VALUE INVESTING

EXPAND YOUR CIRCLE OF COMPETENCE

How to Analyze Stocks from 3 Profitable & Unique Industries – A Practical Guide with Case Studies

Kelvin Seetoh & Jonathan Ang

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To a life of freedom, abundance and wealth.

Foreword

I watched in shock as I witnessed the share price crashed 80%...

2 months back, while having supper with a group of full time investors, one of them mentioned a steel company that he recently bought in which was way under its book value.

“It is a very good company with very strong management!” He shared.

I felt an adrenaline rush as I quickly type the ticker symbol into my hand phone so that I could do more research when I returned home.

After reading up on the company and studying the financials, I bought the company the next day only to watch the stock price crash 2 months later as the company announced a loss that quarter.

This wasn’t the first time I had seen a stock I owned, dropped in price, but it was one of the few times I felt lost and didn’t quite know what to do. I reviewed the business and finally had to admit that this stock had a business that I couldn’t quite understand. I didn’t know exactly how they are making money. Neither did I know who their competitors were and why this company stand a chance to thrive the next few decades. In other words, it wasn’t within my “circle of competence”.

The circle of competence is one of the few most important concepts an investor needs to understand and adopt. This is a lesson that I unfortunately have to pay a high price to learn.

In his letter to Berkshire Hathaway's shareholders in 1996, Warren Buffett wrote,

"What an investor needs is the ability to correctly evaluate selected businesses. Note that the word 'selected': You don't have to be an expert on every company, or even many. You only have to be able to evaluate companies within your circle of competence."

In another quote, he said it this way:

"Know your circle of competence and stick within it. The size of that circle is not very important; knowing its boundaries, however, is vital"

This is probably the reason why he refused to invest in technology companies during the tech boom. But as we noticed, the Oracle of Omaha, Warren Buffett himself, continued to expand his circle of competence, adding a formerly unfamiliar business, Apple Inc, into the portfolio of Berkshire, and having the highest weightage at the date of his writings in Sept 2018.

The book you are currently holding, written by 2 passionate investors, Kelvin and Jonathan, shall help you to expand your circle of competence through their life stories, case studies and methodology.

What I enjoyed most is their personal touch in this book. As they shared the case studies of their personal investments, you can journey with them and tap into their thinking process. As mentioned, these 2 gentlemen are passionate in investing and even more passionate about sharing fundamental investment ideas. Anyone who knows them will testify that while they love investing, it seems that they enjoy the intangible rewards of seeing another investor profit even more.

So, while reading this book, I hope you realize that it is written with utmost sincerity from investors who really want to share so that you too can expand your circle of competence and become a confident investor.

Sean Seah

Best Selling Author of Gone Fishing with Buffett

From the Authors

"I cannot invest because I do not have a lot of money."

"I am just too young to invest"

"Investing is too difficult."

"Let me enjoy life first. Investing can wait!"

Sound familiar? It's your belief system talking.

Here's how our beliefs can limit us. In an experiment, a scientist placed several fleas in a glass jar. The fleas would jump out of the glass jar naturally. The scientist then covered the jar with a glass lid for a week. When the glass lid was removed, the fleas no longer jumped over the rim of the jar. In knocking themselves countless times against the glass lid during the week, the fleas had been conditioned to jump lower. Hence, despite the removal of the glass lid, those fleas could not jump out of the glass jar, unless they decided to break the non-existent glass ceiling that existed in their minds.

The moral of the story is that if you change your mindset, you can start exploring investment options and becoming successful at investing.

Hello! We are Kelvin and Jonathan. We have been value investors for around five years as of 2018. As we write this book, we wish we have had started compounding our money much earlier.

Many of us are like those fleas because of what society or others' experience tells us. What we observe (that happens to others) can become limiting beliefs that build fear inside us.

What if we tell you this… *we can compound our knowledge to improve our cash flow, optimize our resources, grow our savings, and ultimately, start to compound our wealth*… It's up to you to believe that this is possible.

Some people wait until they have 'sufficient capital' before working on their investing knowledge. Sometimes, we find that people who have 'less' capital tend to be hungrier to build their wealth. With this hunger to spur them, they grow their wealth and surpass those who had the earlier advantage of 'more' capital. Remember the story of "The Tortoise and The Hare?

Let's not see ourselves as the tortoise or the hare. The thing is to start now, regardless of where you think you are. To quote Nike, "Just Do It!"

This book is for you. It is organized into three parts — our stories, our successes and failures, and our easy-to-follow advice on how to analyze four different industries.

This book was inspired by the many people we have met and with whom we were privileged to share our personal investing experience. In return, we have enjoyed listening to stories of their investing journeys. All of us agreed that in order to obtain financial freedom, investing should be a necessity, not a choice.

Twelve years ago, a bowl of noodles cost S$1.50. Now, it can cost S$3.00 or more. Nothing about the contents of the bowl of noodles has changed, only the price. This translates to a compounded annual inflation of above 5%. Do salaries increase at that pace? Our purchasing power has slowly been eroded, thanks to inflation.

The hard truth is that life is not getting easier. This is one big reason to start investing now – we must beat inflation.

That is just the first reason…

What is our biggest problem in life? It is lack of TIME! Yes, it is TIME, not money.

There are many people who have a lot of money, but one thing we all don't have enough of, is time - time to spend with loved ones, time to travel, time to pursue personal interests.

Do you want a life where you cannot spend time with your loved ones? When we are in our late 50s or 60s, we would want to be able to choose to work, rather than be forced to work. We want to be able to make decisions on how our lives should be: free and simple. Compounding your wealth through stocks is a big part of the equation. It is also what made Warren Buffett one of the world's richest individuals.

As a snowball gets larger in size as it rolls down the hill, wealth compounds over time. You will look back and be amazed at what you have achieved. Warren Buffett's massive snowball (fortune) did not happen overnight; it took time.

Our book does not provide a "get-rich-quick method". It will help you become a better investor. With the proper resources, mentors, knowledge, focus and experience, you will gain knowledge and wisdom as an investor. Any regular person can do this! In this book, we share from our personal experience - to help you understand our investing process and thinking.

While we have done our best to provide past details as accurately as possible in writing this book, we may have tweaked details such as exact conversations, capital gains, places, or emotions. In so doing, we have approximated details where possible, to maintain the spirit of what we want to share.

We have written this book with a clear intention and purpose: we want regular people to know that making your first pot of gold through investing is possible. We wish you a meaningful experience learning and growing your money through growth and value investing!

We want to help readers to understand different industries better. While we have kept the language as simple as possible, this book may not be suitable for individuals who have never traded or owned stock before.

For ease of writing, when referring to a person, "he" instead of "she" is used. There is no intended form of gender discrimination. Any errors or mistakes are ours alone.

(From Left to Right): Jonathan Ang & Kelvin Seetoh

Acknowledgements

I like to thank my former colleagues and leaders at Value Investing College who gave me the privilege to discover my passion. I want to serve ordinary investors with my heart and grow together as a happy community. Without this experience, I would not be who I am today. Special thanks to Dennis and Alwin from Triplet Productions for taking amazing pictures for our authors' biography. At home, my family provided me the unconditional support and the freedom to pursue my aspirations. In recent times, I acknowledged that no man is an island. Growing up, I was an introvert who had low self-esteem. Never had I expect myself to write a book to share my knowledge. Never had I expect to be able to help people too. The book was strongly motivated by my group of close friends who saw the gem in me. It was all that mattered because I know I have a purpose in my life which is, to serve wholeheartedly.

- Kelvin

Without Sean Seah and Reshveen, I would not be writing this book today. These two gentlemen roped me into Value Investing when I was still 18 years old. Looking back at my progress, it has been an amazing 5 years of growth, fulfilment and wealth creation. All of these would not have happened without them. I would like to thank Mary Buffett for inspiring me to write a book to spread the wisdom of value investing to help more people achieve financial freedom. Justin Chua has been instrumental in helping Kelvin and I launch the book. He is an expert in publishing books and has many Amazon best sellers. He was able to help us shortcut our book publishing journey by looking out for our blind spots. As a result, we saved so much time by avoiding mistakes which would have been made by the inexperienced. I would also want to thank SUTD for being so supportive in my entrepreneurship journey. The school has a strong culture of assisting start-ups initiated by students. When I applied for a sabbatical after year one, I got it done within days without any objection from the University. Seriously, SUTD, you got my heart! My heartfelt gratitude for Nancy, Chloe and Ms. X for editing and proof reading this book for me! You guys probably know the entire book from the back of your head better than me! The beautiful book cover that you see was designed by Bibiana Lim, without her, the entire aesthetics of the book would not be soothing to the eyes. Finally, I would want to thank my friends, family and loved ones who never failed to pour words of encouragement to whatever endeavours I venture in. Without the love from you people, I would not have the energy and motivation to do whatever I am doing! Lastly, I would want to thank Kelvin for the brotherhood that we have forged. Without you, this book would not have happened. I love you, Kelvin!

- Jonathan

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2 OUR STORY

2.1 KELVIN

A Heartland Boy

My passion is investing. It has been my hobby, my source of fun and joy, and my source of knowledge and wealth. I cannot find a better alternative that enables me to profit from irrational market sentiments and logical value analysis.

In the 1500s, the first stock exchanges in the world were the Frankfurt Stock Exchange, the London Stock Exchange, the Philadelphia Stock Exchange and the Brussels Stock Exchange. For me, the creation of the stock exchange was a beautiful invention for ordinary investors like me.

I was born into a modest family, living in the East of Singapore. My family is big, with four children, including myself. Growing up, finances were tight, and I always wanted to grow my wealth to lighten the financial demands on my family. Some of you may identify with this.

I did not have much pocket money and it often ran out quickly. On a particularly hot day, knowing that I had run out of money for the week, I stole ice popsicles from a neighbourhood provision shop. I was caught and the stall owner reprimanded me heavily. I apologised and I was plagued with guilt over the next few months.

Primary school life was ‘okay’ because I mingled with kids who were from a similar socio-economic background. I was not aware that there was a better quality of life – until I went to secondary school. It was an all-boys school. Naturally, I was disappointed that there were no girls… for five years!

My formative years in secondary school opened my eyes to the quality of life some of my new schoolmates enjoyed. They had travelled to so many countries, and I wanted to do the same! My experiences paled in comparison. While I was not materialistic, it was my desire to improve the overall quality of life for my family. That sense of inferiority seeded the drive for me to succeed financially.

Entering Polytechnic

I studied hard and earned the grades to pursue a diploma in Temasek Polytechnic. I chose Business (Banking and Finance) because I wanted a diploma that would equip me with the necessary knowledge and skill sets to understand the business world. In my second year in polytechnic, my light-bulb moment came with a module called Security Analysis & Portfolio Management (SAPM), which I was introduced to the concept of stocks, financial metrics, and the stock market.

My lecturer, Mr Daniel Ng, left a deep impression because he incorporated his personal experiences into the lessons. SAPM lessons were lively and fascinating. Before knowing about investing, my perception of money was that you could earn it through hard work and getting promoted at work, and I deemed investing to be very risky. Thanks to Mr Ng, I started to see investing in equities[1] in a totally new light.

When you buy a share of a listed company, you buy a sliver of ownership of its business. You become a minority shareholder of the company.

Behind every share, there is a real operating business behind it. A woman would have a list of criteria in selecting a boyfriend, then after some time, decide whether he is a suitable life partner. These selection criteria may include: Does he manage his expenses well? What is his ambition? Is he in debt? How does he treat his (and *her*) family members?

Similarly, an investor needs to evaluate good and bad businesses. Questions or evaluation criteria may include: What are the financial ratios? What are the company's prospects? On the whole, is the business currently trading at fair value, is it undervalued or is it overvalued? Speculation often destroys wealth.

I hungered to learn more about investing. My first trade was to acquire shares in a steel trading company called HupSteel (SGX: BMH) in early 2013 (I was 21 years old). The company recorded its investment properties at year 1992 historical valuation. Considering transactions around this time, I calculated that the value of HupSteel's properties should be way in excess of the historical

[1] Equities, stocks and shares mean the same thing and they can be used interchangeably.

valuations recorded on its balance sheet. I knew that its value was understated. While business itself was average; the value of the company provided a margin of safety. Shortly after my purchase, HupSteel's share price went up by approximately 18%. Based on my limited capital, my gain was around $400. This experience caused me to seriously rethink wealth creation.

Wait, there is something called the stock market out there that allows your capital to grow? Stock trading can be made using a mobile application? Is investing THAT easy?

My interest in investing was piqued and I began to understand what Albert Einstein said about compounding being the eighth wonder of the world. This experience confirmed my belief that one could, through proper analysis, benefit from the stock market. I realised working hard is not important as working smart. I had to start to invest! My sense of inferiority in school had become a blessing in disguise. It led me to find my joy which is in investing. I have not looked back since.

2.2 JONATHAN

A Burning Desire to Teach and Learn

I was a total nerd in my secondary school years (2008 - 2011). I studied very hard from Secondary 1 to Secondary 4 and stayed in the top 10% of my cohort. Ironically, when I was in primary school, I did not perform well. I did so badly in my Primary School Leaving Examination[2] (PSLE) that I got into the sixth (and last) choice on my list of secondary schools. I hated the fact that I had no choice but to attend a school so far from home. Every day, I woke up at 5am and only got home late in the evening. I vowed to work hard so I could make it into the junior college and university of my choice.

My mother was embarrassed to reveal my PSLE score to her boss because her boss's daughter had done so much better than I. I felt annoyed and angry that my mum was ashamed of my results – I also felt guilty for not making my parents proud of me.

My mother told me I had to study hard so that I could get a well-paying job. Once I achieved that, my life would be set

[2] The Primary School Leaving Examination (PSLE) is a national examination in Singapore administered by the Ministry of Education and taken by all students at the end of their sixth year in primary school, before they move on to secondary school. The PSLE tests proficiency in the English language, their respective mother tongue languages (typically Chinese, Malay, Tamil or other Indian language), mathematics and science.

for success. Being a fiery young chap, I resolved to get a university scholarship to prove my worth!

I will always be thankful for my mother whose words pushed me to get my act together. I worked very hard in junior college, studying from 9am to 10pm almost daily as my GCE A-level examinations approached. My efforts paid off and I earned a scholarship to university. I was beyond joy. I felt redeemed from my PSLE shame! A scholarship also meant my parents did not have to worry about my university tuition fees. Back then, this was the expectation - I studied hard, I got a good scholarship, and my life would be set for success after graduation.

In university, I worked diligently. In my first year, I won competitions and hackathons. I was blessed to work with a good team and we bagged the top award in Designathon organised by Design Council Singapore, the second prize in the PAK challenge[3] by Singapore Management University (SMU), and the first prize in ASEAN Design competition by Autodesk, coming out first in ASEAN.

Life was good until my University stopped renewing scholarships for scholars from my batch because of budget constraints.

This hit me hard. My friends were affected too. I suddenly had to find $36,000 to fund my university education. I

[3] The PAK Challenge is a $50,000 start-up pitching competition that allows teams to mingle alongside venture capitalists, angel investors, corporates and aspiring entrepreneurs, aiming to give student founders start-up experience.

thought: if something as stable as a scholarship could be lost just like that, what was stopping my future boss from firing me?

I realised that to become financially independent, we must take ownership and create our own source of income. If we rely on only one source of income, we place ourselves in a fragile position. At any time, our source of income could be disrupted.

I decided to take the first step to invest in my own financial education. Robert Kiyosaki's book, "Rich Dad, Poor Dad", enlightened me about money. If you are clueless about personal finance, this is a must-read. Each person has limited time. Even with a job that pays $4,000 a month after graduating from University (ideal case), it will take 20 years to accumulate $1,000,000! This is assuming I do not spend any money and save $4,000 a month, which is impossible. Our parents' formula of "study hard, get a high-paying job and your life is set" might no longer apply.

I searched the internet for "how do millionaires make money" and the stock market appeared in one of the results. I was captivated by what I read about the stock market being one of the vehicles for us to accumulate and generate wealth. I always believed in the law of attraction - when we seek, the world will somehow give us opportunities. I chanced upon an investing seminar organised by my school. That was how I met my first mentor, Reshveen, who had graduated from the same secondary school as I! I signed up for his course and got to know the founder of Value Investing College, Sean Seah. I took that leap of faith to invest in my own financial education. It became the start of a transformation in my investing knowledge, and my life.

I felt that if a book could change my life, perhaps sharing my experience would do the same for others. In the first year of my university education, I was appalled that no one was concerned about learning how to invest. While it is important to focus on getting good grades, I felt that getting a financial education was equally important. No matter how young you (think you) are, start thinking now about how to start an alternative stream of income.

I don't consider myself a good writer! However, as I wrote this book, I started to find pleasure in the process. The purpose of helping more people to become financially free outweighed my dislike for writing. I realise now it happens when one is doing something with passion.

I sincerely hope this book will help you grow your wealth. It will bring both Kelvin and I the utmost gratification when we see you succeed.

3 FINANCIAL TERMS & METRICS

In the following pages, we share definitions of financial terms used in the subsequent chapters. We have two styles of investing - *growth investing* and *turnaround investing*.

We practise growth investing in high-quality companies and aim to buy them at reasonable valuations. Growth investing is focused on stocks that deliver higher capital appreciation. One key characteristic of a growth stock is that it grows at a rate of more than 15% on its sales and cash flow. Some amazing growth companies include Monster Beverage Corp and Amazon, which would yield 84,000% and 3,000% respectively if you held them from 2000 to 2018.

