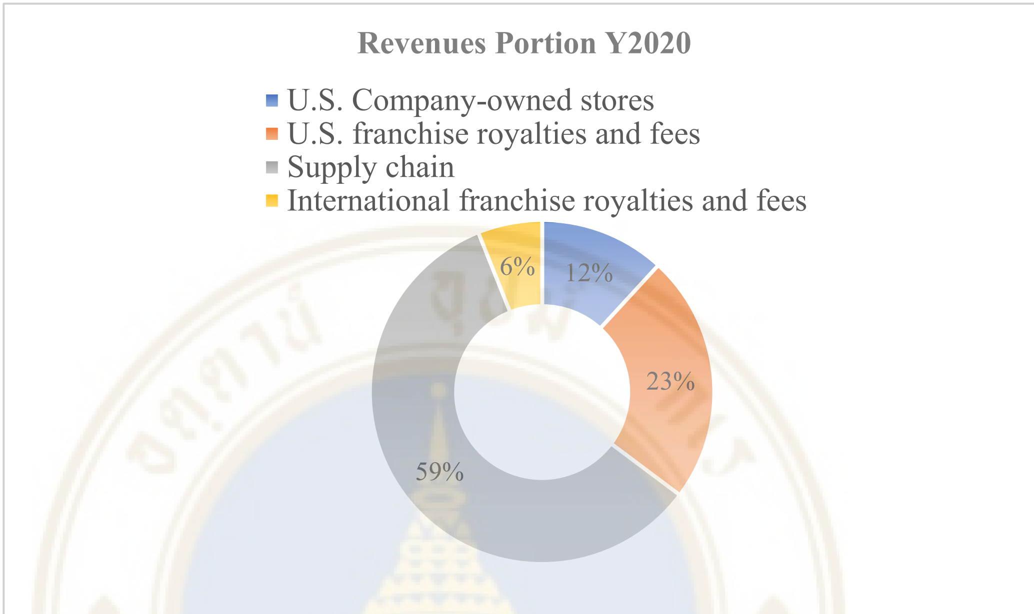

Figure 1.4 Revenues portion by segment Y2020
Source: (DPZ annual report, 2021)

The following is an analysis of each segment. The information is based on DPZ's annual report year 2020. (DPZ, 2021)

a) Domestic company-owned stores or US company-owned stores generate revenue by carryout customers. It accounts for about 12% of total revenue in 2020 from 363 US Company-owned stores. The revenue is relatively stable each year from the constant number of stores owned by the company.

b) Domestic franchises or US franchise stores generate an income of about 23% of total revenue in 2020 from 5,992 franchise stores. The franchisees are required to pay a royalty fee and advertising fee on sales, with a charge rate of approximately 5.5% of sales. The US royalty fee has grown by 9.2% in 2019 and 17.8% in 2020 from its previous year due to the new franchise stores opening. Note that the revenue derived from domestic franchises has grown from USD 351.4 million in 2018 to USD 750 million in 2019, as shown in Figure 1.3, which is an effect of the adaption of the new accounting standard.

c) The supply chain is the most significant part of revenues that it accounts for about 59% of total revenues in 2020. Further, the segment has grown 14.8% in 2020 and 8.3% in 2019 from the previous year. The growth is originated from manufacturing and supply centers providing raw materials to support their stores as sales have grown over time.

d) The international franchise is 6% of total revenues. Master franchises are required to pay an upfront fee and royalty fee to DPZ. In return, they will have the right to sub-franchise internationally. The royalty fee is relative to the franchisee's revenue. The most recent charge rate is approximately 2.9%. However, it could vary depending on the markets.

1.2 Business Strategy

Snowballing for over thirty successive quarters due to well-organized strategies, DPZ has outstanding performance over its competitors. The following paragraph discusses vital strategies that give DPZ competitive advantages with information obtained from the 2020 annual report.

With a market share of 36% in the US pizza delivery category, the company has strengthened its bargaining power as a buyer in supply chain management, marketing investments, and technology innovation with economies of scale. Additionally, in terms of the pizza carryout category, DPZ has a 15% market share by the end of 2020. When it comes to its success, there are four main factors to grow the business with quality consistency:

a) The franchising business model enables the company to stabilize the cash flows from franchisees.

b) The vertically integrated supply chain creates the consistency of quality products; the self-owned supply chain provides more stability in raw materials.

c) The actively advertising and marketing programs with moderate expenditure allow the company to maintain and attract customers.

d) The continuous investments in technology innovation have fastened the company's ability to provide better and more convenient services, which allows the company to keep the leading position in the highly competitive service restaurant market.

Besides the abovementioned factors, DPZ currently conducts two strategies – a growth strategy and a fortressing strategy. Both strategies are the directions for DPZ to expand more stores, both company-owned and franchised. Under the growth strategy, the company aims to increase its revenue and operating income from different locations. The fortressing strategy enhances better and faster services by opening more stores in their existing areas for timely delivery service. However, the fortressing strategy expects to see a small impact on sales performance for some existing stores due to the increased competition in the tight areas.

1.3 Management and Governance

In this section, DPZ under the management of Allison, corporate governance in terms of Environmental, Social, and Governance (ESG) rating, and the significant ownership of the company will be discussed. The information in the following paragraphs is mostly from DPZ's official website, 2020 annual report, and 2021 Proxy Statement.

Chief Execute Director

Richard Allison, the former president of DPZ's International from 2014 to 2018, has been joined the company for ten years and is the current chief executive officer since July 2018. Besides, he is also one of the board of directors for both DPZ and Starbucks Corporation. Apart from being a CEO, Allison will take the role of interim CFO in September 2021 after Stuart A. Levy, the current CFO, resign at the end of August. As a result, Allision will oversee the finance office till the company finds the successor of Levy.

Under the leadership of Allison, DPZ's sales performance has kept growing with more focus on technology investment and the implementation of the fortress strategy to achieve DPZ's mission of "to be number one" in the industry. Allison has announced in 2019 to have a total of 25,000 stores in the US market by 2025, whereas there are 17,644 stores as reported in the 2020 annual report.

Environmental, Social, and Governance (ESG) Rating of DPZ

According to Sustainalytics (2021), DPZ is considered to have a medium ESG risk. Their score is at 26.8 (44th percentile among 13,573 companies) as of July 2021. Table 1.3 shows the score which was measured by two factors – the company's exposure to material ESG issues in the industry and the management's capability in tackling the specific issue. There are three overall ESG risks for DPZ: product governance, environmental and social impact on products and services, and human capital, illustrated in the following paragraph.

Table 1.3 DPZ's ESG risk rating

ESG Risk Rating	Negligible	Low	Medium	High	Severe
DPZ			26.8		

Source: (SUSTAINALYTICS , 2021)

In terms of environmental exposure, DPZ is trying to reduce its environmental impact by increasing the recyclable ingredient of the pizza box from 40% to 72% with cooperation with Westrock, a paper and packaging company. Besides launching the pizza box recycling program in 2020, the company also uses e-bike as an alternative way for delivery to be more eco-friendly. On the other hand, for social exposure, especially under the Covid-19 situation, DPZ has provided more bonuses and sick leave for employees. The company has donated not only money but also pizza to the frontline people and organizations regarding the pandemic. Last but not least, for the governance, it is significant for investors that DPZ's financial reporting is considered fairly reliable by the independent registered public accounting firm. The company also has effective internal control practices and processes from an independent auditor's perspective, which is disclosed in the 2020 annual report.

Ownership of DPZ

Though with adequate transparency and internal control over the financial reporting, free float and ownership of DPZ play essential roles for investors since it shows the price volatility. At the end of July 2021, the company has a free float of 99.29% and a left of 0.71% to strategic entity owners, mainly insider holders, as shown in Figure 1.5.

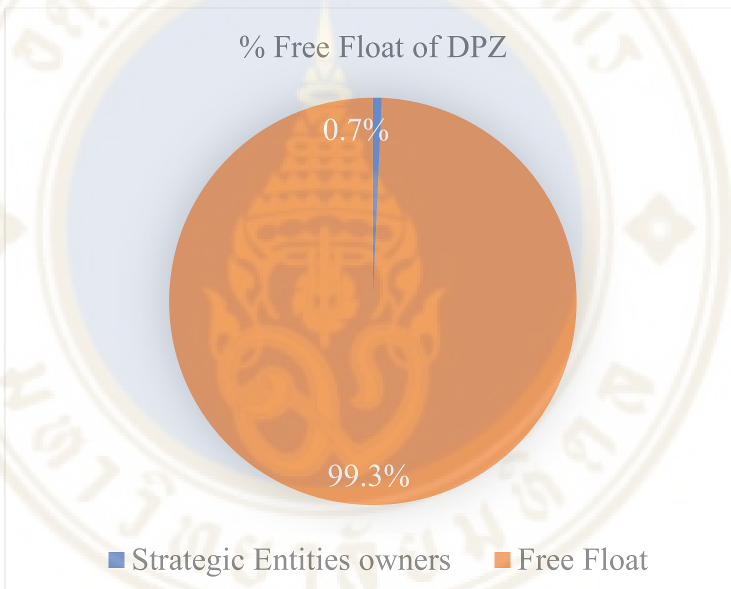

Figure 1.5 Percent free float of DPZ
Source: (Refinitiv,2021)

Further, in all shares issued, 52.6% is held by top ten holders, insiders hold 0.7%, and 46.7% is held by other investors, as shown in Figure 1.6. Thus, with almost all shares issued are tradable for investors, the price of DPZ is mainly driven by the top investors.

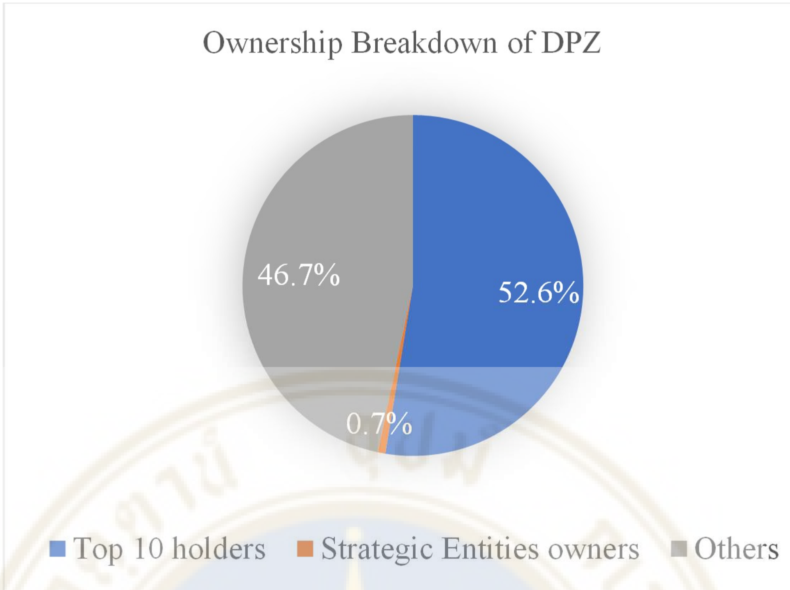

Figure 1.6 Ownership Breakdown
Source: (Refinitiv, 2021)

As shown in Table 1.4, the top ten holders of DPZ are institutional holders, which top four holders have over 5% of the ownerships. Therefore, there is the risk that the price would fluctuate considerably if some of these top holders have active trading over DPZ.

Table 1.4 Top 10 holders of DPZ

	Top 10 Shareholders	Number of Shares	% Hold
1.	Capital World Investors	4.73 M	12.82%
2.	The Vanguard Group, Inc.	4.14 M	11.25%
3.	BlackRock Institutional Trust Company, N.A.	2.15 M	5.84%
4.	Pershing Square Capital Management, L.P.	2.04 M	5.53%
5.	State Street Global Advisors (US)	1.64M	4.46%
6.	T. Rowe Price Associates, Inc.	1.35M	3.67%

Table 1.4 Top 10 holders of DPZ (cont.)

	Top 10 Shareholders	Number of Shares	% Hold
7.	Principal Global Investors (Equity)	1.18M	3.20%
8.	Soroban Capital Partners LP	1.11M	3.02%
9.	AllianceBernstein L.P.	1.09M	2.95%
10.	Renaissance Technologies LLC	0.94M	2.54%

Source: (Refinitiv, 2021)

CHAPTER II
FOOD INDUSTRY

After understanding the core business of DPZ, in this chapter, a broader understanding of the company's positioning in the industry and the external factors to the business are discussed. Following the top-down order of the company's external environment, the macroeconomic will be first displayed since it is one of the most significant indicators of all business environments. By narrowing the scope to the industry, the foodservice industry is then discussed with its current market situation and the trend in consumer behaviors that may have challenges to the industry. Lastly, domestic and international peers are selected to compare the DPZ's historical performance in terms of growth by sales with peers to see the competitiveness among the top players in the industry.

2.1 Economic Effects

As a result of the Covid-19 pandemic outbreak in the U.S. market in early 2020, DPZ's sales have been hit shortly at the beginning stage of the economic downturn. In addition to DPZ, the whole restaurant industry, including full-service and limited-service, has fallen victim to the economy's shock. Nevertheless, as time went by, consumers and businesses have adapted to the new-normal lifestyle; additionally, with the rollout of the vaccine, the U.S. is the most resilient economy to undergo recovery. In this section, the negative economic effect is discussed in 2.1.1, following by the economic indicator showing that the economic situation is getting better from the previous year.