We choose turnaround businesses very carefully. Turnarounds are businesses that are experiencing temporary challenges, such as business transitions, product issues, management change, or temporary shifts in customers' preferences, resulting in a huge decline in share price. Examples include Crocs (whose products fell out of fashion), McDonald's, Starbucks and IBM. The key is to understand whether the challenges faced are internal or external. Internal problems stand a higher chance of being resolved. As the business is slowly nursed back to health, the share price would start to recover. We look for businesses with growing revenue, profits, and cash flow. We want stable and consistent margins. Ultimately, we aim to buy businesses that are trading at prices below their intrinsic value.

Profitability Ratios	
Item	Formula
Gross Profit Margin measures the profitability of products/ services	$\frac{Revenue - Cost\ of\ Goods\ Sold}{Revenue}$
Net Profit Margin (at least double digits) measures the profitability of the business	$\frac{Net\ Profit\ After\ Tax\ (NPAT)}{Revenue}$

Quality of Income (at least 1 or more) indicates the cash earnings of the business	$\frac{Cash\ Flow\ From\ Operations}{Net\ Profit\ After\ Tax\ (NPAT)}$
Return on Equity (at least 15% or more) measures the returns generated by the business per dollar of equity	$\frac{Net\ Profit\ After\ Tax\ (NPAT)}{Shareholders'\ Equity}$
Return on Assets (at least 10% or more) measures the returns generated by the business per dollar of assets	$\frac{Net\ Profit\ After\ Tax\ (NPAT)}{Total\ Assets}$
Earnings Per Share (consistent or increasing) how much earning of the company is allocated to each share	$\frac{Net\ Profit\ After\ Tax\ (NPAT)}{Total\ Outstanding\ Shares}$
Free Cash flow (more important than earnings) gives an indication of a company's ability to generate excess cash flow	*Cash flow from operations minus capital expenditure*

Figure 3—1 Profitability Ratios

Liquidity Ratios	
Item	Formula
Current Ratio (at least 1 or more) shows how much liquidity the business must hold for its short-term obligations	$\frac{Current\ Assets}{Current\ Liabilities}$
Quick Ratio (at least 0.5 or more) a stricter measure of liquidity of a company as inventory is deducted	$\frac{Current\ Assets - Inventory}{Current\ Liabilities}$

Net Debt to Equity (0.5 or less) gives an indication of how much debt is utilised in the business - if this ratio is negative, the company has more cash than debt	$\frac{Total\ Debt -\ Cash\ \&\ Cash\ Equivalents}{Shareholder's\ Equity}$
Interest Coverage Ratio gives an indication of a company's ability to service interest expenses using its profits	$\frac{Earnings\ Before\ Interest, Taxes\ (EBIT)}{Interest\ Expenses}$

Figure 3—2 Liquidity Ratios

Efficiency Ratios	
Item	**Formula**
Inventory Days (the lower the better) measures how fast inventory moves in a company	$\frac{Inventory \times 365\ days}{Cost\ of\ Goods\ Sold}$
Trade Receivables Days (the lower the better) measures how soon a company can collect its credit sales	$\frac{Trade\ Receivables \times 365\ days}{Revenue\ (Sales)}$
Total Payable Days (the longer the better) measures how long a company takes to pay its suppliers	$\frac{Trade\ Payables \times 365\ days}{Cost\ of\ Goods\ Sold}$
Cash Conversion Cycle (the lower the better, a negative amount is ideal) measures how fast a dollar moves into the business for sales and moves out as cash	*Inventory Days + Trade Receivables Days - Trade Payable Days*

Figure 3—3 Efficiency Ratios

Valuation Ratios

Item	Formula
Price-to-Earnings Ratio (depends on the quality of the business) refers to the price multiple you pay per dollar earned	$\frac{Share\ Price}{Earnings\ Per\ Share}$
Price-to-Book Ratio refers to the price multiple you pay per dollar of assets *note: for asset-play companies, look for ratios below 0.8; this ratio is also used for cyclical companies*	$\frac{Share\ Price}{Net\ Asset\ Per\ Share}$
Price/Earnings-to-Growth Ratio (look for ratios below 1.0) refers to the price multiple you pay per percentage of growth	$\frac{Price - to - Earnings\ Ratio}{Growth\ (Past\ 3\ Years\ of\ EPS)}$
Market Capitalisation reflects the company's market value	$Share\ Price\ \times Number\ of\ Shares$
Enterprise Value (EV) provides an alternative valuation that includes the capital structure of the business	*Market Capitalisation + Total Debt - Cash*
EV/FCF (the lower, the better) gives the business value multiple you pay for each dollar of free cash flow	*Enterprise Value ÷ Free Cash flow*

Figure 3—4 Valuation Ratios

Most of the financial metrics are accessible by searching the company's name on Morningstar's website (www.morningstar.com). We still strongly recommend reading the company's actual financial statements to verify all figures, and also the company's presentations. Apart from using these financial metrics to evaluate a company, we must also understand the qualitative elements.

You would not want to marry a person because he/she is rich, that is not true love. You would take the time to understand his/her personality and values to find common ground and alignment of your visions as well as goals with his or hers.

Here are some basic steps to take:

1. Visit the company's website to explore and understand their products/services. Can you explain the business?
2. Check and follow news releases and read presentations by Investor Relations. You will find out whether the business is growing or facing challenges.
3. Search the company on social media. Read comments by public users: this gives an idea whether the business is well-liked by its customers.
4. Search the company CEO online and find out more about his/her background through interviews or articles.
5. Does management own shares in the company? Are they part of the founding team?

We avoid companies in cyclical industries such as oil & gas, property, semiconductor and automotive. We prefer buying companies where demand is growing, which makes them less susceptible to economic cycles. Stability is more important than fast growth.

Looking at a few companies that have grown well, we discovered they tend to be founder-led and mission-driven. Examples are Sam Walton of Wal-Mart, Steve Jobs of Apple, Jeff Bezos of Amazon, Mark Zuckerberg of Facebook, and Larry Page of Google.

While making profits is necessary for survival, these entrepreneurs focused on meeting the needs of customers and delighting them. Then, profits followed.

We like to buy into great companies.

All great companies do some or all of the following:

1. Create better products/services that can do more for a lower (or the same) price, e.g., Wal-Mart, Costco
2. Create greater conveniences, e.g., Amazon
3. Create products that solve real-world problems, e.g., Google
4. Delight customers consistently, e.g., Disney

Ultimately, we need to know how much to pay for a company's shares. Even for great companies like Google, Amazon, or Apple, you might not make fantastic returns if you buy their shares overvalued.

For low-quality companies and high-quality companies, we recommend paying EV/FCF of below 12x and below 18x respectively.

4 CASE STUDIES

We share these case studies from real life earnings and losses over the past 5 years. We want to present a balanced picture of investing with its ups and downs, and how we systematically screen and value the stock of these real-life companies. With practice, we aim to grow our knowledge and help one another to prosper.

4.1 AURIC PACIFIC

Bought (Dec 2016)	Sold (Feb 2017)
S$ 1.37	S$ 1.65

Management and Business Model

Auric Pacific ("Auric") was a previously listed company on the Mainboard of the Singapore Exchange. It has operations in Singapore, Malaysia, and Hong Kong. In late 2016, I came across this company while I was eating at Food Junction, a food court in Singapore. It is a diversified Food & Beverage (F&B) investment company that holds a portfolio of strong brands.

Its business segments are categorized under: [1] wholesale and distribution; [2] manufacturing; [3] food retail; and [4] food courts.

Many Singaporeans and Malaysians are no strangers to Auric Pacific. Auric Pacific owns iconic brands such as the "Sunshine" and "Top One" brands of bread, and "SCS" and "Buttercup" brands of butter. Like DiethelmKellerSiberHegner (DKSH), Auric carries out marketing and distribution services in Singapore and Malaysia. It distributes familiar household names such as Post, Kellogg's, Pringles, McCormick, Heinz, Twining's, Want Want biscuits and Tabasco, among many other brands.

Auric acquired Food Junction (in 2007) and Délifrance (in 2013). However, as these two businesses were loss-making, they reduced the profits of the Group when the financial numbers were consolidated.

Auric is managed by executive director, Dr Stephen Riady, and group chief executive officer, Dr Andy Adhiwana (Dr Riady's son-in-law). Indonesian conglomerate Lippo Group, owned by the Riady family, was the controlling shareholder of Auric. They purchased the controlling shares of Auric in 1997 from Endang Utari Mokodompit.

Dr Adhiwana joined the company as a business development manager in December 2013. He was tasked to oversee and understand the different segments of the business. In November 2014, he was promoted to executive director. When Dr Adhiwana assumed the role of executive director, Dr Stephen Riady transferred 21.88% of Auric's shares to him. Dr Adhiwana was promoted to group chief executive director in May 2016.

I wondered whether these promotions had come too soon. Dr Adhiwana was just 31 years old. Did he have adequate experience to make the right decisions for the group? I dug more into his background.

Dr Adhiwana graduated from the reputable Heidelberg University in Germany with multiple medical degrees and was performing well as a doctor. However, after a while, he found himself losing interest in the medical profession. Determined to change his life, he earned himself a Master of Business Administration (MBA) at National University of Singapore and joined Auric as a business development manager.

Dr Adhiwana quickly went on to strengthen the business from all aspects. He did this by visiting Auric's subsidiaries and understanding the challenges of each subsidiary. With the assistance of his team, he deployed a strategy to protect profits and grow the company further. It was done through a rationalization exercise to remove non-performing units and focusing on operational efficiencies. Dr Adhiwana played to the strengths of the group by focusing on the group's resources to grow its bread-and-butter business – the manufacturing segment.

As executive director, he decentralized divisions and gave them autonomy (divisional level) to keep the organization nimble. Dr Adhiwana assigned corporate priorities to his business unit managers. He also issued directives to promote synergies between business units.

I was impressed that despite his young age, Dr Adhiwana was hands-on and did not shy away from difficult decisions. I enjoyed reading his letter in Auric's annual reports. My initial concerns about Dr Adhiwana were put to rest. (Auric's previous CEO was Saw Phaik Hwa.) As a shareholder of Auric, he is very clearly aligned with the company's minority shareholders.

Numbers

For a start, I love to look at the previous year's full-year results before looking at the latest quarters.

For Financial Year 2015, while revenue and gross profit increased modestly, Auric reported a loss of S$40.9 million. I was bewildered! How could this have happened? Did this mean that their costs had ballooned significantly? I looked at Auric's profit and loss statement and saw a monstrous figure under the accounting line "exception item". It had exploded from S$3.3 million to $44.0 million, an increase of almost 13X!

The notes revealed an increase in "impairment loss on intangible assets", "allowance for impairment on unquoted investment funds", "property, plant and equipment written off", "allowance for impairment of property, plant and equipment" and "stocks written down".

The financial statements also stated that, excluding exception items of S$44.0 million, Auric's profit before tax was S$4.5 million. According to its cash flow statements, it generated S$25.1 million in operating cash flow before working capital changes.

Based on what I understood of the company, I believed these exception items were a one-off as Auric was restructuring its food retail and food court segments.

The food retail segment had suffered an operating loss of S$5.2 million and the food court segment reported higher operating losses. The other profitable segments absorbed these losses. Despite this, the company was able to show profit before tax of S$4.5 million. I was getting excited. What if Dr Adhiwana closed all the unprofitable stores at a stroke? By closing the non-profitable food retail segments, the business would no longer incur a loss of S$5.2million from its food retail segment. If this happened, the net profit before tax would increase from the current S$4.5 million to (4.5+5.2 = 9.7) S$9.7 million. Can you see it? Just by closing the loss-making food segment, Auric could double its profit without needing to grow its revenue. Amazing!

Based on the 31 December 2015 full-year results, I did not focus on Auric's profit margins and return-on-equity as the profits were affected by restructuring costs. In terms of solvency, the company had a net-cash-to-equity ratio of 26%. Current ratio was healthy at 1.9. Its balance sheet was strong, and it gave me the confidence to continue my analysis.

Since the first quarter of Financial Year 2016, Auric swallowed the pill and closed non-performing units. Gradually, the food retail and food court segments turned profitable. That was a significant turnaround from its losses the previous year.

At the end of the third quarter of Financial Year 2016, Auric reported S$11.6 million profit before tax, already higher than its full-year results the previous year. My prediction that if the loss-making food retail and food court segments were closed down, Auric's profits would double was spot-on!

The cumulative 9-month results of Financial Year 2016 also showed that Auric generated S$40.3 million of operating cashflow. Excluding its S$3.7 million capital expenditure, it generated S$36.6 million in free cash flow. Again, this was significantly higher than the results of the previous corresponding period. Auric's cash balances ballooned. It had a net-cash-to-equity ratio of 47%. The current ratio was 2.2.

That was just one piece of good news. What really gave me full confidence in Auric's turnaround and intrinsic value was Dr Adhiwana's direct purchase of Auric shares. After receiving his first block of shares from Dr Stephen Riady, he continued to purchase shares using his own money. From 1 September 2015 to 9 November 2016, he purchased nearly 7 million shares which cost him approximately S$5.9 million! Dr Adhiwana was literally putting his money where his mouth was (what we call putting skin in the game)!

Typically, I view key executive or leadership purchases of shares more favourably than a company's buyback of its own shares. I put the numbers into perspective and did a quick valuation of Auric.

On 8 November 2016, Auric's share price closed at S$1.17. Its number of outstanding shares was 125,667,324, meaning its market capitalisation was S$145.8 million. After adding debt and removing the cash, Auric's enterprise value was S$67.2 million.

S$, in millions	(12M) FY 2015	(9M) FY 2016
Cash	44.526	78.933
Debt	3.046	0.353
Net Cash	41.48	78.58
Cashflow from Operations	13.328	40.303
Capital Expenditure	7.769	3.694
Free Cashflow	5.559	36.609

Table 4-1 Auric Financial Numbers FY 2015 & 9MFY 2016

Utilising the valuation method of Enterprise Value to Free Cash flow, the figure went up to 1.83x (S$67.2 million enterprise value divided by S$36.6 million free cash flow). Compared with their closest peer, QAF Limited (SGX: Q01), I believed that Auric was severely undervalued.

At that valuation, it was a no-brainer! From November 2016 to January 2017, I purchased shares of Auric despite its share price moving up.

Risk

From my perspective, competition might cause Auric's business segment margins to erode.

To be safe, I visited various supermarkets at different times. From my observations, I believed that Auric's iconic SCS butter brand enjoyed high market share and shelf space. Their Sunshine bread was selling well too. With regard to other segments, I felt that Food Junction and Délifrance might face greater competition because their brand was not strong.

Outcome

Nothing new was reported until the morning of 7 February 2017 when Silver Creek Capital Pte Ltd, an entity jointly owned by Dr Stephen Riady and Dr Andy Adhiwana, launched a general offer to privatise Auric. The offer price was S$1.65 per share. Both Dr Riady and Dr Adhiwana jointly held 76.72% of Auric before the offer. This meant that the offer had to garner 13.28% of votes to be delisted. Looking at the odds, I felt a sense of disappointment because the intrinsic value I had attached to the company was much higher than S$1.65. Reluctantly, I tendered my shares by selling them in the open market at S$1.65.

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GST REGISTRATION NO: MR-8500137-4

NAME
SEETOH YAW SENG

	CONTRACT 1
CONTRACT NO	953422/001 BUY
SECURITY	AURIC PACIFIC
PRICE	S$ 1.17944
QUANTITY	17,900
SETTLEMENT DATE	04/11/2016
CURRENCY	S$
PROCEEDS	21,111.97
FOREIGN TRADING FEE	

CONTRACT STATE

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GST REGISTRATION NO: MR-8500137-4

NAME
SEETOH YAW SENG

	CONTRACT 1
CONTRACT NO	208522/501 SELL
SECURITY	AURIC PACIFIC
PRICE	S$ 1.65
QUANTITY	213,000
SETTLEMENT DATE	10/02/2017
CURRENCY	S$
PROCEEDS	351,450.00
FOREIGN TRADING FEE	

Figure 4—1 Contract Statement for Auric Pacific

4.2 HI-P INTERNATIONAL

Bought (Apr 2017)	Sold (Jun 2017)
S$ 0.57	S$ 0.92

With this example, I share my conviction that value investing is the way forward for any individual who wants to compound his money and gain financial freedom.

Management and Business Model

Hi-P International has a strong presence in Singapore, Thailand, China, and Poland. It started as a tooling specialist, growing into an integrated contract manufacturer serving industries such as telecommunications, consumer electronics, computing and peripherals, lifestyle, medical and industrial devices ranging from design, electro-mechanical parts and modules to complete production of manufacturing services.

The company's marketing and engineering support are based in China, Singapore, Taiwan, and the USA. Current and former clients include Procter & Gamble, Research in Motion, Gillette, Baxter, Apple, Oral-B, Xiaomi, Colgate-Palmolive, Huawei Technologies, Braun, Microsoft, Asus and Seagate.

Their business segments are categorized as: [1] precision plastic injection molding; [2] mold design and fabrication; and [3] provision of sub-product assembly and full-product assembly services.

Hi-P Tool and Die was founded on 26 December 1980 by Mr Yao Hsiao Tung and his Taiwanese partners. As of July 2017, Mr Yao owns 61.03% of the company. Mr Yao played a passive role during his first three years while he worked as a manager in DuPont's Singapore office. In the earlier days, the business was tough and it was loss-making. By 1983, Mr Yao had invested his personal savings of S$50,000 into the company. He left DuPont and bought out his partners. Despite his injection of capital, the business continued to bleed for three to four years. There were sleepless nights for Mr Yao as the business had roughly S$90,000 left, with S$130,000 of bad debt.

Mr Yao did what he could to keep the business alive and retain its employees. The silver lining appeared in 1987. Molex, a US multi-national company, invested in Hi-P Tool and Die. Hi-P found a new customer in Seagate, for whom it manufactured plastic components for hard drives.

Mr Yao could have given up a long time ago. What made him persevere? His childhood gave him his fighting spirit. Mr Yao was born in China, and living conditions were tough. His father did not have a secure job, so his family moved often. At times, he walked barefoot to school in winter. When the wind was too cold, he took shelter among the war-torn buildings.

Mr Yao was about to face another challenge. By 2000, Hi-P Tool and Die was prospering as the company expanded into different parts of China. Hi-P Tool and Die was renamed Hi-P International ("Hi-P") in recognition of its growing presence. At this time, Mr Yao's general manager in

Shanghai resigned, taking more than fifty important staff members with him to another company. Mr Yao assured suppliers and employees that Hi-P was on firm footing and would deliver on its commitments. In 2003, under Mr Yao's leadership, Hi-P International successfully listed on the Singapore Exchange.

Mr Yao is frugal and Hi-P clearly demonstrates this. Mr Yao does not encourage excessive client entertainment. 'Client entertainment' includes dinner and a glass of red wine; it does not include karaoke sessions.

So, when there are so many electronic components suppliers out there, why would clients pick Hi-P? The credit goes to Mr Yao and his team's ability to deliver solutions. For example, in 2002, Motorola called Hi-P and requested an urgent job. Mr Yao agreed over the phone and arranged for the necessary equipment to be flown over to Hi-P's Shanghai plants in the shortest time possible and he hired extra workers to complete the job on time.

As Mr Yao believes in remaining current on what customers need, his staff are dispatched around the world to keep abreast of customers' real-life needs.

Numbers

From 2002 to 2016, Hi-P's revenue grew from S$143.1 million to S$1,305.1 million. In the same period, operating profit grew from S$22.3 million to S$58.4 million. The compounded growth rate for revenue was 17.1% while operating profit was 7.1%. The difference between growth rates signified that the profitability of their business had fallen over time.

Under a business agreement, Hi-P was appointed to manufacture Yotaphone 2 smartphones for Yota Devices. However, Yota Devices allegedly failed to take delivery of and make full payment for the minimum committed order quantity. Hi-P launched arbitration proceedings to the tune of US$126 million. In Financial Year 2015, Hi-P reported painful inventory provisions, bad debt write-offs, and doubtful debt provisions, resulting in a reduction in net tangible assets. On 16 January 2017, Hi-P announced that it had settled for US$17 million, which the company felt was the best way to move on. Going forward, the management would focus on growing the business.

In 2016, Hi-P went on a share buyback frenzy – between 19 July and 13 December 2016, the company bought back 9,059,900 shares. These were kept as treasury shares (when a company buys back its own shares, these shares are kept in a company's treasury as treasury shares). Altogether, Hi-P held 79,768,489 treasury shares, representing 9.88% of total issued shares. This is one of the highest percentages of treasury shares that I have seen in a company!

I was on to something good. That was when I started to research and analyse the Hi-P's numbers more deeply. After delving into its financials and other fundamentals, I constructed a mental model of its normalized earnings going forward when it would no longer be affected by one-off exception items.

Here's what I noted for Hi-P:

First, Hi-P strengthened its balance sheet by reducing debt. We can see less debt in the business as their net debt to equity decreased from 0.35 to 0.02 in Financial Year 2016. This meant that their balance sheet regained its strength. The strong cash flow generated turned around from a negative amount of -S$21.7 million to a positive S$267.8 million in Financial Year 2016.

Second, this business is seasonal. Business generally picks up in the second half of the year. The Group tends to ramp up production in the second half of the year to cater to strong customer demand during festive periods. To mitigate the impact arising from seasonality, the management team worked to diversify its customer base into different industries such as automotive, medical, and industrial.

Despite a gradual decline in revenue, I noted a remarkable turnaround in Hi-P's profitability. Gross profit margin doubled from 5.2% to 11.9%. This meant that the gross profits doubled without an increase in revenue! Also, operating profit margins grew from negative -2.8% to positive 4.5%.

At the end of 2016, Hi-P had tax losses credits of approximately S$213,256,000 that were available for offset against future taxable profits of the company.

Finally, I evaluated their shares. At S$0.57, Hi-P's enterprise value was around S$450 million. Knowing that Hi-P had generated S$213.9 million in free cash flow, its Enterprise

Value over Free Cash flow was roughly 2.55x. While Hi-P had its weaknesses, compared to other electric component companies in the region, Hi-P's valuation was depressed and due for a rebound.

I believed it was depressed because investors had lost faith in the company. Though the management team was strong, Hi-P had become a neglected stock. I wondered, how could Hi-P trade at such a low valuation? Was there something I did not know? I compared Hi-P with an SGX-listed company, Sunningdale Tech, and concluded that Hi-P had good value.

Risk

Under Hi-P's precision plastic injection moulding (PPIM) segment, 72.2% of revenue came from four major customers. For their assembly segment, 62.9% of revenue came from five customers. I believed Mr Yao was able to retain those customers and grow along with them. This industry may be cyclical to some extent.

Developments

I studied their latest Financial Year 2016 circular which had been issued to obtain shareholders' approval for the proposed renewal of the share purchase mandate. To remain listed on the Singapore Exchange, a public listed company requires not less than 10% of the total issued shares held by public shareholders. That being the case, Hi-P could purchase a maximum of 57,289,586 shares from the open market. If purchased at S$0.69 per share, it would cost S$39.5 million.

Hi-P would receive US$17 million or S$24.6 million as a settlement amount from Yota Devices. This provided an opportunity for Hi-P to reinvest into the business, or finance share buybacks.

Together with the settlement amount and their ability to generate cash flow, the amount of S$39.5 million was easily reached without tapping into their balance sheet. Coupled with the shares it had already bought back, this corporate move materially increased Hi-P's earnings per share, clearly emphasising management's confidence in their company's future.

Hi-P shifted gear into a growth stage. The company went on a talent recruitment drive, evident through job postings on Jobstreet.com. Restructuring pared away excess for a leaner business model. Hi-P now carefully considers new machinery and its utilization before making a purchase, to keep depreciation to a minimum.

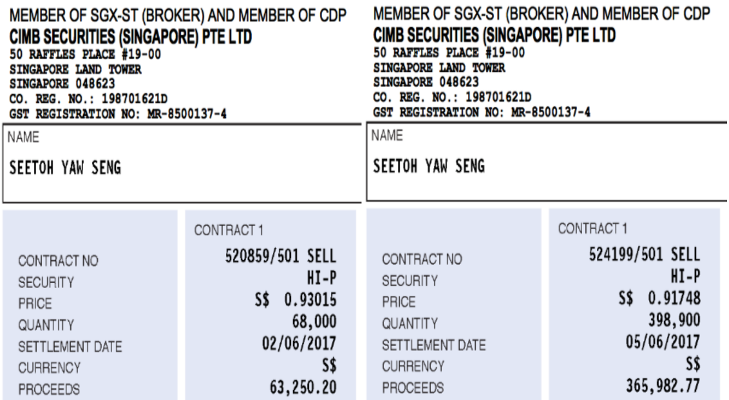
In coming years, there are plans to semi-automate and ramp up production to reduce labour costs.

In my view, Hi-P no longer suffers from poor performance and exceptional items. Now, it is focused on achieving profitability and reducing capital expenditure without affecting its capabilities.

Due to its internal cost rationalization, I expected Hi-P to be profitable in the first quarter of Financial Year 2017. True enough, on 14 April 2017, Hi-P released an announcement on the Singapore Exchange that the company expected to be profitable in the first quarter of Financial Year 2017.

This positive change in business fundamentals would increase the intrinsic value of the company.

On 9 June 2017, Hi-P closed at S$1… but I had sold it earlier. This still represented a gain of >60% within four months. With a method to analyse the true intrinsic value of a company, we can have the confidence to acquire it when it sells at a 'discount'.



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GST REGISTRATION NO: MR-8500137-4

NAME
SEETOH YAW SENG

	CONTRACT 1
CONTRACT NO	520859/501 SELL
SECURITY	HI-P
PRICE	S$ 0.93015
QUANTITY	68,000
SETTLEMENT DATE	02/06/2017
CURRENCY	S$
PROCEEDS	63,250.20

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CO. REG. NO.: 198701621D
GST REGISTRATION NO: MR-8500137-4

NAME
SEETOH YAW SENG

	CONTRACT 1
CONTRACT NO	524199/501 SELL
SECURITY	HI-P
PRICE	S$ 0.91748
QUANTITY	398,900
SETTLEMENT DATE	05/06/2017
CURRENCY	S$
PROCEEDS	365,982.77

Figure 4—2 HI-P International Contract Statement

5 LESSONS & FAILURES IN OUR JOURNEY

5.1 DELONG HOLDINGS

Bought (Jun 2017)	Sold (Jun 2017)
S$ 1.52	S$ 1.48

Management and Business Model

Delong Holdings ("Delong") is a manufacturer of hot-rolled steel coil, steel billet, and mill roll in the People's Republic of China. It is among the top ten steel producers in the Hebei province. Its steel mills are located close to its raw material sources and its major customers, who are mainly from the infrastructure, machinery fabrication, and automotive industries. Delong's steel mill in Xingtai sits among beautiful greenery and receives thousands of guests yearly, including government officials.

In 2005, Delong was listed on Singapore Exchange through a reverse takeover of Teamsphere.

Delong's operations are in China. I had to do my homework. I visited their Singapore office at 55 Market Street and met with their office secretary for an hour to understand more about the business. I went away with a good feeling.

The CEO of Delong, Mr Ding Liguo, owns 58% of the company. He was formerly a delegate of the 11th National

People's Congress, in the Standing Committee of Industry and Commerce, and the China Youth Federation. He chose to resign from these positions to focus on business and solving social problems. However, he remained a member of China Entrepreneur Club of which Jack Ma (founder of Alibaba) is chairman.

While Delong may not have the advantage of being a state-owned enterprise, it is known that the fundamentals of Delong rank highly among the more than fifty steel companies in the country.

Numbers

Being in a cyclical industry, revenue and profits depend on the price of steel. It is common for steel companies to have debt because the capital required to build steel mills is enormous.

At the time, Delong had a net-debt-to-equity of 26.4%, return-on-equity of 18.8%, and net income margin of 4.7%. These numbers looked reasonable. What caught my eye was that cash flow from operations had improved significantly from RMB2,686.5 million compared with RMB1,466.3 million in the previous year (FY 2016).

I studied the latest steel news in China. The China government was cutting down on the nation's steelmaking capacity in an effort to reduce industrial pollution. Several illegal steel mills were ordered to cease operations. Since Delong operated a steel mill that was registered with the government and the business was recognized as role model for others. I realized this policy would benefit the business:

there would be reduced supply of steel, steel prices would rise, and Delong would make more revenue.

For cyclical stocks, especially steel, I would use a mix of price-to-earnings ratio and price-to-book ratio.

I sought to calculate two valuation metrics.

Delong's share price was S$1.52, the book value was S$5.46, and the earnings per share was about S$0.95. The price-to-earnings ratio was 1.6 and the price-to-book ratio was 0.28.

According to Delong's Financial Year 2017 annual report, 15.04% of its shares were owned by a shareholder called EVRAZ plc. The owner of EVRAZ is Roman Abramovich, who is the owner of Chelsea Football Club and one of the richest people in Russia.

In early 2008, EVRAZ had tried to acquire Delong Holdings at a price tag of S$2.1 billion. Delong was earning RMB93.8 million (S$18.7 million) back then. This acquisition bid was rejected by China's Ministry of Commerce. According to its FY 2017 balance sheet, the business had equity of S$940.5 million. The effective price-to-book ratio (PBR) was around 2.23.

While Mr Abramovich sought to acquire this business in early 2008 at a price-to-book ratio of 2.23, it was available to me at 0.28. In fact, Delong now earned RMB505.1 million (S$101 million) which was a lot higher than its profits in 2008.

By this time, the value of the company was obvious.

On top of that, Delong had made an agreement to sell its Aoyu Steel mill for RMB400 million (S$79.7 million) while its recorded book value was RMB94.9 million (S$18.9 million). This meant an unrecognized book value of RMB $305.5 million (S$60.9 million) due to Aoyu Steel, providing that all-important margin of safety.

Risk

The industry is cyclical due to the mismatch of supply and demand. Singapore Exchange-listed Chinese companies are known as S-chips. S-chips had earned a reputation for conducting fraudulent activities or producing inaccurate financial statements. Thanks to this, or so I thought, Delong suffered the same perception and investors were avoiding it.

Outcome

After purchasing the stock, I felt good about it because of the value I was getting for the price I had paid.

Nonetheless, the biggest issue I had was the stock's illiquidity. The daily value traded was somewhere between S$20,000 and S$60,000. The spread was wide. My impatience and the fear of illiquidity started to affect me. Two weeks later, I decided to dispose of my stock at S$1.48.

Roughly three months later, the stock moved from S$1.48 to a high of S$4.23 - a gain of 186%! At the time of writing (end June 2018), the stock is trading at S$5.20 - I missed out on a gain of 257% (based on my entry price). Mr Ding went on to acquire EVRAZ's 15.04% stake in Delong at a price of S$7.42.

I reflected on my actions. I misread the inactivity of Delong's share price for the reality that the stock was not going to be recognized. If I had a chance to go back in time, I would have stood with my investment because buying the stock at PBR of 0.28 was really a good deal.

5.2 INNOTEK

Bought (Jun 2017)	Sold (Nov 2017)
S$ 0.43	S$ 0.30

After my successes in early 2017, I felt confident I could grow my wealth much further with InnoTek. Boy, was I wrong.

Management and Business Model

InnoTek ("InnoTek") is listed on the Singapore Exchange and it has over 2,000 employees. As a holding company, the main subsidiary is Mansfield Manufacturing Co. Ltd.

InnoTek is a precision metal components manufacturer, dealing with tool design, fabrication, and die-making services. It manufactures components for automotive, office automation, and consumer electronics industries. There are two business segments: [1] precision components and [2] precision sub-assembly.

InnoTek's business is in the low-value-added space. The company owns over 500 stamping presses that turn raw steel into car doors and other components. There are more than four plants. Clients include Canon, Fuji Xerox, Ricoh, Sharp Epson, InnoLux, Konka, Magna and others.

Before Mr Lou Yiliang took the helm, the business suffered high turnover in employees including CEOs.

Mr Lou was appointed executive director of InnoTek and CEO of Mansfield Manufacturing on 2 November 2015.

Despite Mr Lou's entry to this role just two months before, InnoTek's former chairman, Mr Robert Sebastiaan Lette, praised Mr Lou for his ability to drive positive changes from new initiatives. In March 2017, Mr Lou was appointed CEO of InnoTek. He brought in Mr Kuang Yubin as chief operating officer of (subsidiary) Mansfield.

In his Financial Year 2017 address to shareholders, Mr Lou mentioned key priorities which included to "stem losses, improve cash flow and strengthen our value proposition with existing and new customers." He added, "we implemented strategies to focus on product innovation, staff training and how to improve operating cost efficiencies, automation, and customer engagement."

I read several letters and press releases and found Mr Lou to be frank, upfront and knowledgeable about the business. When I first heard about InnoTek, Mr Lou owned 5.3% of the company. This gave me some confidence in the turnaround plans of the business.

Numbers

Since numbers provide the key information investors rely on, I studied them closely.

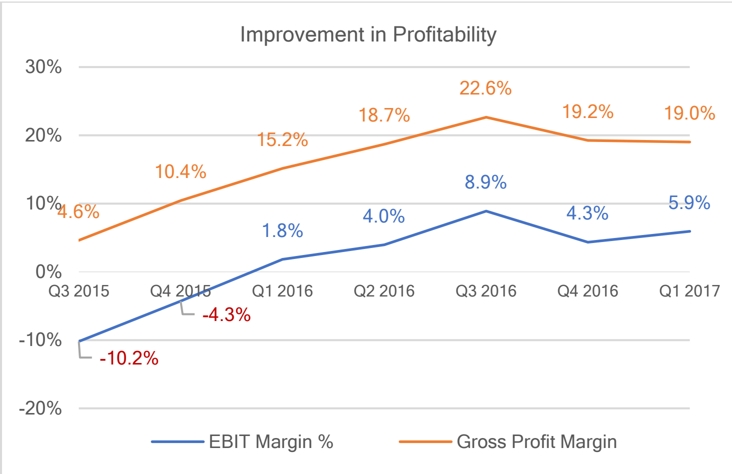


Figure 5—1 Improvement in InnoTek's Profitability Margins (Compiled from Annual Report)

Mr Lou joined the company 4Q Financial Year 2015. The next quarter (1Q Financial Year 2016), the company reported an improvement in its quarterly profitability (see Figure 5—1). The improvement declined slightly around the 4Q Financial Year 2016.

Please refer to Table 5-1 and Table 5-2 for financial numbers as of June 2017. While the company could not meet my requirement of 15% return on equity, its assets on the balance sheet were attractive.

S$ millions	2014	2015	2016	Trailing 12 mths
Net Profit after Tax	-28.3	-16.3	11.6	14.6
Debt	10.1	5.3	0.1	0.1
Cash	45.0	41.7	46.4	50.0
Net Profit Margin	-7.8%	-8.7%	4.3%	4.9%

Table 5-1 InnoTek's Financial Numbers (From Annual Reports)

S$ millions	Q1 2017
Cash and Short-Term Investments	50.005
Minus: Debt	0.068
Net Cash	49.937
Add: Investment Property	16.48
Total	66.417

Table 5-2 Innotek's Financial Numbers 1Q FY 2017 (From Annual Reports)

From Table 5-2, its net cash plus investment property was worth S$66.417 million. Taking its shares outstanding of 224.835 million shares, the value per share was S$0.295. I saw S$0.295 as my maximum downside for this company. At that point in time, the company was trading at S$0.43. Since I was getting the business's cash and investment property in the share price, I needed to find out how much the business was valued. To do this, I took S$0.43 (current trading price) minus S$0.295 (asset value per share) and got S$0.135.