2.1.1 Restaurants Under the Pandemic

Restaurants are struggled to survive due to the concern and restrictions resulting from the Covid-19 pandemic with an estimated contraction of 18%, as shown in Figure 2.2. After the pandemic outbreak, out of safety and sanitary worry, consumers prefer to eat at home and not dine out or, in some regions, dining at restaurants is not allowed because of the restriction in social distancing. As a result, restaurants do suffer from bringing money in during the pandemic. According to the US National Restaurant Association, 17% of the well-established restaurants have closed permanently within three months at the end of 2020. Moreover, the total sales in the foodservice industry had a sharp decrease of USD 240 million from the previously projected USD 899 million.

Even though the pandemic heavily hits the food service industry, quick service restaurants (QSR), fast food, adapt to the pandemic faster due to technology application and contactless service. For example, during the pandemic, the drive-thru service has surged and accounted for 42% of total restaurant visits by the end of June 2020 (QSR, 2020). Further, drive-thru service has boosted the sales of major fast-food players, such as DPZ and McDonald's. The same-store sales increased by 17% in the third quarter of 2020 for DPZ. Overall, the QSR has taken the market share by 7.1% from full-service restaurants, according to NPD Group, a market research company. Another market research company – Mckinsey Research (2020), shows that the food service industry, which includes fast-food and fast-casual restaurants, may take up to four years to recover to the pre-pandemic level if the novel coronavirus recurs, as shown in Figure 2.1.

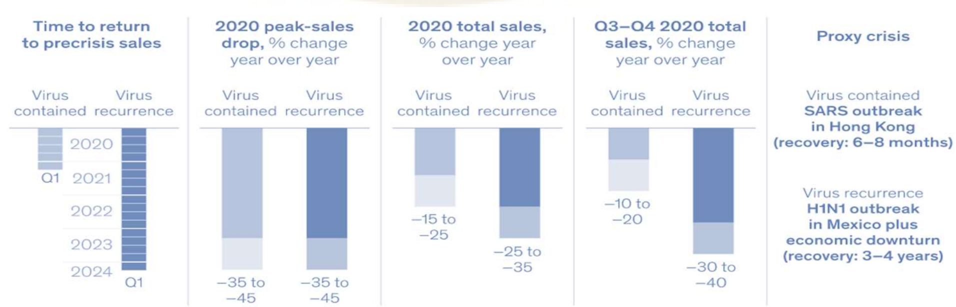

Figure 2.1 Time for recovery of foodservice industry (exclude of fine-dining category)
Source: (McKinsey&Company, 2020)

2.1.2 Food Consumption Under Recovery

Since the outbreak of the novel coronavirus (Covid-19), the world economy has been hit hard, with a GDP contraction of 3.3%, especially for economics that depends on the tourism industry or commodity-exporting. The world economy is currently under recovery with monetary and fiscal policies carried out in different countries and the rollout of the vaccine. It is estimated to have a 6% and a 4.4% growth in 2021 and 2022, respectively (International Monetary Fund , 2021). Divergence of recovery emerges between advanced economies and developing economics due to different supporting policies and vaccination rates. In advanced economies, the US had a faster recovery since the end of 2020; it expects to return to the pre-pandemic level at the end of 2021 while emerging economics, except for China, are expected to resume pre-pandemic level in 2023 according to International Monetary Fund. In terms of DPZ, the divergence may influence its international markets in the coming years.

2.1.3 Higher-than-expected US Economic Growth

After an economic contraction of 3.67% in 2020, the US market has an exceptional growth in the first quarter of 2021, with an annualized GDP growth of 6.4%. Moreover, the Federal Open Market Committee report in June 2021 (FOMC, 2021) forecasts GDP to grow 7%, 3.3%, and 2.4% in the second half of 2021, 2022, and 2023. Thanks to the vaccination and a 5.2 trillion fiscal support, the economy is going through a V shape recovery.

The food service industry will gradually resume to a pre-pandemic level from a plunge in the growth of 18.1% in 2020 in the coming years, as shown in Figure 2.2.

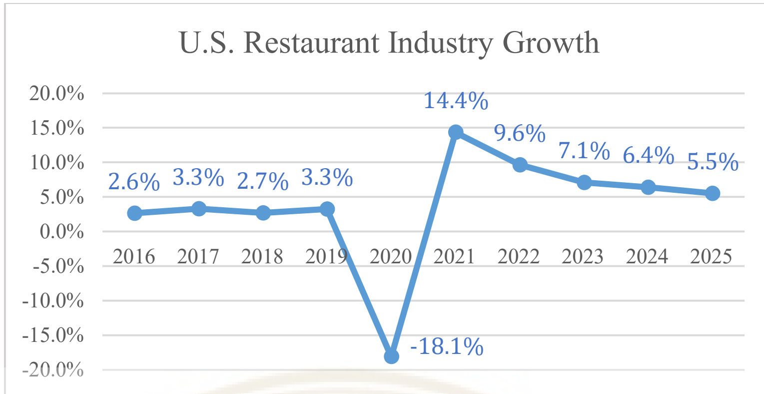

Figure 2.2 US Restaurant Industry Growth 2016-2025

Source: (Euromonitor, 2021)

In addition, indicators are showing the upturn in the economy. For example, the unemployment rate has progressively decreased to 5.9% in June 2021 from the highest of 14.8% in April 2020; and the nonfarm employment has gradually increased since a sharp decrease since April 2020, as shown in Figure 2.3. With the increase in workforce and increased consumer confidence, the US economy is expected to have accelerated growth in the second half of 2021.

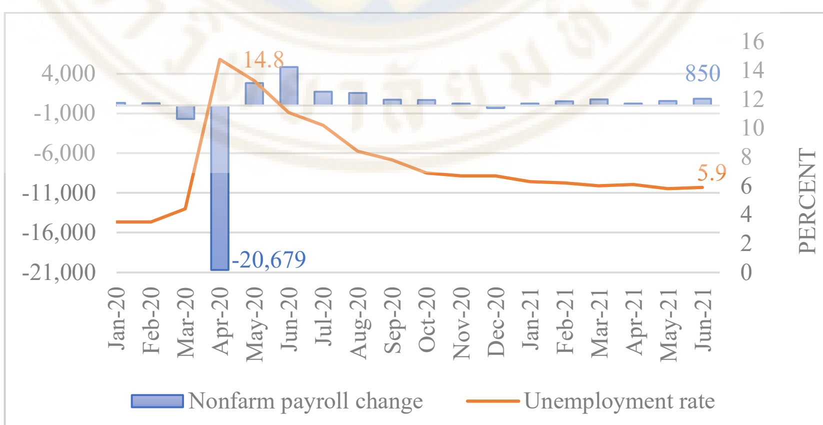

Figure 2.3 US Unemployment rate and non-farm employment change

Source: (Statistics, 2021)

2.2 Trend of Healthier Food Selection

Although in economic recovery, the pandemic has raised food security concerns and increased the awareness of healthy eating in the US market. According to the 2020 survey of the International Food Information Council (IFIC, 2020), 54% of consumers and 63% of those over 50 years old take health as a factor for food selection more than they did ten years before. Further, compared to 2019, consumers do intake more plant-based food and consume less sugar. As healthy eating being a new lifestyle nowadays, consumers are looking for alternative food selections over traditional fast food. Even though the industry has well met the demand for a new lifestyle of convenience and affordability, pizza is also considered an unhealthy meal that consumers may reduce the frequency of consumption. Pizza is still a popular food selection in the US market, that consumers are looking for a new menu, such as veggie pizza or gluten-free dough, to make it look healthy. However, when it comes to inventing a new menu, DPZ is a giant player in the pizza industry who primarily focuses on the core menu with only a few new items, which would be a potential challenge for the company to be sustainable in the long run if the company cannot meet the trend of eating healthy.

Besides, the aging society is also an accelerating driver for the trend of eating healthy, which may impact the pizza industry in the long future since the significant consumer of fast food is the working population. Therefore, low population growth and an increase in the elderly population can lead to slower growth of pizza or other fast-food categories in the longer future. As the US is an advanced economy, its population projection has an annual growth of 0.2% in the next 20 years. In 2021, those over 65 years old account for 17% of the total population while accounting for 22% in 2040, as shown in Figure 2.4. That is, in 2040, over one-fourth of the population in the US is the elderly population.

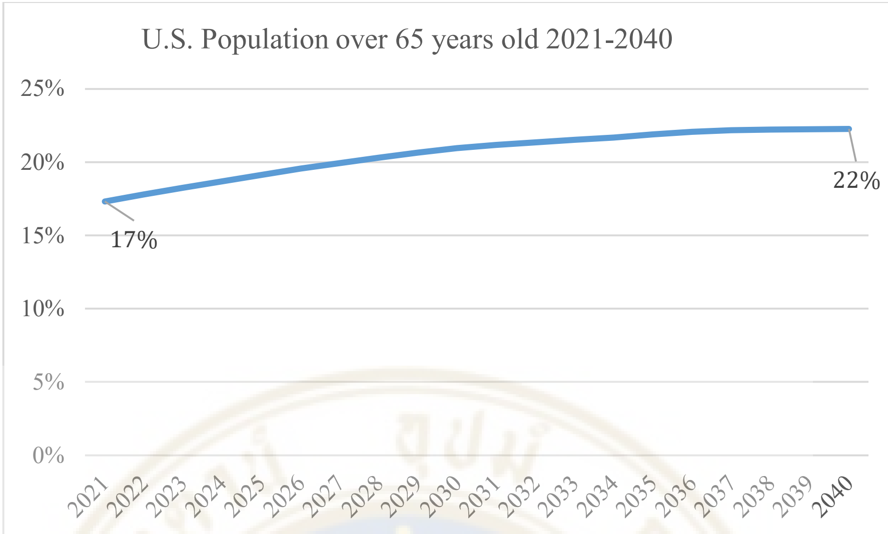

Figure 2.4 US Proportion of Population over 65 years old projection
Source: Euromonitor, 2021

2.3 Restaurant Type and Service

After discussing the macroeconomic impact on the industry, DPZ, and the trend in consumer taste, a narrower quick-service restaurant environment is shown in this section.

2.3.1 Growing Limited-service Restaurant

DPZ is a limited-service restaurant which generally means the customer order, select, and pays before eating. The limited-service restaurant includes a fast-casual restaurant, fast food, coffee shop, et cetera that there is no service from the restaurant; it is self-service by customer. Unlike a limited-service restaurant, the full-service restaurant provides tables, menu, and waiters with the full service to customers, which payments will be processed afterward. About five years ago, limited and full-service restaurants in the US had shared the market almost 50-50, but since then on, the limited-service restaurant has been rapidly grown over the full-service restaurant as illustrated in Figure 2.5.

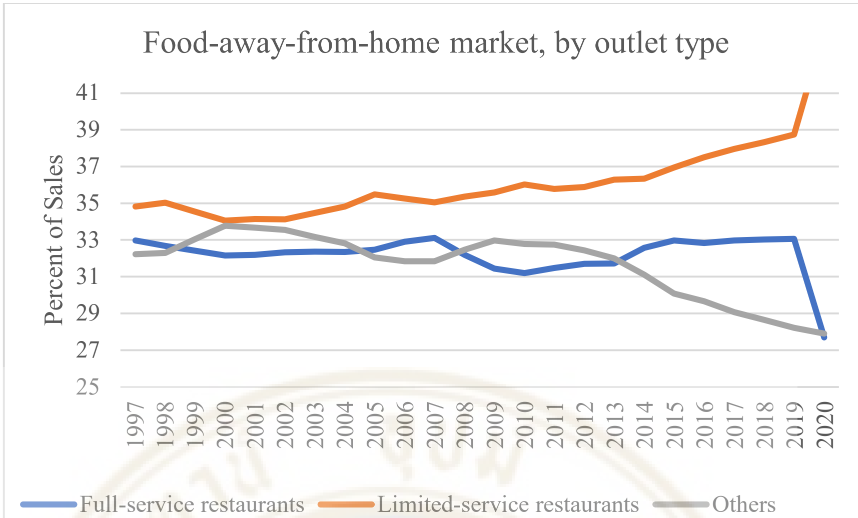

Figure 2.5 Food-away-from-home market, by outlet type
Source: (USDA, 2021)

The vital advantage of a limited-service restaurant is lower prices and more convenience than a full-service restaurant. We can see a significant change in the statistic in 2020 where there is a 10 percent decrease in full-service restaurants whereas a 10 percent increase in the limited-service restaurant, which is an effect from the Coronavirus (Covid-19) pandemic that causes the shutdown of restaurants resulting from the change of customer behavior. Customers turn to more affordable meals, convenient orderings, and take-home choices due to the economic downturn and social distancing measurement.

There are types of limited-service restaurants which are drive-through, eat-in, home delivery, and takeaway. DPZ has a good reputation for everything but eat-in. However, the Coronavirus pandemic has an enormous impact on the eat-in category, especially under the restriction that people cannot eat in restaurants. Consequently, sales from eat-in drop while sales from the drive-through, home delivery, and takeaway increase.