The company had earnings per share of S$0.0461. Taking S$0.135 divided by S$0.0461, the effective price-to-earnings ratio (PER) was 2.93. While InnoTek was high quality, I felt it was an undemanding valuation to pay for such a business.

On the price-to-book ratio (PBR), the book value was S$0.557. Using S$0.430 as the price, the PBR was 0.77. I bought the shares because of its turnaround potential.

Risk

I identified several risks. InnoTek's raw material is steel, and since steel prices are expected to rise, InnoTek may face downward pressure on its profitability. A lot of good talent had left the company. Without a strong layer of operation managers and department heads, growth could be affected. Most of their office automation (OA) customers were intending to leave China because of higher labour costs, leading to potentially lower revenue growth. I was not sure whether the growth in revenue in other segments could offset the decline in revenue in the OA segment.

Outcome

The next quarter's report (2Q Financial Year 2017) was ugly. The company earnings dropped by 76.8%. My heart sank. I knew that the moment the markets opened the following Monday, the share price would fall.

Some customers exited China sooner than InnoTek had anticipated. At the same time, InnoTek suffered higher administration costs from employee bonuses and exchange losses.

S$, million	Q2 2017
Cash and Short-Term Investments	47.04
Minus: Debt	0.062
Net Cash	46.98
Add: Investment Property	19.20
Total	66.18

Table 5-3 InnoTek's Financial Numbers 2Q FY 2017
(From InnoTek 2Q Financial Year 2017 Report)

I recalculated my downside:

Taking its shares outstanding of 224.125 million shares, the value per share was S$0.295. It had not changed from Q1 2017. Again, this was my safety net.

I did not expect the share price to correct so significantly, but it did fall from S$0.40 (before the earnings) to S$0.32, before stabilizing to around S$0.30 from August to September 2017.

Many thoughts went through my mind:

- Had the business lost its competitive edge?
- What if this result were to occur in the next quarter?
- What was Mr Lou doing?

I felt emotionally affected. My constant worries about InnoTek affected my daily life. I started to entertain thoughts of selling my stock in the company. The fear of further deterioration in its share price motivated me to sell the stock. I recognized a loss of 30% by selling at S$0.30.

I continued to follow news on the company. After the Q3 2017 results were out, the share price jumped more than

20% to S$0.39. Of course, I did not benefit from this upside since I had sold the stock.

As a form of reflection, here were the figures (Table 5-4).

S$, million	3Q FY 2017
Cash and Short-Term Investments	47.36
Minus: Debt	0.055
Net Cash	47.31
Add: Investment Property	24.97
Total	72.28

Table 5-4 InnoTek's Financial Numbers 3Q Financial Year 2017 (From Innotek's Q3 2017 Report)

Taking its shares outstanding of 224.125 million shares, the value per share was S$0.322. It had increased from Q2 2017.

Looking back, I realized that I had succumbed to fear and had not approached the situation rationally. As I was sitting on a loss of 30%, I felt more and more uncomfortable each day. At S$0.30, the company was already trading at my maximum downside of S$0.295. I should have kept the shares and waited for the next quarter.

This lesson was painful, and it was an opportunity for me to grow as an investor. In the next few months following this incident, I worked hard to become more emotionally stable.

5.3 ATWOOD OCEANICS

Bought (Jan 2017)	Sold (Mar 2017)
US$ 14	US$ 10

Management and Business

Atwood Oceanics ("ATW") is an offshore drilling contractor. It engages in the drilling and completion of exploratory and developmental oil and gas wells. ATW operates its fleet in the United States, the Gulf of Mexico, the Mediterranean Sea, offshore West Africa, offshore Southeast Asia, and offshore Australia. It was founded in 1968 and is headquartered in Houston, Texas.

ATW has a relatively young fleet comprising deepwater and ultra-deepwater semisubmersibles, ultra-deepwater drillships, and high-specification jackup rigs, as shown in Table 5-5. Atwood Oceanics is mainly owned by fund houses like Vanguard and Blackrock. Its management does not own a significant number of shares. Mr Robert J Saltiel was the Chief Executive Officer and President of Atwood Oceanics, Inc. from 15 December 2009 to 6 October 2017.

Rig Name	Rig Type	Water Depth Rating (feet)
Atwood Achiever	Ultra-Deepwater Drillship	12,000
Atwood Advantage	Ultra-Deepwater Drillship	12,000
Atwood Condor	Ultra-Deepwater Semisubmersible	10,000

Atwood Osprey	Ultra-Deepwater Semisubmersible	8,200
Atwood Eagle	Deepwater Semisubmersible	5,000
Atwood Mako	High-Specification Jackup	400
Atwood Manta	High-Specification Jackup	400
Atwood Orca	High-Specification Jackup	400
Atwood Beacon	High-Specification Jackup	400
Atwood Aurora	High-Specification Jackup	350
Current Newbuild Projects		
Rig Name	Rig Type	Water Depth Rating (feet)
Atwood Admiral	Ultra-Deepwater Drillship	12,000
Atwood Archer	Ultra-Deepwater Drillship	12,000

Table 5-5 ATW's Drilling Fleet (From ATW's FY 2016 Annual Reports)

He served as the Chief Operating Officer and Executive Vice President of Transocean Ltd from 1 December 2009 to 14 December 2009 and as its Executive Vice President of Performance since May 2008. He served as Senior Vice President of North and South America Unit of Transocean from 18 October 2006 to May 2008. Prior to joining Transocean in 2003, Mr Saltiel served as Vice President of Corporate Marketing of Nabors Industries. He began his career as a Process Engineer at Exxon and later joined McKinsey & Company as a consultant to energy clients in the upstream, downstream and oilfield service segments.

Mr Saltiel had spent most of his life in the oil and gas sector, so it was reasonable to believe in his ability to helm this company.

Numbers

My compelling reason for choosing Atwood Oceanics was its numbers which turned out to be a huge mistake. I realised that most of ATW's competitors were highly leveraged and had a high debt-to-equity ratio, while ATW somehow managed to keep its debts low.

Company Name	Market Capitalization Latest	LTM Total Debt to Capital	FY2016 Return on Equity %
Atwood Oceanics, Inc.	850.9	27.6	8.6%
Diamond Offshore Drilling, Inc. (DO)	2427.9	34.6	-9.5%
Helmerich & Payne, Inc. (HP)	8372.9	7.7	-1.1%
Noble Corporation plc (NE)	1439.9	40.2	-12.4%
Parker Drilling Company(PKD)	325.1	58.5	-50.9%
Pioneer Energy Services Corp. (PES)	524.9	54	-41.1%
Precision Drilling Corporation (PD)	1632.8	47.2	-7.6%
Rowan Companies plc (RDC)	2369.5	33.6	6.5%
Seadrill Limited (SDRL)	1716.87	49.8	-1.5%
Transocean Ltd. (RIG)	5737.8	34.6	5.4%
Unit Corporation (UNT)	1383.5	36.2	-10.8%

Table 5-6 ATW's Competitors (Compiled from Annual Reports)

Based on Table 5-6, ATW had the highest return on equity (ROE) compared to its competitors, and one of the lowest debt-to-equity ratios (27.6%). ATW's market cap was only US$850 million which led me to believe it would be easier for it to double or triple in value, than it would be for a US$10 or US$100 billion-dollar company to do the same.

From Table 5-7, I also saw that ATW's revenue and EPS had risen over the years. Despite the dip in revenue in 2016, I dismissed it as a bad year and assumed that since the company had done well for so many years, they would recover in 2017.

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Total Revenue (millions)	586	650	637	756	1,017	1,103	1,342	976	605
EBIT	298	320	333	319	430	404	599	386	129.0
Net Income	250	256	271	272	350	340	432	265	-19.3
Diluted EPS	3.89	3.95	4.15	4.14	5.32	5.24	6.65	4.09	(0.27)

Table 5-7 ATW Financial Numbers FY 2009 – 2016 (Compiled from ATW's Annual Reports)

Comparing ATW's valuation with those of its competitors (Table 5-8), I felt ATW was selling at an incredible discount of Price-to-Tangible Book Value of 0.3! This meant that for every $1 of the business, I was only paying $0.30. It got me excited and I made the decision to buy ATW shares.

Company Name	Price/Tangible Book Value
Atwood Oceanics, Inc.	0.3
Diamond Offshore Drilling, Inc. (NYSE:DO)	0.7
Helmerich & Payne, Inc. (NYSE:HP)	1.8
Noble Corporation plc (NYSE:NE)	0.2
Parker Drilling Company (NYSE:PKD)	0.9
Pioneer Energy Services Corp. (NYSE:PES)	1.8
Precision Drilling Corporation (TSX:PD)	1.2
Rowan Companies plc (NYSE:RDC)	0.5
Seadrill Limited (NYSE:SDRL)	-
Transocean Ltd. (NYSE:RIG)	0.4
Unit Corporation (NYSE:UNT)	1.2

Table 5-8 ATW's Competitors by Valuation
(Compiled by authors with data from Annual Reports)

Risk

Thinking back now, the problem was that I had not understood the risks when I bought ATW. I made so many assumptions during the process.

First, I did not know that the oil and gas industry was a cyclical one where prices of crude oil could drastically affect revenues of oil companies like ATW.

Figure 5—2 Latest crude oil price & chart
(From Nasdaq.com)

From Figure 5—2, we see that prices of crude oil fell drastically since 2015, and the entire oil industry has been hit heavily because of this. ATW was no exception, and this caused a decline in revenue and earnings from Financial Year 2015 and Financial Year 2016.

I learnt from this experience that companies that depend heavily on the prices of commodities perform cyclically as the commodity price affects earnings. If I wanted to invest in a stock in a cyclical industry, I must first fully understand the industry cycles.

I learned to investigate to more depth and detail when a company's revenue drops. I had assumed that since ATW had such an impressive track record, it would recover in 2017. This did not happen (Table 5-7).

In Financial Year 2017 (Table 5-7), ATW's revenue dropped drastically, and ATW reported a loss for the first time in years. This got me thinking: track records are historical; they don't necessarily predict or guarantee similar future performance. I saw belatedly that ATW was losing its backlog too rapidly (see Figure 5—3). This is actually very serious as lesser backlogs meant ATW had secured lesser drilling contracts, which in turn meant ATW's future revenue would likely decrease. I realized that I should not have invested in a company facing rapidly-decreasing backlogs, in an industry that had not recovered.

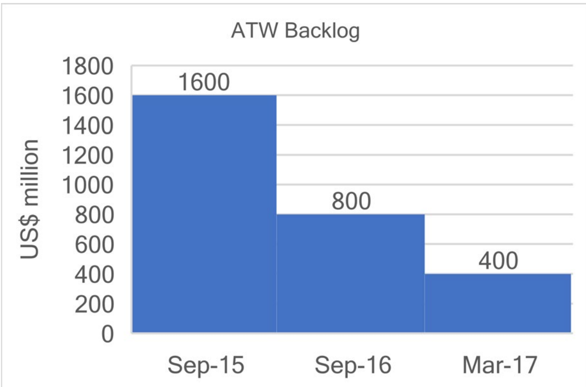


Figure 5—3 ATW's decreasing backlog (from Annual Reports)

Outcome

From this experience with ATW, I consulted friends from the oil and gas sector, who advised me to review backlogs, and to understand how the price of crude oil affects the company.

I decided to exit my position because in the first place, I did not really understand this company and its industry and had entered in ignorance. It was a tough bullet to bite. Fortunately, I uncovered several blind spots. Also, ATW did not have a strong or clear moat, and it will always be at the mercy of oil prices. I doubt I could have remained emotionally stable if I held on to a stock that is so vulnerable to the price of oil.

I learned that I should not just focus on numbers. A company's business model, the current climate, and other qualitative factors can affect the performance of the company we invest in. More importantly, a company's past performance does not guarantee its future results!

ATW was bought over by Ensco plc (ESV) and closed at US$9.32 on its last trading day (5 October 2017).

Bonus content: Scan the QR code to find out how you can avoid failures by using an investment checklist!

6 RETAIL INDUSTRY

Remember the first time you visited 7-Eleven to buy a snack? How about visiting a department store to purchase your first tie, or a shopping mall to purchase your first pair of Nikes? Congratulations! You have touched the retail industry and contributed to the earnings of businesses in the retail sector.

What is the retail industry? Typically, retail involves a customer (buyer) and a seller who makes a product / service available to a customer. Here are some sub-sectors within the retail industry:

- Grocery (e.g., Costco, Wal-Mart, Woolworths, Sheng Siong)
- Convenience stores (e.g., 7-Eleven, MyNews, Tesco, Circle K, FamilyMart, Lawson)
- Speciality shops (e.g., Lovisa, Pandora, Smiggle, SaSa, Samsonite, Sephora)
- Restaurants (e.g., Shake Shack, McDonald's, Burger King, Starbucks, KFC)

The list goes on. You can see this sector is huge! And we are no strangers to retail.

I can see why ladies are eager to purchase accessories from Lovisa, with its wide variety and attractive offerings at affordable prices. How about Starbucks? During my visits to Starbucks, I have noticed that the ambience created by the layout and music is consistent. I have also observed that people pick Starbucks as a convenient place to meet up to discuss work or catch up with one another. It ranks highly in the consumer's mind.

Warren Buffett advocates investing within our circle of competence. If I weren't a consumer of these familiar and popular brands, I would not be able to develop insights into these businesses. For new investors, companies they patronise are easier to understand. They are in shopping malls and line our streets. Observe the human traffic and determine whether these businesses will make money in the long term.

Increasingly, retailers are adopting the omni-channel strategy where customers can access them through various channels such as mobile devices, desktop, telephone, or physical stores.

6.1 RISK

There is plenty of competition in this sector. Do we eat at the same restaurant all the time? Probably not. When I enter a shopping mall, I am greeted by a huge number of dining options. Generally, consumers do not stick to a single choice because there is variety. Consumers tend to be adventurous and fickle. Fashion trends change; and when they change, fashion retailers must keep up or risk losing sales. Coach and Michael Kors are examples of designer bag brands that became victims of changing consumer preferences.

In the crowded retail field, brands are finding it harder to differentiate their value proposition. A lot of retail companies resort to price discounts to drive higher sales. However, there are negative trade-offs to this tactic. It destroys the brand's value and conditions buyers to wait for discounts. This causes unstable demand and affects profitability.

Ralph Lauren is known to be an iconic fashion brand with a long heritage among polo players. It enjoyed premium pricing. Competitors entered the market, selling equally stylish but more affordable clothing lines. As a result, Ralph Lauren began to lose its appeal. Placing their stores in expensive real estate to communicate the premium status of Ralph Lauren also cost the company a lot.

Furthermore, with the surge of online-only retailers, price competition has intensified in recent years. When I want to buy a book, I compare the prices on Book Depository with those on Amazon. These days, I seldom purchase books from physical bookstores as their prices are not as competitive as those of their online counterparts. Consumers now shop online to find the best value for their money.

Are there ways for us to evaluate retail companies to reduce our downside? Here are some useful metrics to filter and identify stand-out retailers:

- What are the company’s same-store sales growth trends?
- How fast does inventory move in the business?
- Are there expansion plans? How about local and international expansion?
- Do I have a good experience visiting their stores? Is there consistency?

6.2 Same-Store Sales (SSS) Growth

As a company expands into new locations, we want to know whether the existing locations continue to perform well. We use same-store sales growth as a metric to measure the fundamental health of a company's retail operations. Other terms for SSS include "identical-stores sales", or "comparable sales". SSS growth calculates the sales growth from existing stores that have been operating for a year or more. To be fair, we look at a company's (new store) performance after its first year of operations.

Factors influencing SSS growth include average price of items sold, average purchase per customer, and average number of customers per month. While some companies provide such metrics, most companies report SSS growth.

Let's use the FY 2017 numbers of Sheng Siong ("SSG"), a SGX-listed supermarket managed by the Lim family (Table 6-1).

Sheng Siong has a great company culture. I had the privilege of meeting the management team during the company's annual general meeting. Generally, SSG's items are cheaper than their competitors', and this has driven more traffic to their stores.

Breakdown of Revenue Growth				
	4Q 2017	4Q 2016	FY 2017	FY 2016

New Stores	2.70%	8%	4.50%	6.20%
Comparable same store sales	3.20%	0.20%	2.10%	0.20%
Loyang Point, Verge and Woodlands Block 6A	-4.20%	-2.90%	-2.40%	-2.20%
Total revenue growth	1.70%	5.30%	4.20%	4.20%
Loyang point closed in April 2016 and reopened in February 2017 while Verge and Woodlands Block 6A were closed in June 2017 and November 2017 respectively.				

Table 6-1 Sheng Siong's Revenue Growth
(From SSG's Annual Report 2017)

Their numbers in Financial Year 2017 show that new stores contributed significantly to its revenue growth of 4.5%, while suggesting that the company may have difficulty pushing up the sales of existing stores of 2.1%. Due to the closure of some stores, the total revenue growth was 4.2% in Financial Year 2017. However, compared to Financial Year 2016, same-store sales grew tenfold from 0.2% to 2.1%. As an investor, it is important to identify the initiatives, driving the improvement so that you can track them.