Figure 2.6 below shows a constant ratio between 4 categorization types during 2015 to 2019, except for 2020 that the eat-in category drops from 23 to 9 percent while the drive-through, home-delivery, and takeaway increases 5, 3, 6 percent respectively comparing to the prior year.

After all, the coronavirus pandemic harms almost the entire foodservice industry, especially fine-dining restaurants. Nevertheless, on the other hand, it helps urge the sales from home delivery, takeaway, and drive through, which are good opportunities for DPZ.

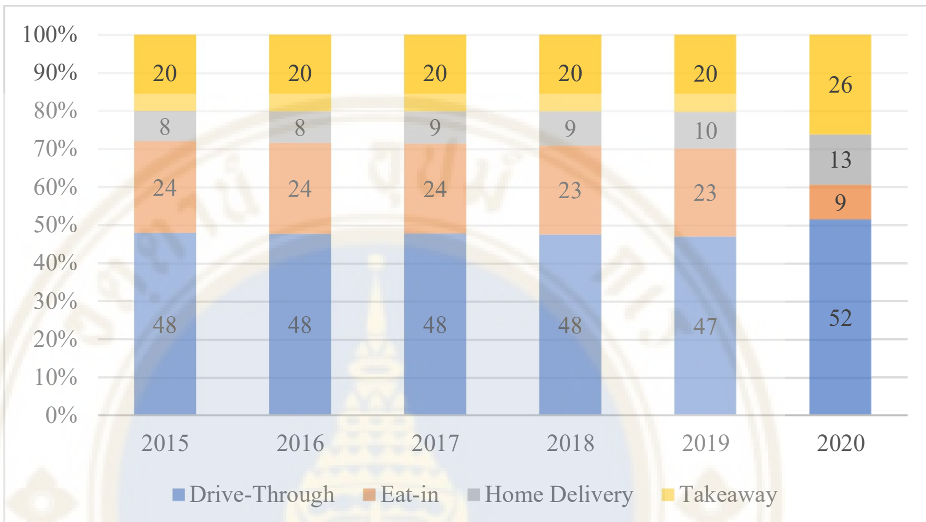

Figure 2.6 Limited-service restaurant market, by type
Source: Team assessment from (Euromonitor, 2021)

2.3.2 Pizza Category in Chained Quick-Service Restaurant

Quick service restaurant or fast-food service restaurant is a significant food industry segment, especially in the US. This type of restaurant is known to serve food quickly. Recently, the fast-food industry has rapid growth due to people's new lifestyles, looking for more economically safe time and money.

It also can be distinguished into independent and chained service restaurants. Independent restaurant is owned mainly by an independent or small chain, focusing on luxury or customized dishes, while chained restaurants or big franchise companies focusing on quality standard dishes in limited time. Usually, technology innovation is involved in quick-service restaurants in helping shorten the time of serving a massive customer demand.

DPZ is long known as a chained quick-service restaurant that focuses on pizza. Divide by segment, pizza is the second biggest market share of fast-food service restaurants after the biggest one, the hamburger-focused restaurant in the US (Franchise Help, 2021). Figure 2.7 illustrate fast food segment market share.

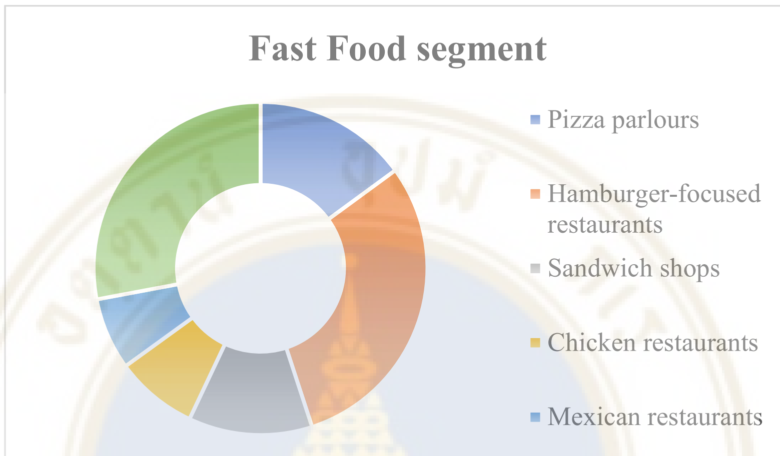

Figure 2.7 Fast Food Segment

Figure 2.8 divided the top five limited-service pizza chains into portions of food service value retail selling price (RSP) of the year 2020. DPZ is the leading one. Follow by Pizza Hut, under YUM! brand Inc., which has a similar portion as Little Caesar's and Papa's John's.

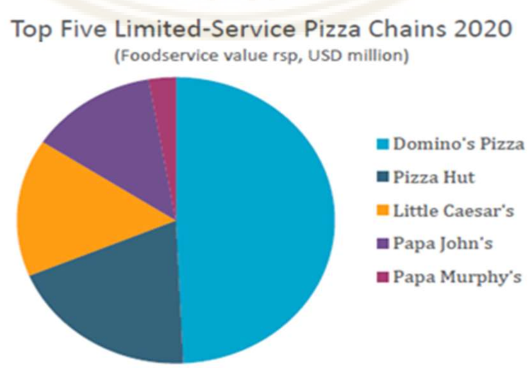

Figure 2.8 Top Five Limited-Service Pizza Chain 2020
Source: (Godinsky, 2021)

2.4 Peers Selection

In this section, some domestic and international peers in the quick-service restaurant industry are chosen to compare their performance in the past five years in terms of sales. Therefore, this section will describe every selected competitor and a brief introduction of their core business.

2.4.1 Domestic Peer

Figure 2.9 illustrates market shares in limited-service restaurants in the US measured by foodservice value retailing sell price in 2020 while isolating the top 20 market shares and the rest are combined into others. For example, DPZ is at rank number 8, which is 2 percent of the total value of 279 billion USD. Compared with their direct competitor, Papa John's inc. and YUM! Brand inc., they are in a higher rank than Papa John and lower rank compared to YUM! Brand. Papa's John and YUM! Brands has market shares in foodservice value retail price sell as 1 and 6 percent with the rank number 18 and 2 respectively.

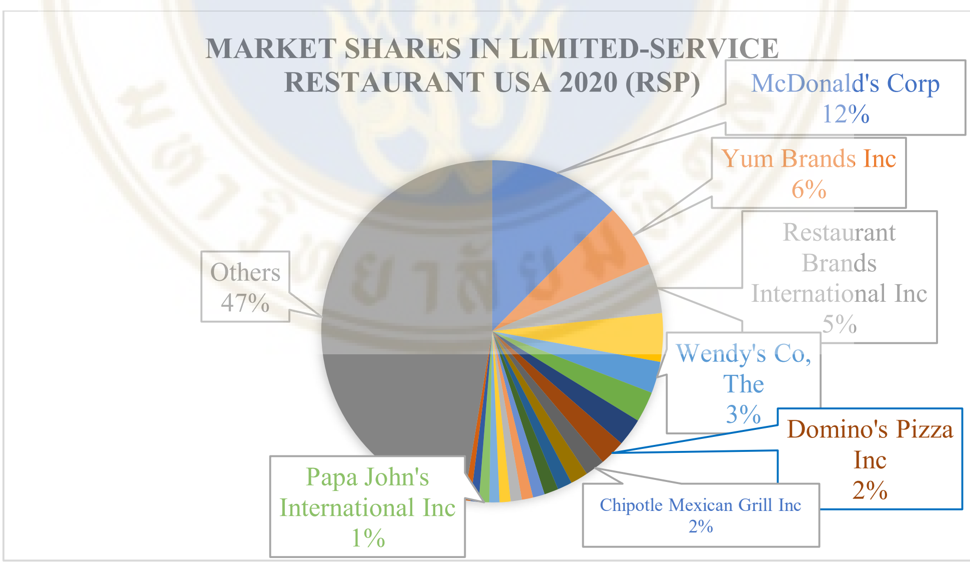

Figure 2.9 Market shares by sales in limited-service restaurant US market
Source: Team assessment from (Euromonitor, 2021)

DPZ has an advantage on digital strategy over competitors; they keep developing the technology to increase time efficiency from ordering to delivering with products at high-quality standard by its supply chain. The strategy is sustainable and continuously expanding their brand. They are focusing on their original core menu meanwhile competitors focus on new menu innovation. Besides direct competitors like Papa's John and Yum! Brand inc., we will compare DPZ among indirect competitors in quick-service restaurants, which are and Restaurant Brands International Inc, Wendy's Co, Chipotle Mexican Grill Inc. However, we have dropped McDonald's out of its pool of peers even though they have similar industries because their size of market capitalization is too large compared to all others.

Papa John's International Inc (PZZA) - NASDAQ

Papa John's International, Inc. (Papa John's) is the most similar to DPZ in the industry; they have the main operation in pizza stores, pizza franchises, pizza delivery, carryout restaurant mainly in the US and dine-in delivery restaurants in some international market. The restaurants can be separated into company-owned 588 and franchise 4,812 stores, and their segments are included geographically into account: North America commissaries, Domestic company own restaurants, international and North America Franchising with 5.31, 47.93, 38.47, 8.29, 5.31 percent respectively.

We selected Papa John's International, Inc. (Papa John's) as DPZ's peer and its direct competitor because both have revenues in the same industry and market: the pizza industry and the US market. Therefore, their external factor like opportunity and tread will be mostly the same. For example, the opportunity from a new lifestyle (convenience and small budget) will help to increase their sale while having a thread from unhealthy food perception.

Yum! Brands Inc (YUM) – NYSE

YUM! Brands, Inc. is known under KFC, Pizza Hut, or Taco Bell brands. They operate the franchise restaurant globally with more than 150 counties and over 50,000 restaurants and only have 57.36 percent income from the US market. The company divides its revenues into three segments: KFC, Pizza Hut, or Taco Bell. The revenues by segments are 44.10 percent for the KFC division, 33.59 percent for the Taco bell division, and 16.57 percent for the Pizza hut.

We categorize YUM as a direct competitor even though their source of revenues from the pizza industry is only 16.57 percent. YUM and DPZ have always been competing for pizza market shares. They are the two biggest pizza franchises in the US market and switching up and down during the past years. The shares for YUM in the limited-service restaurant are 12 percent, and it is 7 percent higher than DPZ because they have KFC, which is their most significant segment. KFC and Taco Bell are not in the pizza industry; however, YUM is still a good peer since all of its revenues are from the same quick-service restaurant.

Restaurant Brands International Inc (QSR) - NYSE

Restaurant Brands International Inc. is operating restaurant under Burger King, Tim Hortons, and Popeyes brands. It is a quick-service restaurant and managed over 27,000 restaurants and 100 countries. Their segment sizes measures by revenues in the year 2020 are Tim Horton 56.56 percent, Burger King 32.25 percent, and Popeyes 11.19 percent.

QSR is a good peer for DPZ even none of their brand is under pizza industry but still, all of them is from quick-service restaurant type. Tim Horton, as a coffee brand, might be a minor difference but Burger King and Popeyes brands can seize for market share with DPZ. As they are all in the fast-food industry but the difference in specific type, it is a good measurement to compare these 2 companies together.

Wendy's Co, The (WEN) – NASDAQ

The Wendy's Company (Wendy) is mainly operating a quick-service restaurant franchise globally under Wendy's US and Wendy's International segment, where its market is as same as its segment name. In addition, there is another segment unrelating to the food industry under Wendy, Global Real Estate & Development, which contributes only 13.66 percent income while Wendy US and Wendy international has 82.66 and 13.66 percent income contribution. In the US, there are Wendy's franchise about 5,852 restaurants which are 357 owned by the company and 5,495 operated by franchisees.

Even though global real estate and development are not related among these peers, their shares in the food industry are still valid. Because over 85 percent of Wendy's income is from the quick-service restaurant industry and significantly contributed to limited-service restaurants in the US. In 2020, Wendy had 6 percent market shares, and DPZ has 5 percent, which means they are in the food industry with similar market shares, and this could be good to compare among peers.

Chipotle Mexican Grill Inc (CMG) – NYSE

Chipotle Mexican Grill, Inc. (Chipotle) is a Mexican Grill restaurant located mainly in the US but only a few internationally, such as Germany, Canada, United Kingdom. They have operated the franchise stores approximately 2,491 restaurants with only one segment in revenues which is food.

We selected CMG as a peer because its 100 percent is from the food industry and is based geographically mainly in the US, similar to DPZ. Additionally, their strategy is similar to Chipotle's brand strategy, "food with integrity," which means they carefully selected the source of their ingredients and focused on the supply chain as same as DPZ's dough manufacturing.

2.4.2 International Peer

Besides chained restaurants in the US, we decided to include international companies in the pizza industry to diversify continents while remaining the same industry and similar business profile.