Negative SSS growth of a company shows that customers are disappearing. When SSS growth is flat for several quarters, the growth is limited and the company must open new stores to grow revenue. This could be challenging because good locations are limited. A disciplined management waits for the right locations. In some cases, painful store closures may be necessary when expansion has been too aggressive, for example, without proper planning or due diligence.

Ideally, we like sales growth to come from both existing and new stores. Let's take a look at Lovisa ("LOV"), an ASX-listed fast-fashion jewellery company (Table 6-2 & Table 6-3).

Store number growth			
Country	1H FY 2018	1H FY 2017	Variance
Australia	151	145	6
New Zealand	18	18	0
Singapore	22	21	1
Malaysia	20	19	1
South Africa	58	50	8
United Kingdom	23	11	12
Spain	2	1	1
USA	1		1
Middle East	19	19	
Vietnam	5	4	1
Total	319	288	31

Table 6-2 Lovisa's Store Growth
(From LOV Financial Report HY18)

LOV grew stores significantly, adding 31 stores between Financial Year 1H 2017 to 1H 2018.

($000)	HY 2018	HY 2017	Variance
	Actual	Actual	Actual
Revenue	118,615	99,740	18.9%
EBIT	34,734	28,194	23.2%
NPAT	24,843	20,272	22.5%

Table 6-3 Lovisa's Financial Overview

For the first half of FY 2018, LOV reported a growth of 18.9% in revenue (see Table 6-3), and comparable store sales contributed 7.4%. When we deduct 7.4% from 18.9%, we see that 11.5% of the sales growth came from new stores. This number shows a healthy trend for the company, reflecting their ability to grow both same-store and new-store sales.

For a period of one year from 16 May 2017, LOV's share price rose from A$4.05 to A$11.23, a rewarding 177% rise in share price performance. For the same period, Sheng Siong's share price rose from S$0.97 to S$1.01, a modest increase of 4.1%.

6.3 INVENTORY TURNOVER DAYS

Would we prefer to invest in a store whose goods are in high demand and flying off the shelves, or a store whose goods are approaching expiry date?

Inventory turnover days refers to how long a company's inventory stays on its balance sheet before it is sold to the customer. The formula for inventory turnover days is to take inventory divided by cost of goods sold, then multiply this by 365 days. This figure should be compared across different financial years and similar companies within the industry. It would be unfair to compare Pandora's inventory turnover days with Wal-Mart's. The former is a company selling jewellery with inventory moving slower while the latter is a company selling perishables having faster moving inventory. It would be reasonable to compare Wal-Mart with Costco because of their similarities. When the trend is pointing towards an increase in inventory turnover days, it could mean the company is less efficient in selling inventory, or it could be keeping too much inventory, both of which are unhealthy signs.

We want the inventory turnover days to be as low as possible.

Let's look at Wal-Mart's financials (Table 6-4) and Costco's financials (Table 6-5):

Financial Year	*2009*	*2010*	*2011*	*2012*	*2013*

Days Inventory	41.54	40.54	40.22	41.95	43.76
Financial Year	*2014*	*2015*	*2016*	*2017*	*2018*
Days Inventory	45.19	44.99	45.3	44.21	42.44

Table 6-4 Wal-Mart's Financials (From Mornignstar.com)

Financial Year	*2009*	*2010*	*2011*	*2012*	*2013*
Days Inventory	30.58	29.64	28.82	28.87	29.75
Financial Year	*2014*	*2015*	*2016*	*2017*	*2018*
Days Inventory	30.31	31.36	31.71	30.67	30.93

Table 6-5 Costco's Financials (From Mornignstar.com)

We observe that through the years, Costco is more consistent and efficient at selling their inventory.

In Financial Year 2018, Costco’s inventory turnover days is 30.93 days, compared to Wal-Mart’s 42.44 days. This helps Costco avoid last-minute stock clearance (usually requiring discounts to move), which will hurt profitability.

We should not use inventory turnover days in isolation from other metrics. We should look at a combination of SSS growth and inventory turnover days for a more complete picture.

Let us look at L Brand's inventory turnover days (see Table 6-6)

Financial Year	*2009*	*2010*	*2011*	*2012*	*2013*
Days Inventory	73.55	72.26	63.12	58.71	60.13
Financial Year	*2014*	*2015*	*2016*	*2017*	*2018*
Days Inventory	62.4	60.44	56.67	54.34	55.56

Table 6-6 L Brand's Inventory Turnover Days (From Morningstar.com)

Comparable Sales Increase / Decrease (Stores and Direct):				
	April, 2018	April, 2017	1Q 2018	1Q FY 2017
Victoria's Secret[1]	-2%	-12%	1%	-14%
Bath & Body Works[1]	6%	10%	8%	2%
L Brands[2]	0	5%	3%	-9%
1 - Results include company-owned stores in the U.S. and Canada and direct sales.				
2 - Results include company-owned stores in the U.S., Canada, the U.K. and Greater China and direct sales.				

Table 6-7 L Brand's Same Stores Growth (From L Brand's Investor Relations)

Inventory turnover days has improved steadily from 73.55 days in Financial Year 2009 to 54.34 days in Financial Year 2017. While this appears positive, a quick look at L Brand's April sales reveals a deteriorating trend (see Table 6-7):

In 1Q FY2017, their "Victoria's Secret" sales dropped 14%, and "Bath & Body Works" improved 2%, resulting in an overall decline of 9% in SSS growth for L brands. After looking into the operating margins of Victoria's Secret, I realised that the decreased profitability could be due to L Brand's heavy discount on merchandise in 1Q FY 2018. Again, this might have hurt the brand's desirability and ability to retain its brand image.

L Brand's share price fell from US$48.29 on 16 May 2017 to US$33.10 a year later.

All in all, a single metric reveals limited information about the company. Combined with other metrics, a more holistic picture of the company will emerge.

6.4 Local and International Expansion

Due to the risks of investing in the retail sector, it is important to ensure that the company is able grow in the midst of competition. On top of the two metrics we have discussed, expansion is key for boosting earnings to propel the share price upwards. Without expansion, the earnings of the company remain stagnant. Once a retail concept is favourably received in its own local market, it is the job of the management to scale it quickly and efficiently, with the appropriate checks and controls in place. It means identifying great store locations with good traffic flow. Growth plans of a company are disclosed in their commentaries or investor presentation slides.

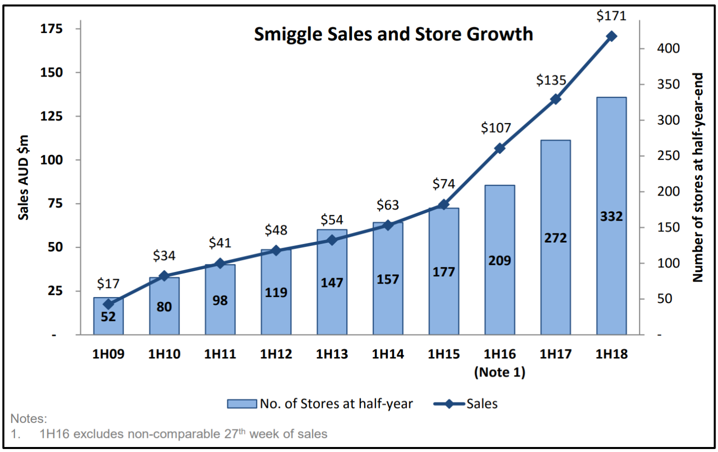


Figure 6—1 Smiggle's Sales & Store Growth (from Premier Investments Ltd 2018 Half Year Results Overview)

An example is Smiggle, a brand under ASX-listed Premier Investments. It has stores in Singapore, Hong Kong, Malaysia, UK, Australia, and New Zealand.

If the management had not expanded overseas, the sales graph would look very different today. Smiggle's sales grew at approximately 29% compounded annually from 1H 2009 to 1H 2018 (Figure 6—1) – a remarkable achievement considering it is not easy to enter foreign markets.

Likewise, for NYSE-listed Shake Shack, the desire to grow is apparent in their presentation slides (Figure 6—2).

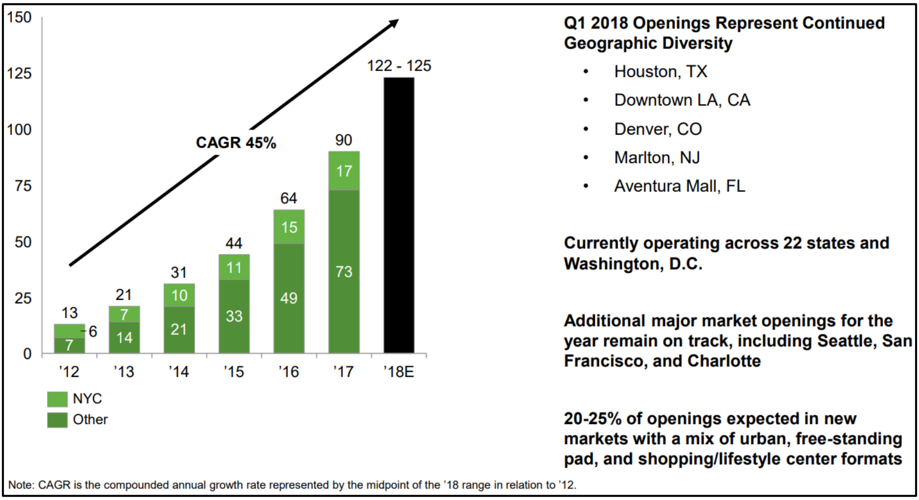


Figure 6—2 Shake Shack's Growth Target
(From Shake Shack's 1Q 2018 Report)

Another factor is the availability of good locations. Sheng Siong supermarket requires roughly 900 square metres of space, compared with Lovisa, which needs 50 square metres. In the real estate leasing space, smaller units are more readily available. In cities where larger shop space are hard to come by, companies like Lovisa have the advantage since they need a smaller space, and there are ample location options available to select to scale up operations.

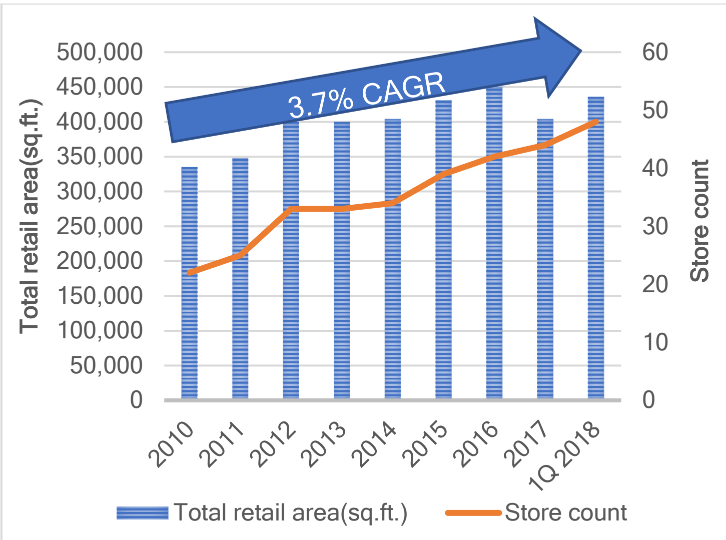


Figure 6—3 Sheng Siong's Retail Space
(From Sheng Siong's Q1 2018 Results Presentation)

We can see that Sheng Siong was not able to expand their stores as quickly as Lovisa (Figure 6—3 & Table 6-2). One thing to note is that Sheng Siong is considered a consumer staple company, which is preferred by investors with defensive portfolios. During a recession, Sheng Siong’s sales would not be affected as much as Lovisa’s.

6.5 SHOPPING EXPERIENCE

Think about it. What would really make a standout in-store shopping experience? A store with an organised layout, appealing product range, knowledgeable and friendly employees.

In Briscoe Group's 2018 annual report, Mr Rod Duke, the group managing director said, "refreshing and renewing our physical stores is a continuous process to ensure we have the right size and type of stores in the right locations to meet the current and future needs of our customers." This has allowed them to grow operating profit by a compounded annual growth rate of 16.8% from Financial Year 2012 to Financial Year 2017.

This is not something we can analyse quantitatively. As investors, we can read all the transcripts and analyse capital expenditure spent on store upgrades. We can visit the Facebook pages of the company's brands to gauge customer engagement levels. But nothing beats a real-life visit to the local stores. I highly encourage you to do this.

Use these guiding questions when you visit the stores:

1. Chat with the staff and find out whether they are happy to work in the stores.
2. Ask some of the shoppers why they shop there.
3. Is the payment process at the check-out smooth?
4. What is the atmosphere of the store? Are the lighting and music conducive?
5. What do you notice about the layout of the store? Is it confusing or organized?

Every in-store experience counts for a retail company. It creates a memory for the customer. When a retail company consistently outperforms its competitors in in-store experience, it creates delighted customers and builds customer loyalty.

6.6 SUMMARY

While the retail sector is one of the easiest industries to start investing in, it is often challenging because of frequent changes in customer preferences, coupled with stiff competition. Nevertheless, this industry can be rewarding when there are clear metrics to measure performance.

- **Inventory turnover days** measures how efficiently a company's inventory moves. Compare this metric across the years and among similar companies in the industry.
- **Same-store sales growth** measures the growth from existing stores that have been operating for one year or more. Compare this metric across the years to determine whether it is slowing down or improving.
- **Expansion** is key to boosting earnings, which should grow a company's share price. Determine whether its management plans to scale retail operations locally or overseas, and if new store requirements are easily met.
- **Visit the physical retail store** to experience it for yourself. Make notes of the staff, shoppers, store layout, crowd volume and atmosphere to determine whether the fundamentals are in place.

Bonus content: Scan the QR code to find out retail companies that thrive!

7 BANKING INDUSTRY

We need banks to safe keep our money. We use them for a range of banking activities such as withdrawing, transferring money or taking out a study or housing loan. Have you thought about how banks make money? How do we assess whether a bank is fundamentally sound? After all, banks operate differently from most businesses and they have a unique business model.

7.1 REVENUE SEGMENTS

In this segment, we will explore how banks make money.

Let us look at Wells Fargo's income statement (Figure 7—1). The bulk of its revenue comes from loans (47%), followed by investment fees (16%), and investment securities (13%). Banks earn money primarily by lending out money. Banks collect money from depositors and pay out interest (say 1%), to incentivize depositors. To make a profit, the bank then loans money to borrowers, and charges interest (say 4%). Thus, the bank earns the difference of 3%. This is known as Net Interest Margin, which is the difference the bank earns. 3% might seem low, but when banks are lending out billions of dollars, it is a significant amount of money.

(in millions)		2017	% of revenue
Interest income (on a taxable-equivalent basis)			
Trading assets	$	**2,982**	**3%**
Investment securities		**11,768**	**13**
Mortgages held for sale (MHFS)		**786**	**1**
Loans held for sale (LHFS)		**12**	**—**
Loans		**41,551**	**47**
Other interest income		**3,134**	**4**
Total interest income (on a taxable-equivalent basis)		**60,233**	**68**
Interest expense (on a taxable-equivalent basis)			
Deposits		**3,013**	**3**
Short-term borrowings		**761**	**1**
Long-term debt		**5,157**	**6**
Other interest expense		**424**	**—**
Total interest expense (on a taxable-equivalent basis)		**9,355**	**11**
Net interest income (on a taxable-equivalent basis)		**50,878**	**57**
Taxable-equivalent adjustment		**(1,321)**	**(1)**
Net interest income (A)		**49,557**	**56**
Noninterest income			
Service charges on deposit accounts		**5,111**	**6**
Trust and investment fees (1)		**14,495**	**16**
Card fees		**3,960**	**4**
Other fees (1)		**3,557**	**4**
Mortgage banking (1)		**4,350**	**5**
Insurance		**1,049**	**1**
Net gains from trading activities		**1,053**	**1**
Net gains on debt securities		**479**	**1**
Net gains from equity investments		**1,268**	**1**
Lease income		**1,907**	**2**
Other		**1,603**	**2**
Total noninterest income (B)		**38,832**	**44**

Figure 7—1 WFC's income statement
(From WFC Annual Report 2017)

As of the first quarter of 2018, Wells Fargo had granted US$951 billion of loans to its customers (almost a trillion dollars!). Simply put, if Wells Fargo pays depositors 1%

interest and loans this deposited cash out at 4% interest, the bank earns US$28.53 billion that year.

There are different types of loans in the banking industry. These are mainly real estate loans, consumer loans, commercial and industrial loans and agricultural loans.

How do we find out how much a bank earns from the various types of loans? We look at its loan breakdown in the bank's annual report. Let us look at Wells Fargo's loan

Table 6.1: Loans Outstanding

(in millions)	2017	2016
Commercial:		
Commercial and industrial	$ 333,125	330,840
Real estate mortgage	126,599	132,491
Real estate construction	24,279	23,916
Lease financing	19,385	19,289
Total commercial	503,388	506,536
Consumer:		
Real estate 1-4 family first mortgage	284,054	275,579
Real estate 1-4 family junior lien mortgage	39,713	46,237
Credit card	37,976	36,700
Automobile	53,371	62,286
Other revolving credit and installment	38,268	40,266
Total consumer	453,382	461,068
Total loans	$ 956,770	967,604

Figure 7—2 WFC loans outstanding
(From WFC Annual Report 2017)

breakdown.

From Figure 7—2, we see that the majority of Wells Fargo's loans are in the commercial and industrial (C&I) sector, followed by consumer real estate and real estate mortgage loans (what we call loans secured or backed by an asset). Why is a bank’s loan portfolio important?

7.2 LOAN PORTFOLIO

Looking at a bank's loan portfolio gives you a deeper understanding of the risks that a bank is undertaking. The graphs in Figure 7—3 and Figure 7—4 show the net charge-off percentage by loan type. What is net charge-off? This is the percentage of loans that have turned bad and are irrecoverable, which banks are forced to write off. The higher the net charge-off percentage, the less favourable for the bank.

"Consumer loans" is made up of "credit card loans" and "other consumer loans". We can see that in general, consumer loans have the highest net charge-off percentage, especially loans due to credit cards. Thus, these loans are considered high-risk and we do not want to see consumer loans topping a bank's loan portfolio. Because they are high-risk, credit card loans incur higher interest rates.

Apart from consumer loans, let's look at the graph in Figure 7—4. We see a huge spike in net charge-off in 2009 due to the subprime mortgage crisis, where banks lent money irresponsibly to property owners who did not have the capability to repay their loans. There is a high net charge-off in commercial real estate loans, single family residential mortgages, and loans secured by real estate. Interestingly, loans to agricultural production and farmland were hit the least. From this, we can infer that agricultural and farmland loans are relatively less risky than their commercial and residential counterparts.

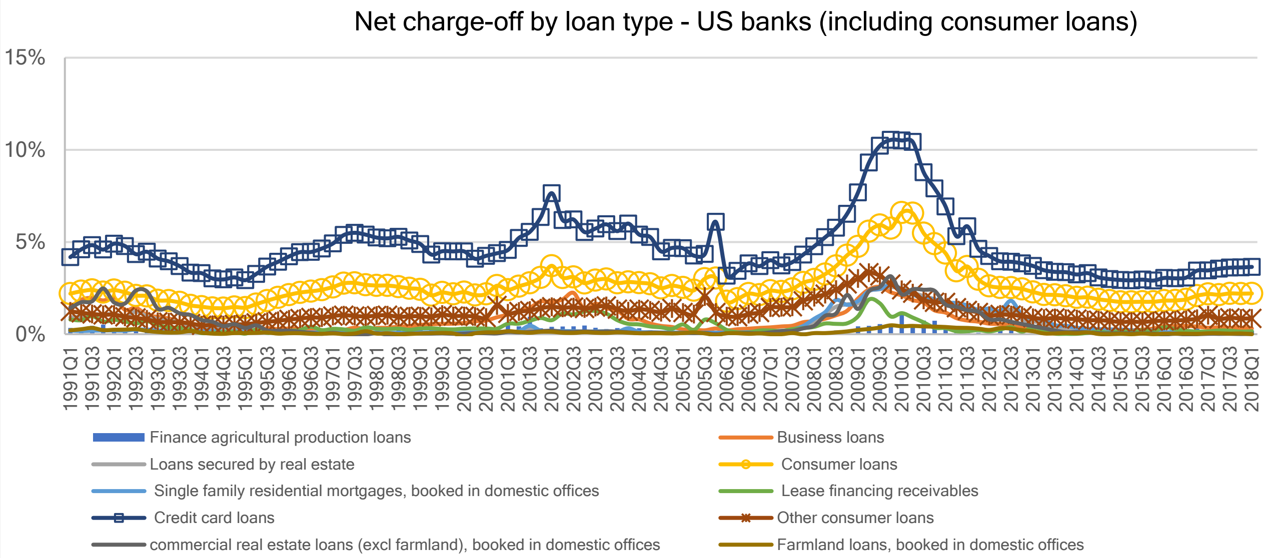


Figure 7—3 Net Charge-off by Loan Type (including consumer loans) – US banks (Compiled from US Federal Reserve website)

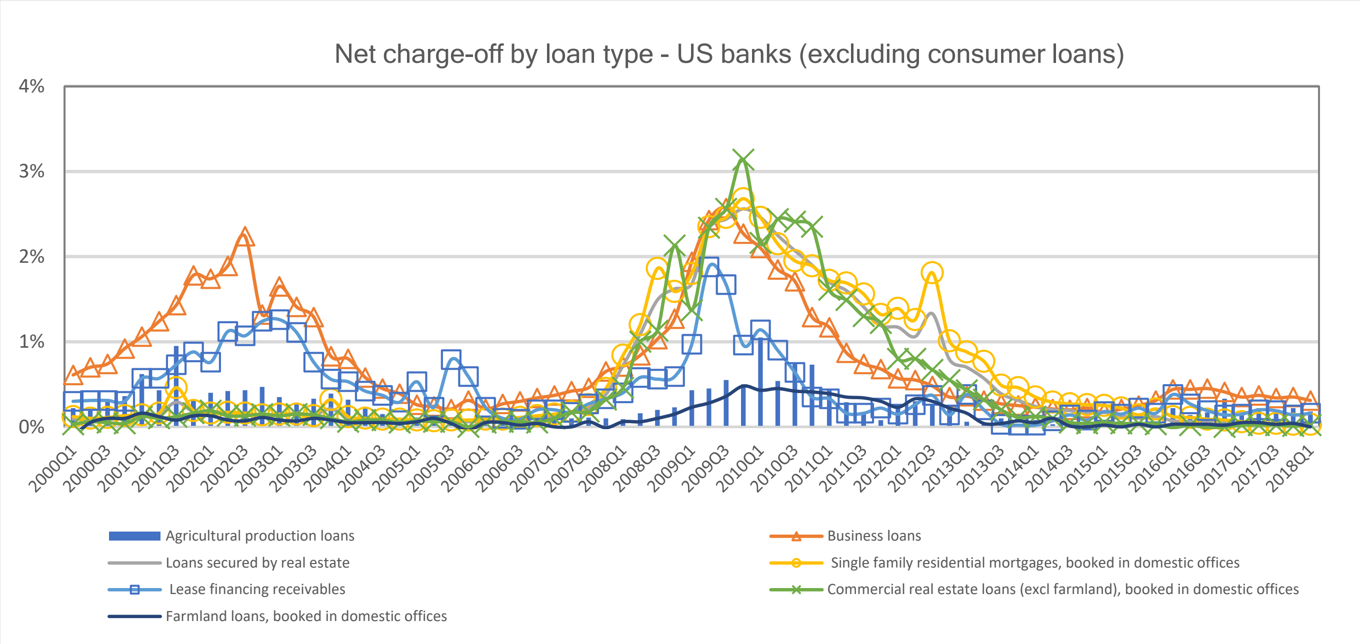


*Figure 7—4 Net Charge-off by Loan Types *(excluding consumer loans) – US banks (Compiled from US Federal Reserve website)*

Taking the lessons from the 2008 subprime crisis, we want to buy into a financial institution that has a diversified loan portfolio and avoid institutions with a high loan concentration in a certain segment. An example is Freddie Mac, whose loan portfolio is entirely in the real estate sector (Figure 7—5). If the housing industry becomes crippled again and borrowers default on loans, Freddie Mac risks bankruptcy.

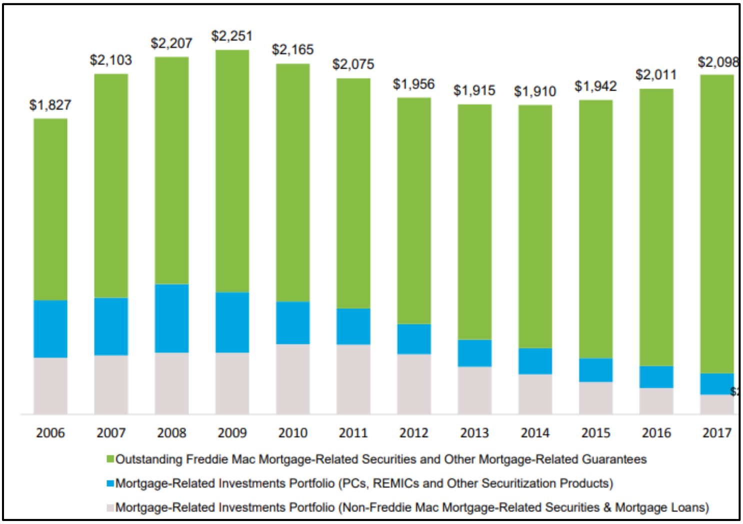


Figure 7—5 Freddie Mac Total Mortgage Portfolio
(From Freddie Mac's Investor Presentation August 2018)

An example of a bank that managed to avoid a crisis is DBS Bank in Singapore. From Figure 7—6, we see that between early 2014 and August 2017, the price of crude oil fell significantly, then subsequently recovered. Due to the fall in crude oil prices, many oil companies took a hit. Previously, DBS Bank had given loans to oil and gas companies; in 2015, these oil and gas companies were having a hard time paying

Figure 7—6 Five Year Crude Oil Price Chart (From InfoMine.com)

back their loans.

Fortunately, in 2015, DBS maintained a diversified loan portfolio as shown in Figure 7—7 and their loan portfolio is segregated into different industires. In 2015, DBS had a S$22 billion[4] exposure in the oil and gas industry and this makes up only 5.2% of the group's overall portfolio. Although the bank had taken a hit from companies that were unable to pay back their loans, DBS remained afloat as they had not put all their eggs in one basket, which was how

[4] Loan figure retrieved from DBS's Q3 2015 investor's presentation

Lehman Brothers went bankrupt during the 2008 subprime financial crisis.

Ideally, we want to buy into a financial institution with a diversified loan portfolio, with no loans concentrated in one particular segment.

Analysed by industry **In $ millions**	**Total**
2015	
Manufacturing	**34,761**
Building and construction	**58,890**
Housing loans	**58,569**
General commerce	**50,149**
Transportation, storage and communications	**29,350**
Financial institutions, investment and holding companies	**86,963**
Government	**34,501**
Professionals and private individuals (excluding housing loans)	**24,711**
Others	**42,389**
Total	**420,283**

Figure 7—7 DBS Loan Portfolio
(From DBS Annual Report 2015)

7.2.1 **Loan by Geography**

Another way to look at a loan portfolio is by geography. Looking at UOB Bank's loan portfolio by geography in Table 7-1, we observe that the bank has loan exposure in Singapore and other countries in Asia. My confidence would lie with a bank with loan exposure to countries that do not have low credit ratings. If UOB had loan exposures to countries with credit issues like Greece, I would be very concerned.

Analysed by geography	Total $ million
2017	
Singapore	135,007
Malaysia	34,863
Thailand	21,025
Indonesia	13,332
Greater China	61,847
Others	47,772
Total	313,846

Table 7-1 UOB's Loan by Geography (from UOB Annual Report 2017)

7.3 QUALITY OF LOANS

There are financial ratios we can study to determine the quality of loans. As you read on, you will realize that bad debt is very detrimental to a business.

For example, a bank loans $1 million to Adam Ltd, which subsequently runs into financial difficulty and goes bankrupt. The bank has no other options but to write off the loan to Adam Ltd as bad debt. Assuming the bank charges 3% interest, for the bank recover Adam Ltd's bad debt of $1 million, it must loan out approximately $34 million (3% x $34 million ≈ 1 million). And this is not even accounting for the cost of capital of the $34 million. The ratios discussed here are yardsticks to identify the amount of debt that have gone bad or could go bad to assess the quality of loans in a bank's portfolio.

7.3.1 **Non-Performing Assets / Total Loans**

To assess the quality of loans, one ratio we look at is Non-Performing Assets / Total Loans (NPA/TL). Non-performing assets consist mostly of loans for which the debtor has not made a single payment for the interest or principal within a specified period (usually 90 to 180 days depending on the type of loan). Non-performing assets (or non-accrual loans) have a high risk of going bad (not yet deemed as irrecoverable) and we do not want this number to be high. Hence, we want the NPA/TL ratio as low as possible.

Let us look at NPA/TL across Singapore and US banks. To understand what a good NPA/TL ratio is, we look at how a bank is doing compared to its competitors (Table 7-2). Across the five US-listed banks - JP Morgan, Bank of America, Wells Fargo, Citibank, and US Bancorp - we can see that US Bancorp has the lowest NPA/TL ratio, suggesting that US Bancorp is most prudent when giving out loans.

US-listed banks					
Bank	JPM	BAC	WFC	C	USB
Non-Performing Assets/Total Loans	0.69%	0.74%	0.91%	0.69%	0.43%

Table 7-2 Non-Performing Assets / Total Loans of US-listed Banks (From respective Annual Reports 2017)

SG-listed banks			
Bank	UOB	DBS	OCBC
Non-Performing Assets/ Total Loans	1.86%	1.85%	1.46%

Table 7-3 Non-Performing Assets / Total Loans Of SG-listed banks (From respective Annual Reports 2017)

Among the Singapore-listed banks, we see that OCBC has the lowest NPA/TL ratio (Table 7-3).

Where do we find these numbers? Let us use DBS as an example.

First, from DBS's annual report, look for "Non-Performing Assets" (download the bank's annual report, click *Ctrl + F*, and search *Non-performing assets*).

(iii) Non-performing assets (NPAs)	The Group 2017
In $ millions	
Balance at 1 January	4,856
New NPAs	3,396
Upgrades, recoveries and translations	-912
Write offs	-1,459
Acquisition of new business	189
Balance at 31 December	6,070

Table 7-4 DBS's Non-Performing Assets (From Annual Reports 2017)

Usually under the header "Credit Risk", we will find information on NPA. From Table 7-4, we will take this figure as S$6,070 million. Next, we identify "Total Loans". On the PDF annual report, click Ctrl + F and search Total gross loan or Total loans (depending on the bank's terminology).

By doing the same, we can find "Loans and advances to customers" and the figure for total loans is S$327,769 million (Table 7-5)

To calculate NPA/TL, we take S$6,070m / S$327,769m = 1.85%. Ideally, we want our bank to have a lower NPA/TL (below 2%).

41.2 Loans and advances to customers	The Group
In $ millions	2,017
Loans and advances to customers	
Performing Loans	
- Neither past due nor impaired (i)	320,270
- Past due but not impaired (ii)	1,982
Non-Performing Loans	
- Impaired (iii)	5,517
Total gross loans (Note 18)	327,769

Table 7-5 DBS's Total Gross Loan (From DBS Annual Report 2017)

7.3.2 **Net Charge-Off Rate %**

Unlike non-performing assets, net charge-offs (also known as "bad debts", "net credit loss", or "write-offs") are loans the bank has deemed irrecoverable and will be written off as an expense.

Clearly, banks do not want net charge-offs to make up a big part of the loans they issue. Thus, we must monitor this rate closely. Where can we find this rate?

The formula for net charge-off rate is:

$$Net\ charge\ off\ rate = \frac{Write\ offs}{Total\ loans}$$

Ctrl + F search keywords like *net charge*, *credit loss,* or *write-off*. Most Singapore-listed banks use the term "write-off", while US-listed banks refer to them as "net charge-off rate".

We will look for charge-off numbers in each scenario.

US-listed banks typically compute and report their charge-off rate on their annual report. Using JPM as an example, the search brings up a "five-year summary of financial highlights" (Table 7-6). US-listed banks usually include a page dedicated to displaying the key financial ratios that investors look for.

Financial	
(Unaudited) As of or for the year ended December 31, (in millions, except per share, ratio, headcount data and where otherwise noted)	2017
Selected income statement data	
Nonperforming assets	6,426
Net charge-offs(h)	5387
Net charge-off rate(h)	
Total Loans	931,738

Table 7-6 JPM's key ratios (From JPM Annual Report 2017)

As we can see, the absolute amount of debt that went sour was US$5,387 million. When we divide this by the total loans, we get 0.6% (5,387 m/ 931,738m ≈ 0.6%).

Let us look at Singapore-listed bank OCBC. First, we identify the debts written off. Figure 7—8 shows that "Amounts written-off" is S$602 million.

S$ million	Amount outstanding
Defaulted loans and bills receivable, and debt securities as at 30 June 2017	2,897
Loans and bills receivable, and debt securities that have defaulted in the second half of 2017	2,013
Return to non-defaulted status	(511)
Amounts written-off	(602)
Other changes (1)	(347)
Defaulted loans and bills receivable, and debt securities as at 31 December 2017 (1 + 2 - 3 - 4 ± 5)	**3,450**

Figure 7—8 OCBC's Defaulted Loans
(From OCBC Annual Report 2017)

Total Loans and Bills Receivables – Credit Quality	
	S$ million
Neither past due nor impaired	232,020
Not impaired	2,742
Impaired	1,208
Past due loans	3,950
Impaired but not past due	1,351
Gross loans	**237,321**
Specific allowances	(1,236)
Portfolio allowances	(1,417)
Net loans	**234,668**

Figure 7—9 OCBC's Total Gross Loans
(From OCBC Annual Report 2017)

Next, we look for total gross loans issued by OCBC. This can usually be found under "Credit Quality". From Figure 7—9, we see that "Gross Loans" amount to S$237,321 million.

Using these numbers, the net charge-off rate will be "Amounts written-off" divided by "Gross loans" (S$ 602m / S$ 237,321m) which gives us 0.25%. I have computed the net charge-off rate for banks listed in the US and Singapore (Table 7-7 and Table 7-8).

US-listed banks					
Bank	JPM	BAC	WFC	C	USB
Net Charge-off Rate	0.60%	0.44%	0.31%	2.07%	0.48%

Table 7-7 Net Charge Off of US-listed banks
(From respective Annual Reports 2017)

SG-listed banks			
Bank	UOB	DBS	OCBC
Net Charge-off Rate	0.14%	0.42%	0.25%

Table 7-8 Net Charge Off of SG-listed banks
(From respective Annual Reports 2017)

As we did with NPA/TL, we compare net charge-off rates for banks in the same country. We see that Wells Fargo is performing better than the other four US-listed banks (Table 7-7), and UOB has the lowest net charge-off rate among the three SG-listed banks (Table 7-8).