Domino's Pizza Group plc (DOM) – London Stock Exchange

Domino's Pizza Group plc (DOM) is based in United Kingdom (U.K.) and operates franchise pizza with 1,147 stores in the U.K. and 54 stores in the Republic of Ireland. Based on their 2020 annual report, they have only one segment for revenue of both countries, but we can separate from their financial highlight that 95 percent is from the U.K.

and the remaining is from the Republic of Ireland. In addition, DOM is the master franchise of DPZ, which means DOM is eligible to sub-franchise under Domino's Pizza brand in those countries and compensate royalty and commission fees to DPZ.

We have considered DOM as a peer of DPZ because they are in precisely the same industry and brand but only in a different market. In this case, we could see how much country factors can affect the stocks. Below is Figure 2.10 illustrates market shares of the limited-service restaurant in the United Kingdom measured by retailing sale price in 2020. DOM is the third biggest with a 6 percent market share while McDonald's is in the first and YUM! is in the second, which is the same as the 2 top big players in the US market.

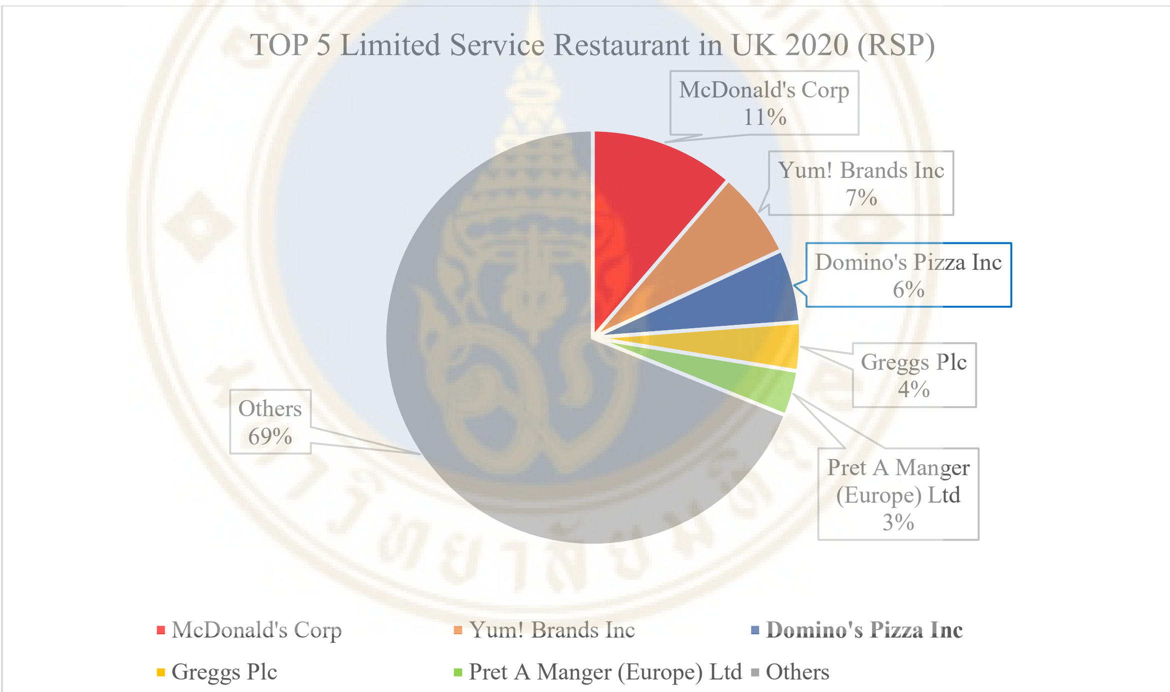

Figure 2.10 TOP 5 Limited-Service Restaurant in UK 2020 (RSP)
Source: (Euromonitor, 2021)

Domino's Pizza Enterprises Ltd (DMP) - Australian Stock Exchange

Domino's Pizza Enterprises Ltd (DMP) is another master franchise of DPZ. They operate pizza franchise stores and sub-franchise both domestically which is the Australian market, and internationally. They divide the segment into three types, and its details are shown in Table 2.1 below.

Table 2.1 Details of 3 segments in DMP

	Year 2020				
Segment	**Stores (no)**	**Revenues (million$)**	**Revenues by segment**	**Market Shares**	**Rank in Market shares**
Australia/ New Zealand	833	693	36%	5.10%	4th
Japan	674	652	34%	0.70%	15th
Europe	1,161	560	29%	2.90%	4th
Total	**2,668**	**1,905**	**100%**		

Source: DMP Annual report and Euromonitor, 2021

DMP is compared to our target company because it is holding the same brand under Domino's Pizza and all of their source of revenue is the same industry. The first difference is the trading market since DMP is trading in the Australian Stock Exchange, and the second difference is brand geography. While DPZ is mainly based in the US, DMP has distributed its revenues into three different continents almost equally. Like the US, Domino's Pizza is also significantly continued to DMP in each market after biggest competitors like McDonald's and YUM!.

Pizza Pizza Royalty Corp. (PZA) – The Toronto Stock Exchange

Pizza Pizza Royalty Corp. is a pizza franchise company based in Canada. In 2020, they operated 749 stores under Pizza Pizza and Pizza 73 brands, and market shares are in 7th Rank with 2 percent of the total sale in the limited-service restaurant market in Canada as shown in Figure 2.11 below.

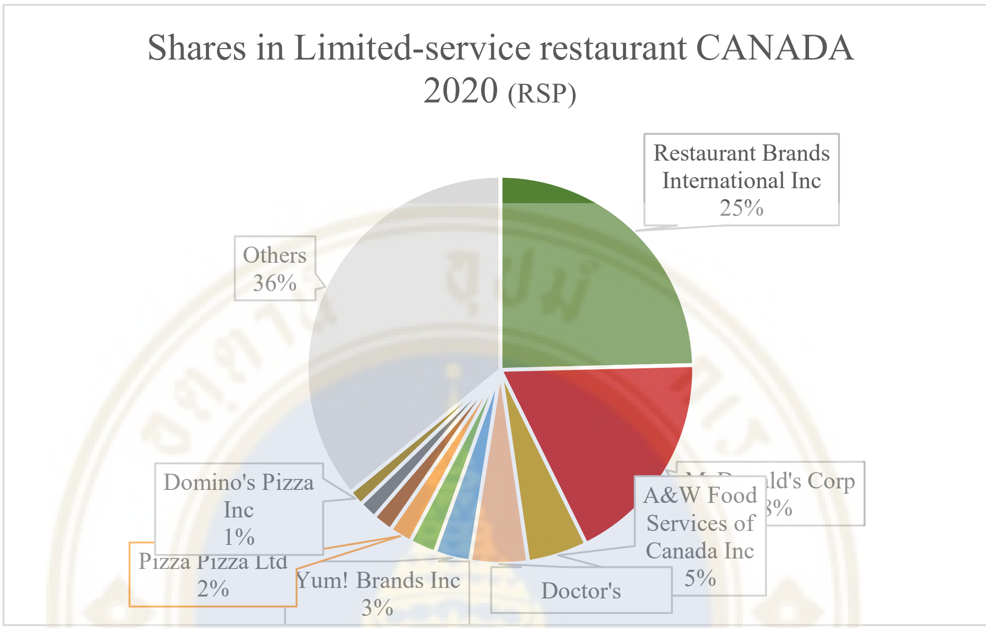

Figure 2.11 Shares in Limited-service restaurant CANADA 2020 (RSP)
Source: (Euromonitor, 2021)

We select PZA as a peer of DPZ because of its source of revenue. Its 100 percent of income comes from the pizza industry. They might operate under different pizza brands, but their geography strategy is similar, focusing on domestic sales. Moreover, even the international sale of DPZ is insignificant, PZA is a direct competitor with DPZ in the Canadian market with close percent market shares. As a result, PZA is considered a good peer for DPZ.

2.5 CAGR 5 years in comparison

Figure 2.12 compares 5 years compound annual growth rates (CAGR) for DPZ's peers. Among the peers, the highest is obviously to international peers like *Domino's*

Pizza Enterprise (Australia), with a 17 percent compound annual growth rate (CAGR). It has rapid growth in the past few years with, as same as DPZ's strategy, innovation in ordering and delivery increases and meets high customer demand. As they continue expanding the number of stores, the growth has increased chiefly year on year in every continent, following by other 2 Domino's pizza brands, *U.K. Domino's Pizza brand (DOM)* and our target company – *Domino Pizza Inc US (DPZ)* which have CAGR as 7.56 and 6.96 percent respectively. It seems Domino's Pizza strategy is efficiently work in every country. Not too far behind, *Restaurant Brands International Inc (QSR)* has a CAGR of 6.19 percent, which is contributed mainly by the Popeyes brand that just opened during the year 2017. *Chipotle Mexican Grill Inc* also has a positive CAGR at 3.13 percent from franchises expanding mainly in the US, while *Yum! Brands Inc (YUM)* has a 1.49 percent growth rate globally. Unfortunately for the rest, Papa's John, Wendy's, and Pizza Pizza Ltd have lost their competitiveness over five years; as a result, the CAGR is -1.73, -1.68, and -0.55 percent, respectively.

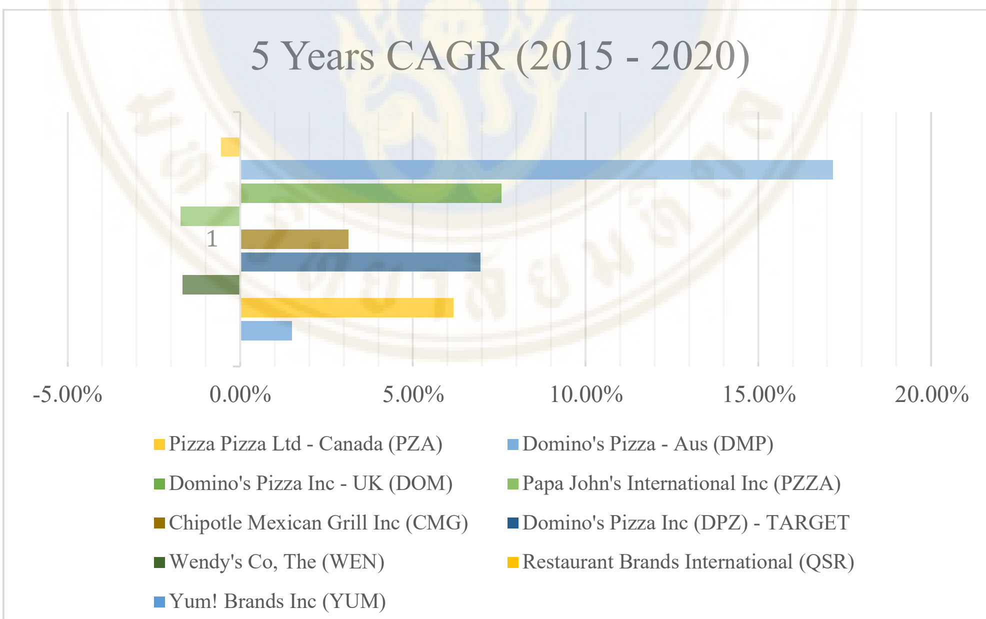

Figure 2.12 Compound Annual Growth Rate by Sales Year 2015 – 2020

Source: Team assessment from (Euromonitor, 2021)

CHAPTER III
VALUATION

Relative valuation is a method to measure the worth of an underlying asset. Instead of determining the intrinsic value in the Discount Cash flow method, relative valuation appraises the value of a stock by comparing its multiples (TUOVILA, 2020). Price to Earnings (PE) ratio and Enterprise Value (EV) to Earning Before Interest, Tax, Depreciation, and Amortization (EBITDA) ratio are the selected figures for DPZ's valuation.

3.1 Multiple Band

The comparison does not always have to be with the others. It sometimes could mean to yourself. Likewise, a stock could also compare with its history to see whether the current price is reasonable relative to itself. DPZ's PE and EV to EBITDA, both trailing and forward, are then observed from June 2015 – 2021 and arrayed in multiple bands.

3.1.1 Trailing PE and Forward PE

PE ratio is one of the most common uses in relative valuation. It reflects the multiplication of company price by its earning per share (EPS). Figure 3.1 shows the trailing PE Band during June 2015 – 2020. It has an average and standard deviation of 33.3 and 3.6 respectively. PE ratios over 5 years have fluctuated. There were 2 times that they were above +2SD (40.4) which are around June 2017 and June 2018. Allmani (2018) mentioned that DPZ's performance in the stock market is the payoff from its proven product quality and technology innovation (ALLAMANI, 2018). During 2019, the PE ratio significantly decreased to the bottom of the band as it hit -2SD (26.1). Observing DPZ's financial statement, it shows that their sale dropped 22 percent in the first quarter of 2019 from the previous quarter and they were unable to catch their historical performance in 3 quarters consecutively. In June 2021, the PE ratio is 37.8 which is slightly over the +1SD (36.9) band. Hence, it is overvalued.