When choosing a bank to invest in, we want our bank to have one of the lowest net charge-off rates in the industry.

7.3.3 **30 Days Past Due / Total Loans**

What are 30 days past due (30 DPD) loans? These are loans where the borrower has not made payments for 30 days past the loan repayment deadline. This is a form of early detection as non-performing loans usually come from loans that are 90 days or more past due. If 30 DPD loans are kept to a minimum, we have fewer non-performing loans.

Not all banks include a summary of the overall loans that are 30 days past due. Let's see how this ratio is computed; we will use JP Morgan (JPM) as an example.

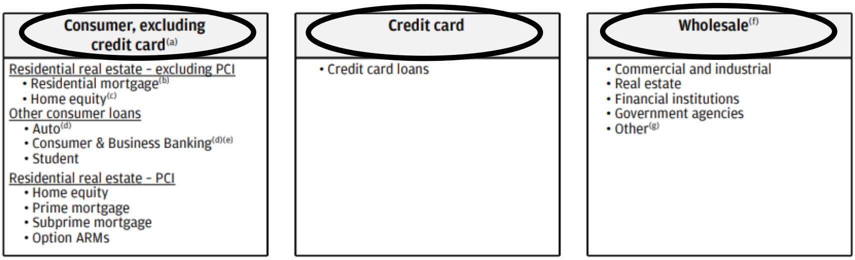


Figure 7—10 JPM's Loan Portfolio (From JPM Annual Report 2017)

First, identify all the loan portfolios. From Figure 7—10, we see that JPM's loan portfolio consists of three segments: consumer, credit card and wholesale loans. Now, we need to identify two key figures: (1) the amount of loans that are 30DPD, and (2) the size of each loan portfolio.

Residential real estate – PCI loans

December 31, (in millions, except ratios)	Total PCI 2017	2016
Carrying value[a]	$30,576	$35,679
Related allowance for loan losses[b]	2,225	2,311
Loan delinquency (based on unpai		
Current	$28,413	$33,342
30–149 days past due	1,620	1,543
150 or more days past due	5 1,584	2,086
Total loans	1 $31,617	$36,971

Other consumer loans

December 31, (in millions, except ratios)	Auto 2017	2016	Consumer & Business Banking[c] 2017	2016
Loan delinquency				
Current	$ 65,651	$ 65,029	$ 25,454	$ 23,920
30–119 days past due	584	773	213	247
120 or more days past due	6 7	12	7 122	140
Total retained loans	$ 3 66,242	$ 65,814	$ 4 25,789	$ 24,307

Residential real estate – excluding PCI loans

December 31, (in millions, except ratios)	Total residential real estate – excluding PCI 2017	2016
Loan delinquency[a]		
Current	$ 241,104	$ 222,074
30–149 days past due	4,905	4,474
150 or more days past due	8 3,937	5,001
Total retained loans	2 $ 249,946	$ 231,549

Consumer, excluding credit card in millions			
Type	30 days Past due	Sub total loan	
Residential real estate excl. PCL	$8,842 8	$249,946	2
Other consumer loans	$926 6 + 7	$92,031	3 +
Residential real estate PCL	$3,204 5	$31,617	1
Held for sale	NIL	$128	
Total	$12,972	$373,722	

Figure 7—11 Consumer Loan Excluding Credit Card Portfolio 30DPD / Total Loans (From JPM 2017 Annual Report 2017)

Wholesale in millions		
Type	30 days Past due	Sub total loan
Wholesale loan	$ 2 3,258	$ 402,898
Held for sale	NIL	$ 3,099
Fair value	NIL	$ 2,508
Total	$ 3,258	$ 408,505 1

Figure 7—12 Wholesale Loan Portfolio 30DPD / Total Loans (From JPM Annual Report 2017)

Wholesale loan portfolio

As of or for the year ended December 31, (in millions, except ratios)	Total retained loans 2017	2016
Loan delinquency[b]		
Current and less than 30 days past due and still accruing	**$ 399,640**	$ 380,518
30-89 days past due and still accruing	**1,383**	1,186
90 or more days past due and still accruing[c] 2	**141**	132
Criticized nonaccrual	**1,734**	1,954
Total retained loans 1	**$ 402,898**	$ 383,790

As of or for the year ended December 31, (in millions, except ratios)	2017	2016
Net charge-offs	**$ 4,123**	$ 3,442
% of net charge-offs to retained loans	**2.95%**	2.63%
Loan delinquency		
Current and less than 30 days past due and still accruing	**$ 146,704**	$ 139,434
30–89 days past due and still accruing	3 **1,305**	1,134
90 or more days past due and still accruing	4 **1,378**	1,143
Total retained credit card loans	**$ 149,387**	$ 141,711

Credit card in millions		
	30 days Past due	Sub total loan
Credit card loan	3 $ 2,683	$149,387 4
Held for sale	NIL	$ 124
Total	$ 2,683	$ 149,511

Figure 7—13 Credit Card Loan Portfolio 30DPD / Total Loans (From JPM Annual Report 2017)

From Figure 7—11, Figure 7—12 and Figure 7—13, we can add it up and see that the sum of 30 DPD loans is US$18,913 million and the total loans that JPM has are worth $931,738 million dollars. To compute 30 DPD/TL, we take US$18,913 million divided by US$931,738 million and get 2.03% (summarised in Table 7-9 below).

JPM (US$ millions)			
	30DPD loans	Sub-total	30DPD/TL
Consumer loan	$12,972	$373,722	3.47%
Credit card loan	$2,683	$149,511	1.79%
Wholesale loan	$3,258	$408,505	0.80%
Total	$18,913	$931,738	2.03%

Table 7-9 JPM's 30DPD Loan Calculation
(Computed by authors using data from JPM Annual Report 2017)

This process can be tedious if the 30 DPD/TL ratio has not already been calculated for you in the annual report. With this example, I have done the calculations for you, and you can practice this on your own.

Table 7-10 and Table 7-11 provide the respective 30 DPD/TL ratios for banks listed in Singapore and in the US for FY2017.

US-listed banks	JPM	BAC	WFC	C	USB
30DPD/TL	2.03%	1.44%	4.25%	2.19%	1.05%

Table 7-10 30DPD loans / Total Loans of US-listed banks
(Computed by authors using data from respective FY2017 Annual Reports)

SG-listed banks	UOB	DBS	OCBC
30DPD/TL	0.50%	0.11%	0.64%

Table 7-11 30DPD loans / Total Loans of SG-listed banks
(Computed by authors using data from respective FY2017 Annual Reports)

From what we have worked out, it looks like Singapore-listed banks generally have a lower 30 DPD/TL (Table 7-11) compared to US-listed banks (Table 7-10). This could suggest a more cautious lending approach, or tighter banking regulations faced by Singapore banks.

When comparing across the board, we want to invest in a bank that has a lower 30 DPD/TL in the industry. We also want to keep track of this ratio (whether it is rising compared to the previous years).

7.3.4 **Loan-to-Value**

Another metric we can look at is loan-to-value (LTV) ratio, especially when it comes to residential mortgages. In the event of a loan default, we want to be sure that the bank we invested in will not lose the entire sum of the loan.

Loan-to-value ratio is calculated as follows:

$$\boxed{Loan\ to\ value\ \% = \frac{Loan\ issued}{Value\ of\ property}}$$

For example, if a property backing a loan is worth $1 million and the loan-to-value ratio is 80%, it means that the loan provided by the bank is $800,000. The lower the loan-to-value ratio, the “safer” it is for the bank.

Comparing an 80% LTV and 50% LTV loan for a property worth $1 million, should the 50% LTV borrower default, the bank has $1 million backing its $500,000 loan ($2 backing per dollar of money lent). However, for the 80% LTV loan, the bank has $1 million backing its $800,000 loan. That is only $1.25 backing per dollar of money loaned.

We can find LTV data in the annual reports of the banks. Let us look at USB’s LTV for its residential portfolio (Figure 7—

Residential Mortgages (Dollars in Millions)	Interest Only	Amortizing	Total	Percent of Total
Loan-to-Value				
Less than or equal to 80%	$ 1,918	$ 49,274	$51,192	85.6%
Over 80% through 90%	12	3,515	3,527	5.9
Over 90% through 100%	9	748	757	1.3
Over 100%	2	656	658	1.1
No LTV available	5	36	41	.1
Loans purchased from GNMA mortgage pools(a)	–	3,608	3,608	6.0

Figure 7—14 USB's Residential Mortgage LTV Data (From USB Annual Report 2017)

14). We see that 85.6% of USB's loans have an LTV ratio that is less than 80%.

Ideally, the lower the LTV ratio is, the better for the bank.

7.4 KEY METRICS

In this section, we examine key metrics to evaluate a bank's efficiency and performance.

7.4.1 Net Interest Margin

Net interest margin is the "profit" earned by a bank when it lends money (less the cost of capital like interests paid for deposits, i.e. fixed deposits).

Assuming a bank earns 4% of interest income for lending money and pays its depositors 1% for putting their money in the bank, the bank earns the difference of 3%. This difference is known as the Net Interest Margin (NIM).

The formula for NIM% is:

("Interest income" – "Interest expense") / ("Total earning assets").

$$NIM\ \% = \frac{Net\ interest\ income}{Total\ Earning\ Asset}$$

Net Interest Income is computed as "interest income" minus "interest expense". Earning assets are basically assets like cash that can generate earnings for the bank.

Let us use Bank of America (BAC). To compute its NIM, we look for net interest income and average earning assets.

Table 2	Summary Income Statement
(Dollars in millions)	2017
Net interest income	44,667

Table 7-12 BAC's Net Interest Income (From BAC Annual Report 2017)

Table 9	Average Balances and Interest Rates
(Dollars in millions)	2017
Total earning assets	1,922,061

Table 7-13 BAC's Total Earning Assets (From BAC Annual Report 2017)

From Table 7-12 and Table 7-13, we see that the net interest income is US$44,667 million and the total earning assets amount to US$1,922,061 million. To find NIM, we take net interest income divided by total earning assets = US$ 44,667m / US$ 1,922,061m = 2.32%

Below, I have computed the NIM for US- and SG-listed banks to give you a benchmark (Table 7-14 & Table 7-15).

US-listed banks	JPM	BAC	WFC	C	USB
NIM %	2.30%	2.32%	2.79%	1.63%	3.01%

Table 7-14 NIM of US-listed banks
(Computed by authors using data from respective Annual Reports 2017)

SG-listed banks	UOB	DBS	OCBC
NIM %	1.77%	1.75%	1.65%

Table 7-15 NIM of SG-listed banks
(Computed by authors using data from respective Annual Reports 2017)

One thing to note: In a climate of rising interest rates, NIM tends to increase, as banks can charge a higher interest rate, which is good news for banks as a higher NIM would mean higher earnings.

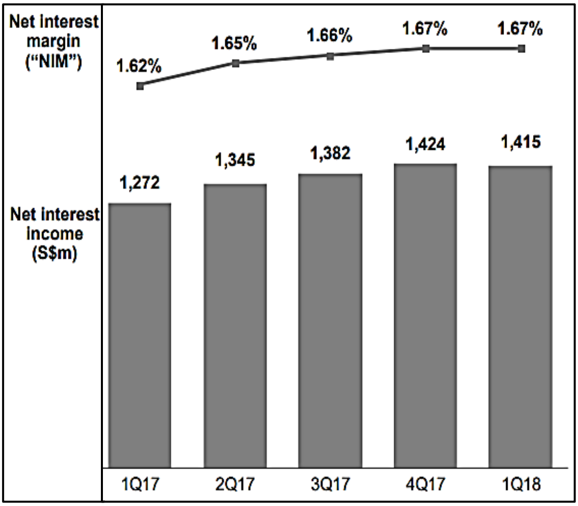


Figure 7—15 OCBC Quarterly NIM
(From OCBC's Q1 2018 Investor's Presentation)

Looking at Figure 7—15, we see that OCBC's NIM has been increasing almost every quarter from 2017 to Q1 2018.

In summary, we would choose a bank with a higher NIM as compared to its peers. However, if a bank's NIM is exceptionally high, we must study the quality of its loans carefully as the bank might be taking on larger risks to get very high returns or margins.

7.4.2 **Growth in Deposits**

The only way for a bank to grow its earnings is to grant more loans and earn interest income. However, the bank needs money (deposits) before it can lend out money. One way for banks to get more money is to grow the number of deposits from customers.

There are two ways in which a bank can grow deposits:

[1] organically, by coming up with attractive promotions such as higher fixed deposit rates to attract consumers to put money in the bank; and

[2] inorganically, by acquiring another bank and taking over the deposits of the acquired bank.

An example of a company that managed to grow its deposits well is Wells Fargo ("WFC") (Figure 7—16).

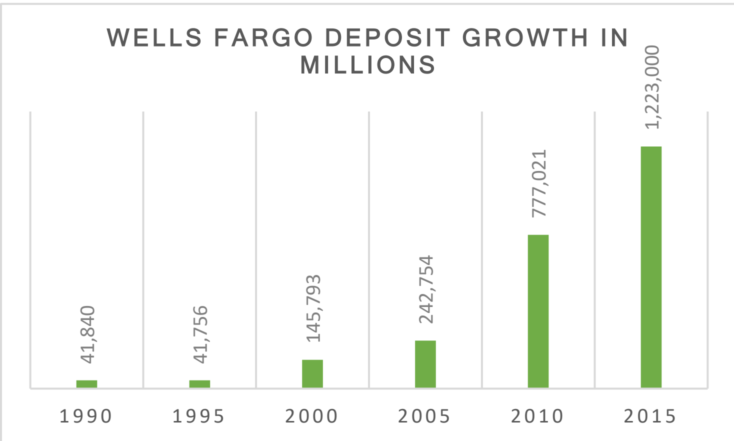


Figure 7—16 WFC Deposit Data (From Buriedvalue.com)

Not surprisingly, with more deposits, WFC could lend out more money and earn more interest income. No wonder it was one of Warren Buffett's favourites!

Looking at WFC's stock price (Figure 7—17), you can see that investing in a bank with a strong history of growing deposits can compound your wealth extremely well – a whopping 5,000 percent over a period of 40 years!

Figure 7—17 WFC's Historical Stock Price
(From Google Finance)

7.4.3 **Return on Assets %**

Return on assets (ROA) is widely used to measure a bank's efficiency and was popularised by Warren Buffett who said, "Well, a bank that earns 1.3% or 1.4% on assets is going to end up selling above tangible book value. If it's earning 0.6% or 0.5% on the asset, it's not going to sell."

What is ROA? ROA is computed as follows:

$$\boxed{ROA\ \% = \frac{Net\ Profit\ After\ Tax}{Total\ Assets}}$$

ROA measures how much money you are getting back for every dollar of assets in the business. If ROA is 10%, it means that for every $1 of assets, you earn $0.10 in income.

ROA helps us quantify how well a bank is using its assets to make money. The higher the ROA, the better. Warren Buffett thinks that a bank with an ROA of 1.3% and higher is pretty good. Let us take his yardstick and look at the banks we have studied.

ROA is usually calculated by the banks and published in their annual report. To find the ROA, click *Ctrl + F*, then look for *Return on assets*.

TABLE 1 Selected Financial Data

Year Ended December 31 (Dollars and Shares in Millions, Except Per Share Data)	2017
Financial Ratios	
Return on average assets	1.39%

Figure 7—18 USB's Key Ratios
(From USB Annual Report 2017)

Looking at USB (Figure 7—18), we see that it achieved an ROA of 1.39%, which is considered good by Warren Buffett's yardstick.

Below are two tables showing the ROA% of banks listed in US and Singapore (Table 7-16 and Table 7-17)

US listed banks	JPM	BAC	WFC	C	USB
ROA %	0.96%	0.93%	1.15%	0.84%	1.39%

Table 7-16 ROA of US-listed Banks
(Compiled from respective Annual Reports 2017)

Table 7-17 ROA of SG-listed Banks

SG listed banks	UOB	DBS	OCBC
ROA %	0.98%	0.89%	1.14%

(Compiled from respective Annual Reports 2017)

To conclude, the higher the ROA, the better a bank is at managing its assets to generate money.

7.4.4 **Efficiency Ratio**

The last metric we will look at is the efficiency ratio. It is calculated as follows:

$$Efficiency\ ratio\ \% = \frac{Non - Interest\ Expense}{Total\ Revenue}$$

Non-interest expenses are those related to running the bank, excluding the interest expenses that it pays on customers' deposits. They include salaries, utilities, and marketing expense. This ratio represents the percentage of money earned by the bank that is spent on expenses. Thus, the lower the ratio, the better it is as we want expenses to be kept as low as possible.

Using JPM as an example, we will look for two figures in the income statement: [1] non-interest expense, and [2] total revenue.

From Table 7-18, we see that total net revenue amounted to US$99,624 million, and non-interest expense was US$58,434 million. That makes an efficiency ratio of 58.7% (US$ 58,434m / US$ 99,624m = 58.7%).

Consolidated Statements of Income	
Year ended December 3 (in millions)	FY2017
Total net revenue	99,624
Total noninterest expense	58,434

Table 7-18 Income Statement (From JPM Annual Report 2017)

Let us compare efficiency across banks in the US and Singapore (Table 7-19 and Table 7-20).

US-listed banks	JPM	BAC	WFC	C	USB
Efficiency Ratio %	58.7%	63.0%	66.2%	58.0%	58.8%

Table 7-19 Efficiency Ratio of US-listed banks (Compiled from respective Annual Reports)

SG-listed banks	UOB	DBS	OCBC
Efficiency Ratio %	45.5%	43.0%	41.9%

Table 7-20 Efficiency Ratio of SG-listed banks (Compiled from respective Annual Reports)

A quick look will show that Singapore-listed banks seem to be more efficient than US-listed banks, which have a higher efficiency ratio.