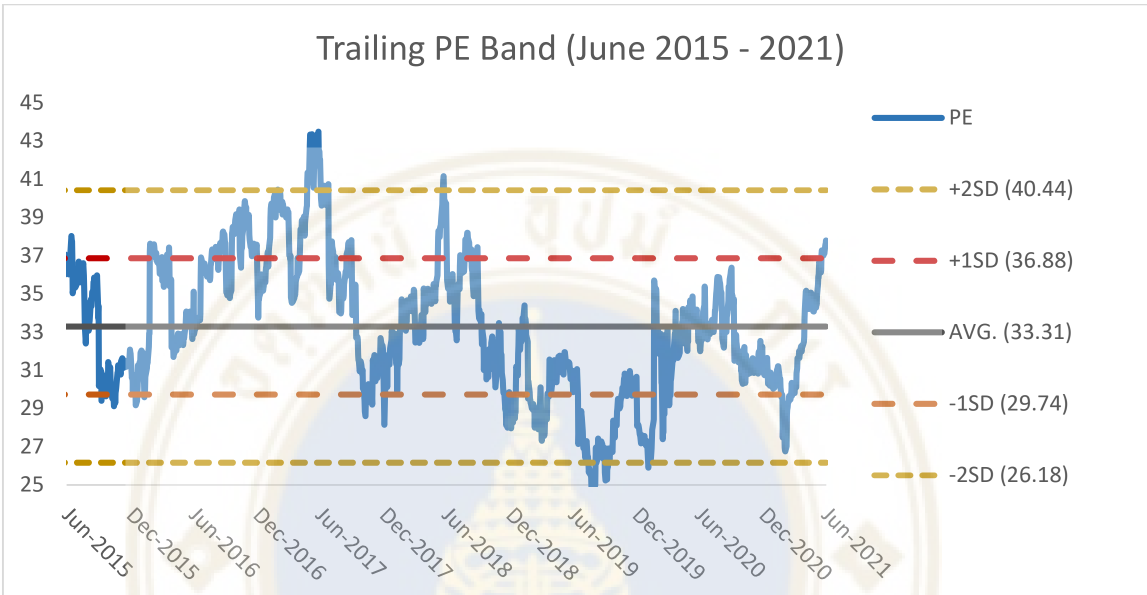

Figure 3.1 **Trailing PE Band (June 2015 – 2021)**
Source: **Team assessment from Refinitiv**

Rather than historical earning, Figure 3.2 applies the forward earning to the current price. Their movement is mostly the same. The current forward PE ratio is 35.9. It is lower than the trailing PE ratio which reflecting the higher expectation of EPS in the next 12 months. However, the current forward PE ratio is relatively expensive to itself as it is fell above the average band (33.3) but not more than +1SD (36.8).

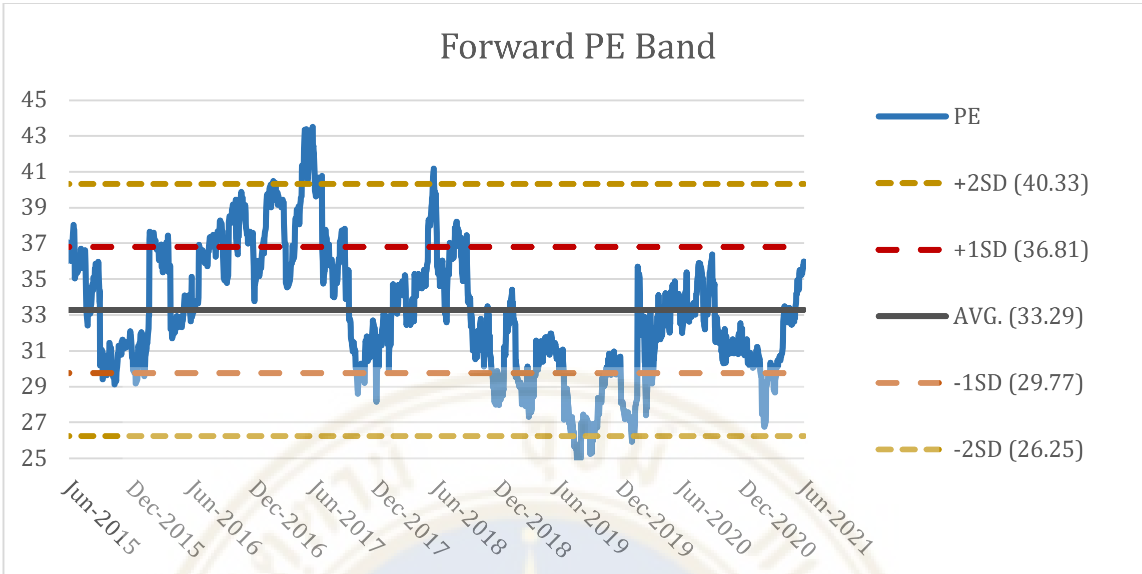

Figure 3.2 Forward PE Band (June 2015 – 2021)

Source: Team assessment from Refinitiv, (2021)

3.1.2 Trailing EV/EBITDA and Forward EV/EBITDA

DPZ's current trailing EV/EBITDA multiple (Figure 3.3) amounts to 26.72 (June 2021). This remarkably exceeds its historical five average of 21.68 and even touches the +2SD band of 26.6. Such high valuations have been also reached during the second half of 2018 and throughout 2020. During most parts of the historical EV/EBITDA timeline, the valuations fluctuated significantly between the -1SD and +2SD bands. Altogether, DPZ is overvalued to itself.

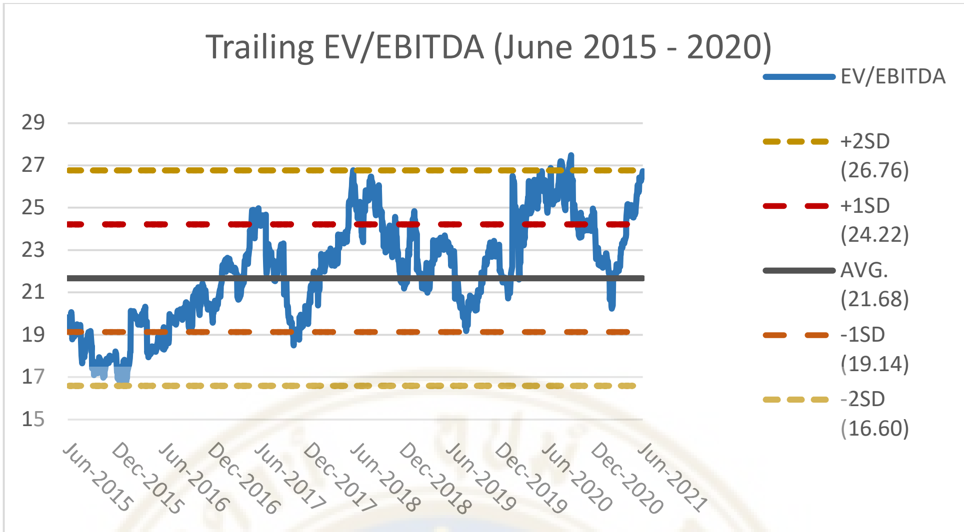

Figure 3.3 Trailing EV to EBITDA Band (June 2015 – 2021)

Source: Team assessment from Refinitiv

The forecasted EV/EBITDA of DPZ (Figure 3.4) shows a similar overall pattern as the historical one. As of June 2021, the multiple reached a value of 25.63 which slightly exceeds the +1SD band of 24.29. Noteworthy, also the expectation is on a steep upward trend since the beginning of 2021.

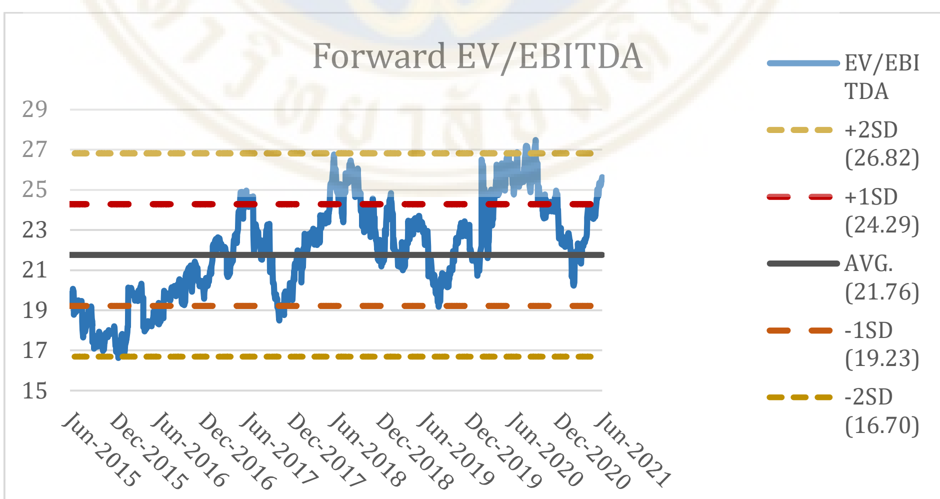

Figure 3.4 Forward EV to EBITDA Band (June 2015 – 2021)

Source: Team assessment from Refinitiv, (2021)

3.2 Peer Multiples

Under a competitive market, similar products would reflect similar prices. This concept is also applicable in the stock market. We believe that if the peers are well-selected, their multiple should be comparable. Table 3.1 shows peer groups both domestic and international. It includes market capitalization, closing price (as of 8 July 2021), and average (AVG) 5 years PE and EV/EBITDA multiples. The peer calculation will be excluded the target company (DPZ). The maximum PE ratio is 87.6, the median is 26.5, the minimum is 14.7, and the average is 36.9. EV/EBITDA has the maximum at 65.9, median at 22.2, minimum at 10.3, and the average is 26.1. The biggest market capitalization and max multiple among peers belong to Chipotle Mexican Grill Inc. (CMG). In comparison with DPZ 5 years average PE (31.5) and EV/EBITDA (26.8), DPZ is considered relatively expensive comparing to its peer.

Table 3.1 Peer Group Multiples

Symbol	Company Name	Market Capital (million dollars)	Closing Price (USD) (8 Jul 2021)	Avg 5Y P/E	Avg 5Y EV/EBITDA
DPZ	Domino's Pizza Inc* (Target)	18,426.01	474.55	31.51	26.79
CMG	Chipotle Mexican Grill Inc	44,366.56	1,576.05	87.60	65.91
YUM	Yum! Brands Inc	34,949.76	117.32	23.36	22.31
QSR	Restaurant Brands International Inc	29,453.49	63.75	28.71	23.11
DMP	Domino's Pizza Enterprises Ltd	7,373.98	85.23	43.38	29.54
WEN	Wendys Co	5,035.93	22.75	24.39	16.60

Table 3.1 Peer Group Multiples (cont.)

Symbol	Company Name	Market Capital (million dollars)	Closing Price (USD) (8 Jul 2021)	Avg 5Y P/E	Avg 5Y EV/EBITDA
PZZA	Papa John's International Inc	3,526.42	106.62	51.74	22.08
DOM	Domino's Pizza Group PLC	2,607.02	5.65	21.12	19.16
PZA	Pizza Pizza Royalty Corp	215.07	8.70	14.73	10.33
			Peer Average	**36.88**	**26.13**
			Peer Median	**26.55**	**22.19**
			Peer Max	**87.60**	**65.91**
			Peer Min	**14.73**	**10.33**

Source: Team assessment from Refinitiv, (2021)

3.2.1 Current Price

The necessary data for expect price calculation are collected from DPZ's quarter 1 performance (Refinitiv, 2021). Table 3.2 exhibits the expected price from peer multiples. Both AVG 5 Years PE and EV/EBITDA have resulted in similar outcomes. The minimum expected prices are USD 181.7 (PE) and USD 122.2 (EV/EBITDA). The maximum expected prices are USD 1081.0 (PE) and USD 1289.9 (EV/EBITDA). With the median prices of USD 327.6 (PE) and USD 371.4 (EV/EBITDA), the current price of DPZ is overvalued relative to its peers.

Table 3.2 Expected Trailing Price from Peer Multiples

DPZ	Mar-21	
EPS	12.34	USD
EBITDA	823.82	million USD
DEBT	4,119.79	million USD
Cash	399.62	million USD
No of shares	39.21	million shares
	Avg 5Y P/E	**Avg 5Y EV/EBITDA**
Multiple - Max	87.60	65.91
Multiple - Median	26.55	22.19
Multiple - Min	14.73	10.33
Expected Price - Max	**1,081.04**	**1,289.93**
Expected Price - Median	**327.61**	**371.43**
Expected Price - Min	**181.74**	**122.23**

3.2.2 Forward Price

Historical data helps to indicate some patterns; however, it might not be sufficient. The stock market always depends on confidence and fear from the investors. Forward data will be then comprised for predicting price. The inputs are observed from discounted cash flow (DCF) valuation of DPZ as of December 2021 and December 2022. (Lien, 2021) Table 3.3 shows the estimation from Lien, (2021) and the forward price from peer multiples.

By the end of December 2021, the expected prices from peer multiples are USD 344.1 (PE) and USD 390.7 (EV/EBITDA) which are slightly higher than the current price. It reflects that investors mostly believe DPZ could have better performance. Not only until December 2021 but also continue to December 2022, the forward prices increase to USD

377.6 (PE) and USD 427.9 (EV/EBITDA). The current price (July 8, 2021) of DPZ is USD 474.5. It can be concluded that DPZ's price is overvalued relative to its peer.

Table 3.3 Expected Forward Price

DPZ	Dec-21	Dec-22		
EPS	12.96	14.22	USD	
EBITDA	835.22	887.72	million USD	
DEBT	4,050.16	4,304.71	million USD	
Cash	324.00	324.45	million USD	
No of shares	37.91	36.74	million shares	
	Avg 5Y P/E		**Avg 5Y EV/EBITDA**	
Multiple - Max	87.60		65.91	
Multiple - Median	26.55		22.19	
Multiple - Min	14.73		10.33	
	Expected prices			
	Dec-21	**Dec-22**	**Dec-21**	**Dec-22**
Expected Price - Max	1,135.57	1,246.08	1,353.98	1,484.12
Expected Price - Median	344.14	377.62	390.73	427.90
Expected Price - Min	190.91	209.49	129.38	141.33

3.2.3 Sensitivity Analysis of Forwarding Price

Forward prices can be volatile corresponsive to the inputs. In this chapter, we will observe how sensitive the price is when the variables are shifted. The variables refer to EPS and EBITDA. The details are discussed separately below;

Forward PE

Table 3.4 shows the sensitivity of the EPS. Starting with base case's EPS at USD 12.96 per share and median is approximately USD 344.1. The median expected prices are shifted to USD 361.3, 412.8, 447.3, 464.5 when there is an increase in EPS for 5, 10, 20, 30 percent respectively. On the other hand, if the input were to decrease in the same percentage, the median expected share prices would be USD 325.9, 309.7, 275.3, 240.9 respectively.

Table 3.4 Forward PE Price Sensitivity Calculation

DPZ	-30%	-20%	-10%	-5%	Base Case	5%	10%	20%	30%
EPS	9.07	10.37	11.66	12.31	12.96	13.61	14.26	15.55	16.85
					Expected Price				
Max	**794.75**	908.28	1,021.82	1,078.58	1,135.35	1,192.12	1,248.89	1,362.42	1,475.96
Median	240.85	275.25	309.66	326.86	344.07	361.27	378.47	412.88	447.29
Min	133.61	152.70	171.78	181.33	190.87	200.41	209.96	229.04	**248.13**

Figure 3.5 illustrates the price range of DPZ stocks when EPS changes in various sensitivity. There is the range that all scenarios must fall into, the minimum of +30 percent and the maximum of -30 percent, USD 248.1 and 794.8. We would like to refer to it as a *safe range*. The current price of DPZ is 474.55 USD and, as discussed in chapter 4.2.2, it is relatively overvalued to its peer. However, the current price is still in *safe range* in comparison to its peer.

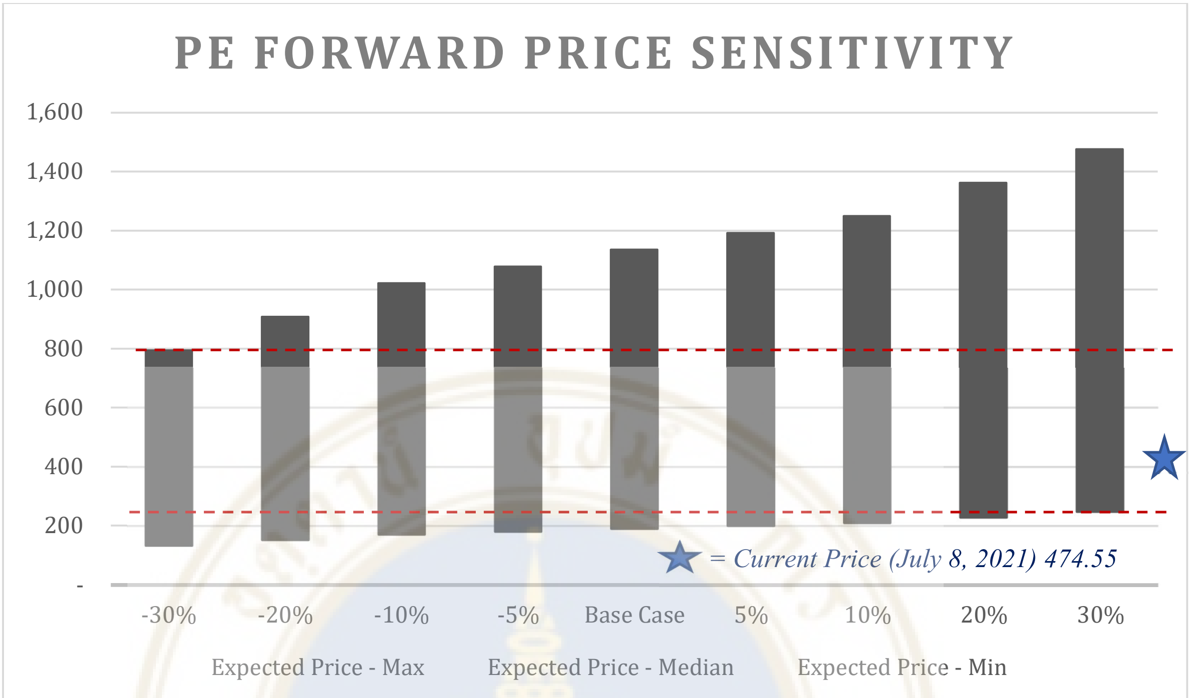

Figure 3.5 Forward PE Price Sensitivity

Forward EV/EBITDA

In a sensitivity analysis of forwarding EV/EBITDA, the focus on changes will be in its EBITDA while other factors remain constant. Considering the shares price that mostly is reflected from EBITDA. Regardless debt and cash are components for enterprise value calculation, they are inelasticity. It implies that although debt and cash have numerous changes, the share price would slightly have an effect.

Table 3.5 exhibits the sensitivity of EBITDA that reflects DPZ's share price. The base case is when EBITDA is equal to USD 835.22 million, the median expected price is USD 390.7. It can transform to USD 415.1, 439.6, 488.5, 537.4 when variable factors increase by 5, 10, 20, 30 percent respectively. Whereas the number can adversely shift to USD 366.3, 341.8, 292.9, 244.0 when the EBITDA decrease by the same percentage respectively.

Table 3.5 Forward EV to EBITDA Price Sensitivity Calculation

DPZ	-30%	-20%	-10%	-5%	Base Case	5%	10%	20%	30%
EBITDA	584.66	668.18	751.70	793.46	835.22	876.98	918.75	1,002.27	1,085.79
					Expected Price				
Max	**918.30**	1,063.53	1,208.75	1,281.37	1,353.98	1,426.60	1,499.21	1,644.44	1,789.67
Median	244.02	292.92	341.83	366.28	390.73	415.18	439.63	488.54	537.44
Min	61.08	83.85	106.62	118.00	129.38	140.77	152.15	174.92	**197.69**

Figure 3.6 demonstrates the prices when there is an impact on EBITDA. A bar, from the bottom to the top, reflects the minimum to the maximum of the expected price. In every scenario of sensitivity, the price will fall between USD 197.7 – 918.3. Despite DPZ's share price is overvalued, the current price of USD 474.55 (July 8, 2021) is not too expensive relative to its peer. Considering as though EBITDA has negatively impact by 30 percent (61.1 – 918.3), the current price will remain at the expected price range.

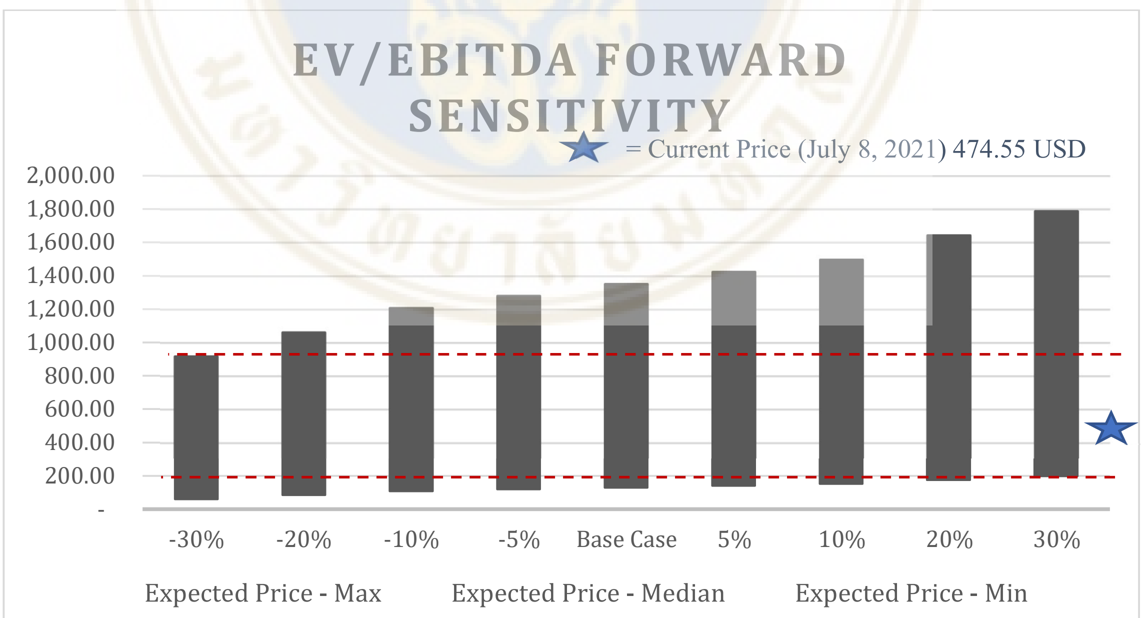

Figure 3.6 Forward EV to EBITDA Price Sensitivity

3.3 Regression

Future price is a prediction and may consist of biases, some investors choose to overlook the forward price estimation and instead observe the history. Share prices sometimes are believed to move in their pattern. Regression Analysis will obtain the historical data from DPZ and explore the price change along different scenarios.

3.3.1 Relationship of Price, EPS and Dividend payout ratio

We have collected data from Refenitiv and chose 2 independent variables, EPS by quarter and dividend payout ratio, that may have a strong relationship in our target-dependent one – the price. The observation is during Q1'2009 – Q1'2021 period. The relationship is illustrated in Figure 3.7.

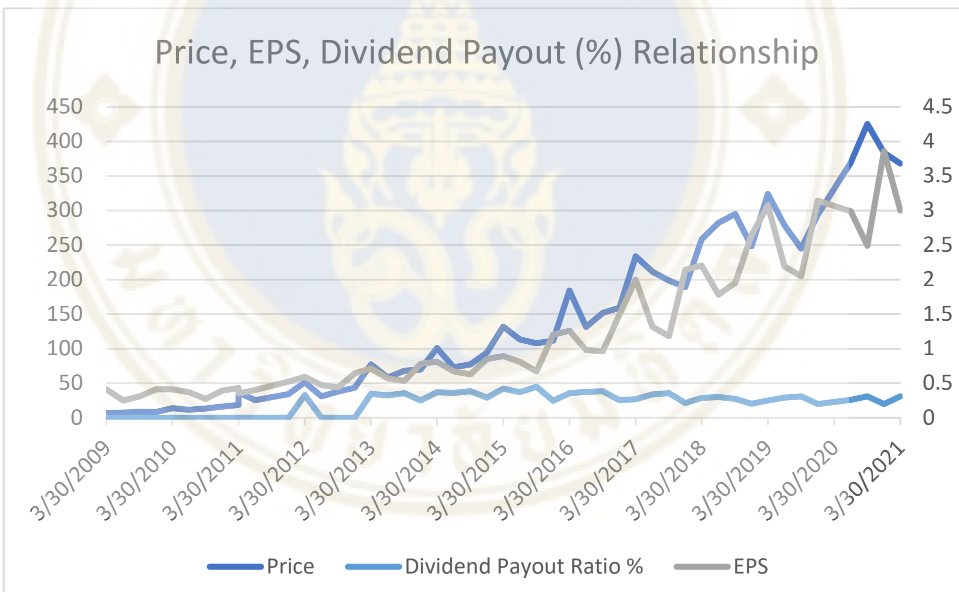

Figure 3.7 Price, EPS, Dividend Payout ratio Relationship

We then estimate the linear regression[1] analysis using a data analysis tool[2] from Microsoft Excel. The result is shown in Table 3.6. The R-Square can imply the predictability of the price by a given variable. EPS and Dividend Payout ratios can forecast price by 92.6%. When the EPS change by USD 1, the share price will increase by USD 111.33, and when the dividend payout ratio increases by 1 percent, the share price will increase by USD 1.51. The P-Value refer to the significant level of the variable and as under P-value under 0.01, the significance of the variable to predict the price is at a confident level over 99 percent. As a result, the linear regression would be

Share Price = -0.28 + 111.33(EPS by quarter) + 1.51(Dividend Payout Ratio %)

Table 3.6 Linear Regression Result

	Coefficients	P-value
Intercept	(28.67)	0.00347
EPS	111.33	0.00000
Dividend Payout Ratio %	1.51	0.00005
R Square	92.60%	

Current Price

To estimate the expected current price, we apply the latest available financial data in the equation. In Q1’2021, EPS is 3.00 USD per share and the dividend payout ratio is 31.0%. Replace them in the formula, it appears as in Table 3.7 for 352.12 USD for the expected share price. Comparing to the actual one as of Q1’2021 is 367.79. The formula is reasonable.

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[1] In Microsoft Excel, go to Data Ribbon and then Data Analysis, choose Regression and press OK.
[2] Data Analysis tool is an add-in for Microsoft Excel. To add-in, go to File > option > Add-ins, under Manage dropdown choose Excel add-ins and press Go. Then tick for Analysis ToolPak and press OK.

Table 3.7 Current Expected Price from Regression

Share Price = -0.28 + 111.33(3.00) + 1.51(31.0)
Share Price = 352.12

Forward Price

The regression can be a good predictor by input the independent variable that is most likely to occur. The expected dividend payout ratio by the percentage of Q1'22 is retrieved from Refinitiv while the EPS by quarter is from the proforma in DCF valuation (Lien, 2021). We can predict the forward price by Q4'21 by given factors the result would be USD 369.8 per share (Table 3.8). It is expected to increase in line with EPS from the latest quarter 3.0 to 3.3 in the next 9 months. The current price is 474.55 USD, which means that DPZ is overvalued relative to its historical factors.

Table 3.8 Forward Expected Price from Regression

Share Price = -0.28 + 111.33(3.24) + 1.51(25.0)
Share Price = 369.78

3.3.2 Scenario Analysis

Based on its data, Table 3.9 shows different scenarios from the regression. Where best scenario refers to the maximum of EPS by quarter and dividend payout ratio from its history and so forth.

Under linear regression, it assumes the worst case is when EPS by quarter is 0.25 USD and there is no dividend payout. The share price would be non-applicable. We could imply it as having no value in the market. The best scenario is when EPS is USD 3.86 per quarter and the dividend payout ratio is 44.80% returning USD 468.7 at the expected share price.

Table 3.9 Price Scenario Calculation

	Best	Average	Median	Worst
EPS (Q)	3.86	1.22	0.81	0.25
Dividend payout (%)	44.80	21.27	26.19	-
Price	**468.70**	**139.05**	**101.04**	**(0.85)**

Figure 3.8 illustrates all the prices from scenarios in comparison with price as of Mar 31, and Jul 8, 2021. The actual price is even higher than the top of the best case. This means DPZ is overvalued relative to itself. However, the factors that could limit the forecast in this method are as follows.

1) The number of data observations might be inadequate for regression due to the limited period range of data available.

2) Other factors may have the influence to share price but cannot collect as statistical data, for example, the fear and confidence of investors in the market.

3) The scenario analysis is based on its history. This means some scenarios, that have never happened in the past but are possible in the future, are not taken into account.

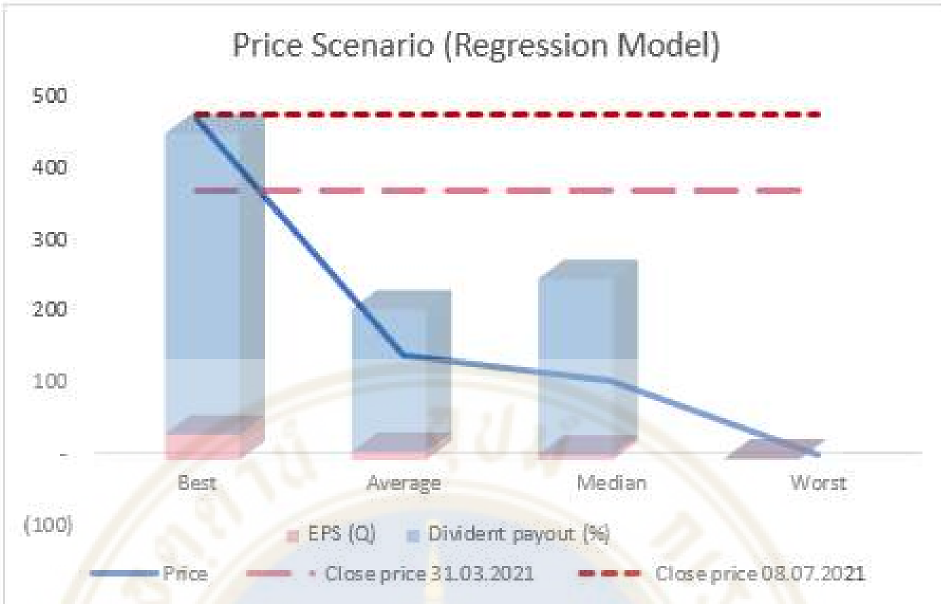

Figure 3.8 Price Scenario (Regression Model)

3.3.3 Sensitivity Analysis

The sensitivity analysis is based on forwarding price from linear regression and changes both input variables, EPS (quarter) and percent of the dividend payout ratio. Assume they have changed from 10 percent to 100 percent positively and negatively. Refer to 4.3.1 forward price calculation, 3.24 and 25.0 for EPS (quarter) and dividend payout are applied as base case respectively. Then we measure the sensitivity of share price when each, and both variables change. All possible results are shown in Table 3.10 - 3.11. Yellow highlight means price interval on Q1'2021 (360 – 370) and the green highlight is the price interval of the current price (470 – 480 USD).

Base cases are shown in Table 3.10 both vertical and horizontal, are referred to as our expected price. Relative to its current price, which is 474.55 USD, it is under an additional 20 percent of expected EPS in the next 12 months. It means the current price of DPZ is expensive relatively itself.

Table 3.10 Sensitivity Analysis (1/2)

Sensitivity of data input (Dec-21)			EPS Dilutes per Quarter											
			-100%	-90%	-80%	-70%	-60%	-50%	-40%	-30%	-20%	-10%	-5%	Base
		369.78	0.00	0.32	0.65	0.97	1.30	1.62	1.94	2.27	2.59	2.92	3.08	3.24
Dividend Payout Ratio (%)	-100%	0.00	N/A	7.39	43.46	79.53	115.60	151.67	187.75	223.82	259.89	295.96	313.99	332.03
	-90%	2.50	N/A	11.17	47.24	83.31	119.38	155.45	191.52	227.59	263.66	299.73	317.77	335.80
	-80%	5.00	N/A	14.94	51.01	87.08	123.15	159.22	195.30	231.37	267.44	303.51	321.54	339.58
	-70%	7.50	N/A	18.72	54.79	90.86	126.93	163.00	199.07	235.14	271.21	307.28	325.32	343.35
	-60%	10.00	N/A	22.49	58.56	94.63	130.70	166.77	202.85	238.92	274.99	311.06	329.09	347.13
	-50%	12.50	N/A	26.27	62.34	98.41	134.48	170.55	206.62	242.69	278.76	314.83	332.87	350.90
	-40%	15.00	N/A	30.04	66.11	102.18	138.25	174.32	210.40	246.47	282.54	318.61	336.64	354.68
	-30%	17.50	N/A	33.82	69.89	105.96	142.03	178.10	214.17	250.24	286.31	322.38	340.42	358.45
	-20%	20.00	1.52	37.59	73.66	109.73	145.80	181.87	217.95	254.02	290.09	326.16	344.19	362.23
	-10%	22.50	5.30	41.37	77.44	113.51	149.58	185.65	221.72	257.79	293.86	329.93	347.97	366.00
	-5%	23.75	7.18	43.25	79.32	115.40	151.47	187.54	223.61	259.68	295.75	331.82	349.86	367.89
	Base	25.00	9.07	45.14	81.21	117.28	153.35	189.42	225.50	261.57	297.64	333.71	351.74	369.78
	5%	26.25	10.96	47.03	83.10	119.17	155.24	191.31	227.38	263.45	299.52	335.60	353.63	371.67
	20%	30.00	16.62	52.69	88.76	124.83	160.90	196.97	233.05	269.12	305.19	341.26	359.29	377.33
	30%	32.50	20.40	56.47	92.54	128.61	164.68	200.75	236.82	272.89	308.96	345.03	363.07	381.10
	40%	35.00	24.17	60.24	96.31	132.38	168.45	204.52	240.60	276.67	312.74	348.81	366.84	384.88
	50%	37.50	27.95	64.02	100.09	136.16	172.23	208.30	244.37	280.44	316.51	352.58	370.62	388.65
	60%	40.00	31.72	67.79	103.86	139.93	176.00	212.07	248.15	284.22	320.29	356.36	374.39	392.43
	70%	42.50	35.50	71.57	107.64	143.71	179.78	215.85	251.92	287.99	324.06	360.13	378.17	396.20
	80%	45.00	39.27	75.34	111.41	147.48	183.55	219.62	255.70	291.77	327.84	363.91	381.94	399.98
	90%	47.50	43.05	79.12	115.19	151.26	187.33	223.40	259.47	295.54	331.61	367.68	385.72	403.75
	100%	50.00	46.82	82.89	118.96	155.03	191.10	227.17	263.25	299.32	335.39	371.46	389.49	407.53

Highlight is the price between 360 - 370 (the interval price as of 31 Mar 2021).

Table 3.11 Sensitivity Analysis (2/2)

EPS Dilutes per Quarter												Sensitivity of data input (Mar-22)	Dividend Payout Ratio (%)
Base	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%		
3.24	3.40	3.89	4.21	4.54	4.86	5.18	5.51	5.83	6.16	6.48	3.24		
332.03	350.06	404.17	440.24	476.31	512.38	548.45	584.53	620.60	656.67	692.74	332.03	0.00	-100%
335.80	353.84	407.95	444.02	480.09	516.16	552.23	588.30	624.37	660.44	696.51	335.80	2.50	-90%
339.58	357.61	411.72	447.79	483.86	519.93	556.00	592.08	628.15	664.22	700.29	339.58	5.00	-80%
343.35	361.39	415.50	451.57	487.64	523.71	559.78	595.85	631.92	667.99	704.06	343.35	7.50	-70%
347.13	365.16	419.27	455.34	491.41	527.48	563.55	599.63	635.70	671.77	707.84	347.13	10.00	-60%
350.90	368.94	423.05	459.12	495.19	531.26	567.33	603.40	639.47	675.54	711.61	350.90	12.50	-50%
354.68	372.71	426.82	462.89	498.96	535.03	571.10	607.18	643.25	679.32	715.39	354.68	15.00	-40%
358.45	376.49	430.60	466.67	502.74	538.81	574.88	610.95	647.02	683.09	719.16	358.45	17.50	-30%
362.23	380.26	434.37	470.44	506.51	542.58	578.65	614.73	650.80	686.87	722.94	362.23	20.00	-20%
366.00	384.04	438.15	474.22	510.29	546.36	582.43	618.50	654.57	690.64	726.71	366.00	22.50	-10%
367.89	385.93	440.03	476.10	512.18	548.25	584.32	620.39	656.46	692.53	728.60	367.89	23.75	-5%
369.78	387.81	441.92	477.99	514.06	550.13	586.20	622.28	658.35	694.42	730.49	369.78	25.00	Base
371.67	389.70	443.81	479.88	515.95	552.02	588.09	624.16	660.23	696.30	732.38	371.67	26.25	5%
377.33	395.36	449.47	485.54	521.61	557.68	593.75	629.83	665.90	701.97	738.04	377.33	30.00	20%
381.10	399.14	453.25	489.32	525.39	561.46	597.53	633.60	669.67	705.74	741.81	381.10	32.50	30%
384.88	402.91	457.02	493.09	529.16	565.23	601.30	637.38	673.45	709.52	745.59	384.88	35.00	40%
388.65	406.69	460.80	496.87	532.94	569.01	605.08	641.15	677.22	713.29	749.36	388.65	37.50	50%
392.43	410.46	464.57	500.64	536.71	572.78	608.85	644.93	681.00	717.07	753.14	392.43	40.00	60%
396.20	414.24	468.35	504.42	540.49	576.56	612.63	648.70	684.77	720.84	756.91	396.20	42.50	70%
399.98	418.01	472.12	508.19	544.26	580.33	616.40	652.48	688.55	724.62	760.69	399.98	45.00	80%
403.75	421.79	475.90	511.97	548.04	584.11	620.18	656.25	692.32	728.39	764.46	403.75	47.50	90%
407.53	425.56	479.67	515.74	551.81	587.88	623.95	660.03	696.10	732.17	768.24	407.53	50.00	100%

Highlight is the price between 470 - 480 (the interval price as of 8 Jul 2021)

3.4 Summary of Target Prices

Table 3.12 summarizes the expected prices from the relative valuation. The prices from peer multiples are the median ones which reflect the worth compare to DPZ's most similar industry. On the other hand, the regression approach indicates the prices correlate to its historical data.

Table 3.12 Summary of Expected Price

	Peer Multiples		Regression
	PE	**EV/EBITDA**	
Trailing	327.61	371.43	352.12
Forward -December 2021	344.14	390.73	369.78
Forward -December 2022	390.73	427.90	404.85

The current price is USD 474.55 (8 July 2021) which is higher than the target prices. DPZ is considered expensive relatively to both its peers and its history. Considering further the prices from multiples, the median expected prices from 5 years average of peer multiples is approximately USD 327.6 – 427.9. However, the maximum from the peer is approximately USD 899.3 – 1,342.8 which is far above the current price. Figure 3.9 illustrates the bottom of the bar as the minimum price from peers whereas the top of the bar is the maximum one. There is a signal of possibility for DPZ to grow in the industry. In addition, we can imply from the sensitivity analysis that the share is in an acceptable price range. Notwithstanding the current price of DPZ is already expensive, the stock probable still has a high potential to increase

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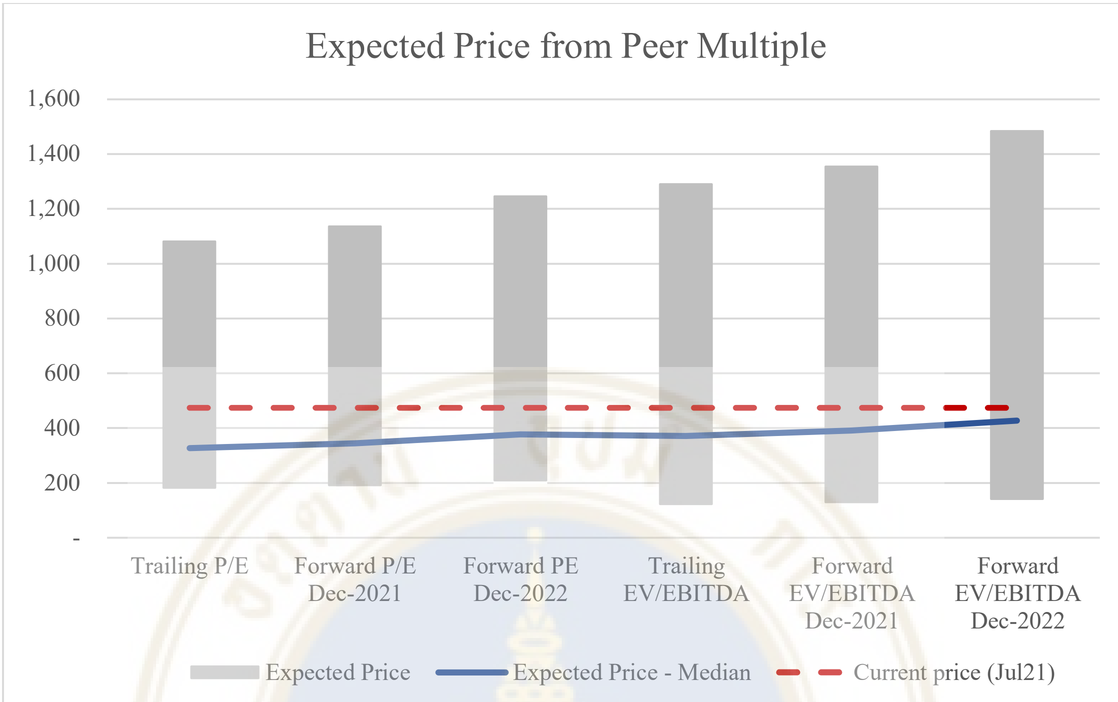

Figure 3.9 Expected Price from Peer Multiples

CHAPTER IV
INVESTMENT RISKS AND DOWNSIDE POSSIBILITIES

Every coin has two sides, and so does an investment. It is important to be aware of possible, both positive and negative, circumstances. The relevant risks of DPZ are identified and will be discussed on how they might impact the company. The information in this chapter is mostly from 2020 DPZ annual report.

4.1 Strategy Risks

In this section, strategic management's risks regarding the external factors that the company can tackle are categorized as strategy risks. There are three risks: competition risk, consumer behavior change risk, and cyber risks are discussed in the following sub-sections.

4.1.1 Competition Risk

The food service industry is highly competitive, and DPZ has a formidable challenge to retain its market shares while new competitors are entering the market every day. Especially after the Covid-19 pandemic, the hit-hard full-service restaurants are adapting and blending into limited-service restaurants, creating more alternative convenient food choices for customers. In addition, there are other competitors in different segments in the food service industry that the company must compete with, including supermarkets and convenience stores. There is a prospect that they could lose competitiveness. The consequence will not only be reflected in their lower profit margin but also decreasing in the share price.

4.1.2 Consumer Behavior Risk

An aging population and a healthy eating trend are two main factors that could negatively impact DPZ. As pizza represents an unhealthy food perception, consumers will incline to change their selection that fits with new lifestyles. Domino's Pizza's strategy mainly focused on core products and the original menu, while others invented alternative and healthier ones to match consumers' preferences. This could be harmful to Domino's Pizza. Depending on a particular menu is dangerous. When demand in the menus decreases, it will be directly affected its sales and operating performance.

4.1.3 Cyber Risk

The cyber risk could harm businesses in several ways and creating severe damage. It can lead to operation disruption and sensitive data exposure. Information systems and technology are directly involved in DPZ’s business; ordering, delivery, franchising, and even supply chain. Cyber-attack will not only cost them money and time but mainly their reputation.

4.2 Market Risks

The uncontrollable market situation, either in macroeconomic or commodity price fluctuation, which influences DPZ in the raw material, is categorized as market risk. In this section, the impact and potential risks DPZ may undergo are illustrated below.

4.2.1 Economic Uncertainty

Though with high sales growth, DPZ is still hit by the pandemic. With the contactless service and dine-in restrictions, the company has two-digit same-store sales growth of 16.9% in quarter two, 17.5% in quarter three, and 8.1% in quarter four. However, their profit is muted partially because of the rise in ingredient prices resulting from the pandemic. Further, the profit is offset partially because of a 9.5% rise in administration cost with 11 million extra spending on Covid-19 protocols, including sanitary supplies, employee sick-pay, and bonuses.

Except for the ongoing uncertainty, the company is also exposed to economic risk in GDP growth. Consumer expenditure on food growth is related to the household disposable income, which will reflect in the company's sales. Therefore, if there is an economic downturn or shock, it will directly impact the company on sales and indirectly on the cost side.

4.2.2 Exchange Rate Volatility

Revenue derived from international franchise loyalty fees accounts for around 6% of the total revenue. Besides, there are also dough factories in Canada. The international sales and factories in Canada are denominated in local currencies. Since the company does not hedge any foreign exchange rate risk, the fluctuation in the foreign exchange rate may harm the company's revenue if there is a drastic change in the foreign currency exchange rates, especially for major international markets such as India, Australia, and United Kingdom.

4.2.3 Interest rate

The company is exposed to interest rate risk in terms of the interest-bearing debt of around 3.7 billion, with a net debt-to-EBITDA ratio of around 5. 2017 five-year floating-rate notes using the LIBOR as a reference rate. The rise in the interest rate will result in higher interest expenses for the company. Further, there is concern that if LIBOR will no longer being used after 2021 that the company then needs to renegotiate the notes document with an unknown reference rate which poses uncertainty to the company. In terms of new debt, an interest rate risk exists since the company may need to borrow or refinance at a higher rate than the current cost of debt at 4.1%.

4.3 Raw Material Price Fluctuation Risk

Revenue derived from supply chain service accounts for 60% of Domino's total revenue that the margin of the segment plays a significant role for the company's profit. To run the supply chain service which provides ingredients to Domino's stores, the company procures pizza ingredients at a market commodity price. As a result, the company is exposed to commodity price fluctuation, especially for cheese, wheat, natural gas, and vehicle fuel. Because chained quick-service pizza restaurants like Domino's are delivery-dependent, the price change in fuels will also influence the company's margin. In the third quarter of 2020, the company had a same-store sales growth of 17.5%; however, the margin of the supply chain dropped by 1.64% due to the swing of cheese commodity prices. Therefore, instead of benefitting from the economies of scale from the high sales growth, the company's profit is offset by the cheese commodity price volatility. Moreover, during the Covid-19 pandemic, the cheese commodity price was very volatile and swung to a record high.

4.4 Financial Risks

Regardless of the well-performed in the past, DPZ has higher leverage than its competitors, which needs to be considered when it comes to the company's value. Therefore, the financial risks such as liquidity risk and capital structure risk are shown in the following paragraphs.

4.4.1 Capital Structure Risk

Domino's Pizza has recapitalized its capital structure every year by increasing debt and reducing common shares. As of March 2021, the common equity total is USD -3.2 billion, while their debt is 4.1 billion, which is possible because they have strength with their rapid growth, and both creditors and investors trust the company's profitability. However, with high interest-bearing debt, they could suffer from interest expense once their sale declines and after their business is in a downturn. As a result, the earning after interest expense could be less and affect creditors' and investors' confidence, which will finally reflect the decrease in share price.

4.4.2 Liquidity Risk

DPZ has a high debt level that could negatively affect the future. The repayment for the long-term constantly consists of principal and interest, and failure to generate net cash flow from operating activity over the payment could lead to a liquidity problem. It is a challenge for DPZ to maintain the level of cash inflow sufficiently for general operation, creditors settlement, dividend payment, and expanding its franchise. If they cannot deliver as others expect, it could destroy their reputation and limit their opportunity to grow.

4.5 Risk Matrix

Below in Table 4.1 illustrates the risks and downside possibilities measured by likelihood and impact to the company. The worst-case presents the most likely occurrence and most significant disaster impact and vice versa.

Table 4.1 Risk Matrix

			Impact			
			0 Acceptable	1 Tolerable	2 Unacceptable	3 Intolerable
			Like or No Effect	Effects are felt but not critical	Serious impact to course of action and outcome	Could result in disaster
Likelihood	**Improbable**	Risk unlikely to occur			Capital Structure Risk	Cyber Risk
	Possible	Risk will likely occur	Consumer Behavior	Liquidity Risk	Raw Material Price Fluctuation Risk	
	Probable	Risk will occur	Exchange Risk Interest rate risk	Competitive Risk Economic Risk		

CHAPTER V
INVESTMENT SUMMARY

This thematic paper performs the relative valuation of Domino's Pizza Inc. (DPZ) – an American franchised pizza company. The company was first publicly traded in July 2004. DPZ's has rapidly grown since USD 40 in 2013 and currently have the market price at USD 474.55 as of 8 July 2021.

We have selected peer companies with DPZ both domestic and international. The domestic peer consists of PZZA, YUM, QSR, WEN, CMG while the international peer is from DOM, DMP, and PZA. All of the companies are franchise limited-service restaurants which as same industry as DPZ. The multiples, PE and EV/EBITDA, from the peer are observed to calculate the expected price. Besides, the regression model is also designed to analyze the pattern of the data set. Table 20 exhibits the results of DPZ's Expected prices as of December 2021, and December 2022.

Table 5.1 Summary of Expected Price

	Peers Multiple		**Regression**
	PE	**EV/EBITDA**	
Trailing	327.61	371.43	352.12
Forward -December 2021	344.14	390.73	369.78
Forward -December 2022	390.73	427.90	404.85

Among these 3 methods, the EV/EBITDA is the most suitable for DPZ. Despite PE ratio is common to use in a general context, it would not be comparable among the peers as the result of the difference in capital structures and property investment. For the regression, the prediction is limited only to its history. Statistic works on datasets e.g., normal distribution and random walk theory, notwithstanding the market may not reflect the same things.

The current price is higher than the expected prices. It is overvalued relatively to its peer. Even though the selective peers are the most comparable among peers, none of the companies have an identical business structure. DPZ has always been outgrown the industry owing to its outstanding performance. Besides, the share repurchasing programs will accelerate the price increase. Relative valuation has not accounted for these factors and unreasonably reflects the target prices. This indicates an insufficiency in relative valuation to support the investment conclusion.

Discounted Cash Flow (DCF) valuation prices the stock from a fundamental which is more reliable. Especially when intrinsic value, such as its vertical supply chain and technology, is the key factor that remarkably drives DPZ in the market. Lien (2021) has evaluated the price by this approach, target prices are USD 538.43 for December 2021 and USD 526.33 for December 2022. Table 5.1 illustrates the changes in target prices from relative valuation to DCF valuation.

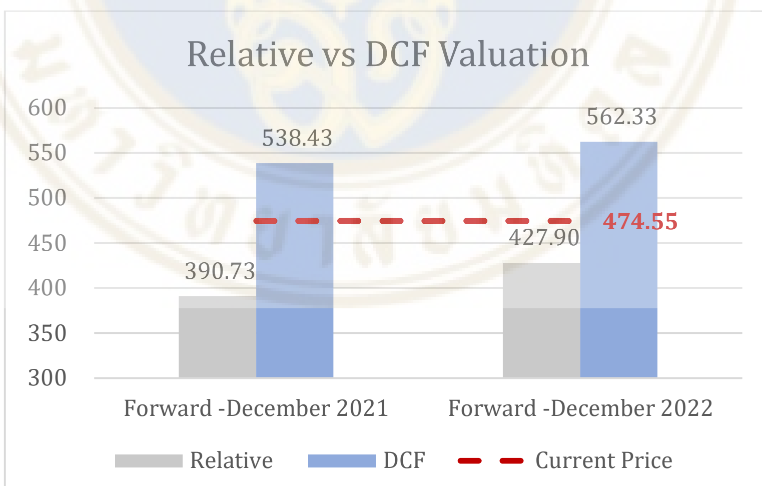

Figure 5.1 Relative vs DCF Valuation

The investment risk level of DPZ is moderate. The probable risks arise from competitive risk and economic risk which are at tolerate level. Another possible risk that could dangerously affect the company is raw material price fluctuation risk. The only intolerance risk is the cyber risk which leads to lead to operation disruption and sensitive data exposure nevertheless the risk is improbable. In overall, **the recommendation for DPZ is HOLD**.

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