Ideally, we want to own stocks of a bank which has a lower efficiency ratio.

7.5 REMUNERATION POLICY

This is important – if a bank incentivises the wrong behaviour, bad things might happen. Before the 2008 financial crisis, sales teams were incentivized to sell as many subprime loans as possible. The more loans they sold, the more they were paid. They were not penalized if the loans went bad. This encouraged bankers to lend money irresponsibly as they were incentivized to achieve a loan quota, rather than ensure that the customer could pay back the loan.

Similarly, for Wells Fargo, the scandal happened because staff were incentivised to increase the number of customers registering with the bank to hit their sales goal (Figure 7—19). WFC would sign customers up without their permission, and bank charges were then levied on customers for services they had not signed up for. By incentivising staff to sign up quality customers, WFC hoped to acquire customers who would stay on and use Wells Fargo as their go-to bank.

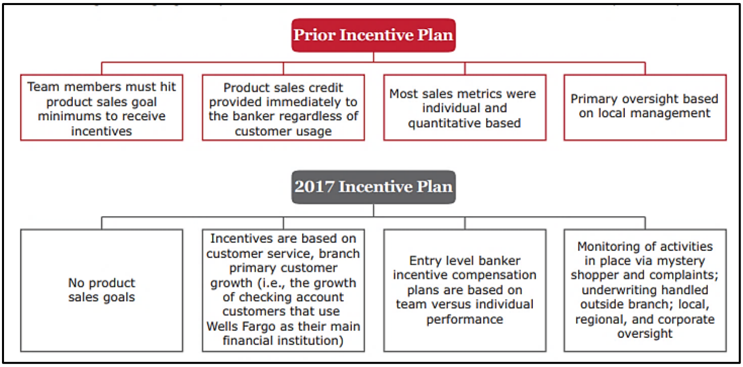


Figure 7—19 Wells Fargo Incentive Plans
(From WFC Annual Report 2017)

7.6 VALUATION

Warren Buffett's take on valuing banks:

"Book value is not key to valuing banks. Earnings are key to valuing banks. Now, it translates to book value to some extent because you're required to hold a certain amount of tangible equity compared to the assets you have. But you've got banks like Wells Fargo and USB that earn very high returns on assets, and they at a good price to tangible book. You've got other banks ... that are earning lower returns on tangible assets, and they're going to sell -- they're going to sell [for less]."

Warren Buffett is simply saying that we do not value banks using book value or the price-to-book ratio because, there are fast-growing banks (e.g., WFC and USB that have high ROA%). Using an analogy, if we were to value Apple (AAPL) using book value, we would grossly miss out the company's real value as AAPL is a tech stock that had high growth back then. Similarly, with bank stocks, Warren Buffett feels that there are certain banks that grow faster, and it does not make sense to value them on book value as these banks will often be valued above book value.

Shown below (Figure 7—20) is a post in 2013 by Motley Fool illustrating what Warren Buffett meant. Banks like USB, WFC, and PNC (with a ROA higher than 1.3%) always had a price-to-tangible book value greater than 1. It would be futile to wait for their price-to-tangible book value to go below 1, as these banks are performing better than their peers in the industry. Meanwhile, their counterparts, BAC, JPM, and C (not doing as well) were selling at a lower price-to-tangible book value ratio.

Bank	Return on Assets (Avg. Since 2002)	Price to Tangible Book Value
U.S. Bancorp	1.69%	2.61x
Wells Fargo (NYSE:WFC)	1.37%	1.62x
PNC	1.37%	1.33x
Bank of America (NYSE:BAC)	0.82%	0.9x
JPMorgan Chase (NYSE:JPM)	0.70%	1.27x
Citigroup (NYSE:C)	0.60%	0.84x

Figure 7—20 ROA Vs Price to Tangible Book Value (From Fool.com)

The key is to use earnings to value the bank we want to buy.

7.6.1 **PE/ROTE**

One of the ways we can value a bank is to use Price to Earnings / Return on Tangible Equity (PE/ROTE).

What is PE/ROTE? It is like the price/earnings to growth (PEG) ratio. If we only look at the PE ratio of a bank, we are not accounting for its efficiency. If a bank is valued at a PE of 20, it may seem like it is valued at a high multiple. However, if you were told that this bank that is valued at a PE of 20 has an ROTE of 30%, would this sound expensive to you? PE/ROTE accounts for the returns that a bank can give back, i.e. the price multiple you pay for the quality of the bank.

How do we calculate ROTE? ROTE = Net Income / Tangible Equity.

$$\boxed{ROTE = \frac{Net\ Income}{Tangible\ Equity}}$$

To find tangible equity, we take Total Equity, minus Goodwill and Intangible Assets. Most US-listed banks calculate and report tangible equity. For Singapore-listed banks, let us use UOB as an example to calculate this.

In Figure 7—21 below, we can find intangible asset and total equity in the balance sheet, and net income in the income statement.

Balance Sheets

as at 31 December 2017

	Note	The Group 2017 $'000	The Group 2016 $'000
Equity			
Share capital and other capital	14	7,765,643	6,351,013
Total equity		37,036,595	33,041,788
Assets			
Intangible assets	34	4,141,919	4,151,045

UOB	Millions
Total equity	$ 37,036
Goodwill and IA	$ 4,142
Tangible equity	$ 32,894
Net income	$ 3,840
ROTE	11.67%

Statements of Comprehensive Income

for the financial year ended 31 December 2017

	The Group 2017 $'000	The Group 2016 $'000
Total comprehensive income for the financial year, net of tax	3,840,404	2,856,382

Figure 7—21 Computing UOB ROTE
(From UOB Annual Report 2017)

Once identified as shown in Figure 7—21, we work out that tangible equity = S$37,036m – S$4,142m = $32,894m.

$$\boxed{Tangible\ Equity = \quad Total\ Equity - (Goodwill + Intangible\ Assets)}$$

To find ROTE, we take net income (S$3,840m) divided by tangible equity (S$32,894m) = 11.67%.

Now, to find PE/ROTE, we take the PE ratio of UOB divided by 11.67(the ROTE). For example, if the PE ratio of UOB is 11.67 and the ROTE is 11.67%, the PE/ROTE ratio will be 11.67/11.67 = 1.

Table 7-21 and Table 7-22 show the ROTE of the US and Singapore-listed banks that we have referred to in this chapter.

US-listed bank	JPM	BAC	WFC	C	USB
ROTE % FY 2017	12.00%	11.00%	13.55%	8.10%	18.16%

Table 7-21 ROTE of US-listed banks
(From respective Annual Reports)

SG-listed bank	UOB	DBS	OCBC
ROTE % FY 2017	11.67%	9.51%	10.41%

Table 7-22 ROTE of SG-listed banks
(From respective Annual Reports)

What is the ideal PE/ROTE? Like the PEG ratio, we want PE/ROTE to be less than 1, which is considered undervalued.

7.7 SUMMARY

In summary, these are the main characteristics to assess when we analyse a bank:

- Is the bank issuing loans responsibly and keeping risk as low as possible? For this, we analyse the loan portfolio and metrics to determine the quality of loans issued (Loan Portfolio and Quality of Loans section).
- Is the bank efficient and growing? For this, we look at NIM, ROA, and efficiency ratio (Key Metrics Section).
- Is the stock cheap relative to its value? For this, we check the bank's PE/ROTE ratio (Valuation Section).

8 REITs Industry

What are REITs (Real Estate Investment Trusts)? Most of the shopping malls, office buildings, hospitals or industrial buildings are part of a REIT! A REIT consists of a basket of properties, which could be shopping centres, hospitals or office buildings.

Take Frasers Centrepoint Trust (SGX: J69U) and First REIT (SGX: AW9U) as examples. They contain a basket of shopping malls and hospitals respectively (Figure 8—1 and Figure 8—2).

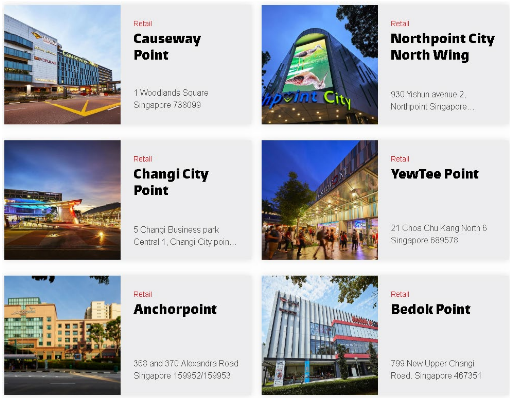


Figure 8—1 Frasers Centrepoint Trust Portfolio (From FCT's website)

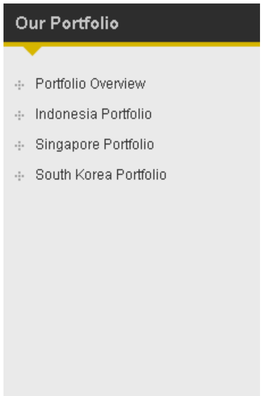


Figure 8—2 First REIT Portfolio (From First REIT's website)

In this Chapter, we discuss examples of REITs listed in Singapore. Nevertheless, the key principles are relevant to REITs listed in other countries.

8.1 STRUCTURE OF REITS

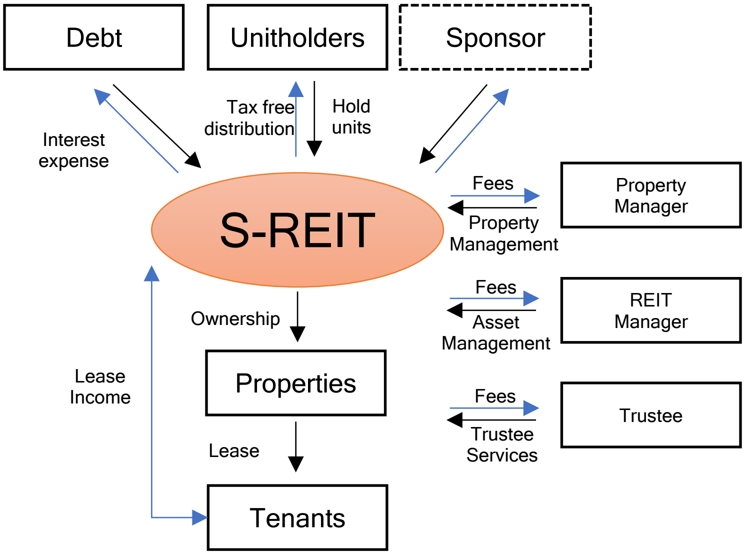


Figure 8—3 Structure and Components of REITs
(From sias.org.sg)

8.1.1 **Unitholders**

REIT investors are known as unitholders. REITs raise money by combining money from unitholders via an Initial Public Offering (IPO) and by borrowing money from the bank (debt). With the amount of money pooled from unitholders and the bank loan, the REIT acquires a portfolio of properties that generates rental income. Rental income earned by the REIT is 'returned' to unitholders in the form of distribution (similar to dividends).

8.1.2 **Debt**

Debt is incurred when a REIT takes a loan from the bank. Singapore regulations do not allow a REIT to borrow more than 45% of its total asset value.

8.1.3 **Sponsor**

Sponsors source properties to be included in the REIT portfolio when a REIT undergoes an IPO. A strong sponsor can give the REIT a pipeline of positive-cash flow properties as future acquisition targets. Typically, the sponsor owns a stake in the REIT. For example, the sponsor for Frasers Centrepoint Trust (FCT) is Frasers Centrepoint Limited (FCL), which owns a 41.7% stake in FCT.

8.1.4 **REIT Manager**

The role of the REIT manager is to maximise returns to unitholders by identifying which properties to buy and sell, and to execute asset-enhancing initiatives on existing properties. The REIT manager charges a management fee that consists of a flat fee and performance fee.

8.1.5 **Property Manager**

Property managers take care of things “on the ground”. They deal with marketing, rent collection, and facilities. They ensure that buildings meet cleanliness and safety standards and are well-maintained, i.e. faulty fixtures are promptly replaced or repaired. Fees are collected by the property manager for their service in maintaining the REIT’s assets.

8.1.6 **Trustee**

The main role of a trustee is to safeguard the interest of unitholders. The trustee holds the assets in a REIT on behalf of its unitholders and is responsible for legally approving proposals made by the REIT manager. The trustee also ensures that the REIT remains compliant with regulations and law.

8.2 ADVANTAGES

When it comes to REITs, an easy acronym to remember is **MMLTD** (My Money Loves To Duplicate!) – to remember and understand the advantages and drawbacks of owning a REIT. **MMLTD** = **M**anagement, **M**aintenance, **L**ow Barrier to Entry, **T**ax and **D**iversification.

8.2.1 **Management**

When it comes to owning property, it can be a hassle to manage and maintain – this is best left to the experts!

What goes into property management?

Identifying a good location is the first challenge, assuming you have the experience to do so (many do not). Thorough due diligence is critical, or there will be difficulties selling or leasing space. Availability of amenities, e.g., public transport, food centres and amenities, makes all the difference to the users and occupants of the property. In landlocked cities, you may not be able to buy a property in a good location even if you can afford it!

The amount of paperwork that comes with buying a property can be overwhelming. It is not uncommon for legal paperwork to take months to process. Subsequently, if you want to exit your position (cash out) on a property, it is hard (if at all possible) to predict or estimate how long this may take.

When you own a REIT, these are taken care of by experienced professionals. In fact, if you (a unitholder) want to cash out on a REIT, you can do it with the click of a button via your stock trading platform.

8.2.2 **Maintenance**

Every day, occupants of properties face pipe leakages, faulty lights, general security of the building, maintenance of common areas, broken fixtures… the list is long. This the responsibility of the property owner. Do you look forward to that phone call from your tenant, complaining that their ceiling is leaking?

By owning a REIT, the property manager of the REIT takes care of all this 24/7.

8.2.3 **Low Barrier to Entry**

Generally, owning a property requires a significant amount of capital.

REITs generally have a low barrier to entry. In terms of absolute dollars, the highest-priced REIT on the Singapore Exchange at the time of writing is Parkway Life REIT (S$2.72). With the minimum number of shares to purchase set at 100, you only need S$272 to own a part of Parkway Life REIT's properties, compared to hundreds and thousands of dollars (or more!) to own a property.

8.2.4 **Tax**

In Singapore, taxes are not imposed on capital gains and dividends. As an individual, you do not need to pay taxes on dividends. This means that you can pocket 100% of the distribution paid out by the REIT you own. As long as your REIT pays out 90% of its taxable income to unitholders, it will enjoy a tax transparency treatment, i.e., even on a corporate level, your REIT is not subjected to tax! On the contrary, non-REIT companies listed on SGX generally must pay corporate taxes of 17%. Let's compare this in Table 8-1.

	SGX REITs	*Calculation*	Non-REIT on SGX	*Calculation*
Profits before tax	$1		$1	
Government Tax %	0%		17%	
Tax paid to government on corporate level	$0	*0% x $1 = $ 0*	$0.17	*17% x $1 = $0.17*
Profits available for distribution to unitholders	$1.00	*$1 - $0 = $0*	$0.83	*$1 - $0.17 = $0.83*
Individual tax on dividends	0%		0%	
Tax paid to government on individual level	$0		$0	
Net dividend (distribution) received by investor after tax	$1.00	*$1 - $0 = $1*	$0.83	*$0.83 - $0 = $0.83*

Table 8-1 REITS vs non-REITS: Tax Calculation (created by authors)

From the example in Table 8-1, we can see how corporate tax can erode the returns of an investor. If two entities' earnings are the same, and they both pay out 100% of their income, for every dollar, a person who invests in a non-REIT dividend company will receive 17 cents less dividends due to tax. This is one of the biggest advantages of owning a REIT.

Apart from that, if you already own a property in Singapore and intend to buy another property in Singapore as an investment, you must pay an additional 12% stamp duty on this ‘investment’ property. For tax efficiency, you are better off buying a REIT where the tax advantages are on your side.

8.2.5 **Diversification**

Realistically, most of us do not have the chance to own more than ten properties in our lifetime. Even if they were to buy only one property for the purpose of investing, an individual could face problems such as natural disasters which could destroy their fortune overnight, or they might not be able to find tenants to subsidize mortgage payments.

With that in mind, owning REITs spreads your risk across the properties in the REIT’s portfolio. Finding or keeping tenants differs from one property to the next, so higher-performing properties defray some of the risks associated with low occupancy. In a broader sense, one single challenge may not do significant damage to a diversified portfolio. The powerful advantage of a REIT allows you to diversify your (property) risk with little money, unlike buying properties yourself where you would need a significant sum of money to own more than 10 properties and be responsible for managing those properties yourself.

8.3 CRITERIA FOR REITS

8.3.1 Portfolio of Properties

Where can we find what properties our REITs own?

Every REIT listed on the SGX has an investor relations website. Head to Google.com and type "[REIT name] portfolio". For example, searching MapleTree Industrial Trust (MIT), this appears at the top of the search results:

Clicking this, we can see an overview of all the properties under MIT.

We see that "MIT's portfolio comprises 85 industrial properties in Singapore and 14 data centres in the United States of America". To know more about MIT's specific properties, you can navigate within its side tabs, "Central",

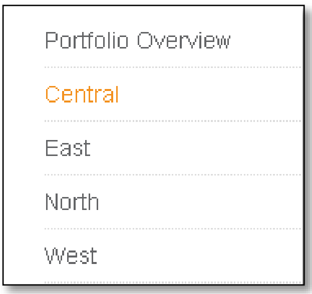
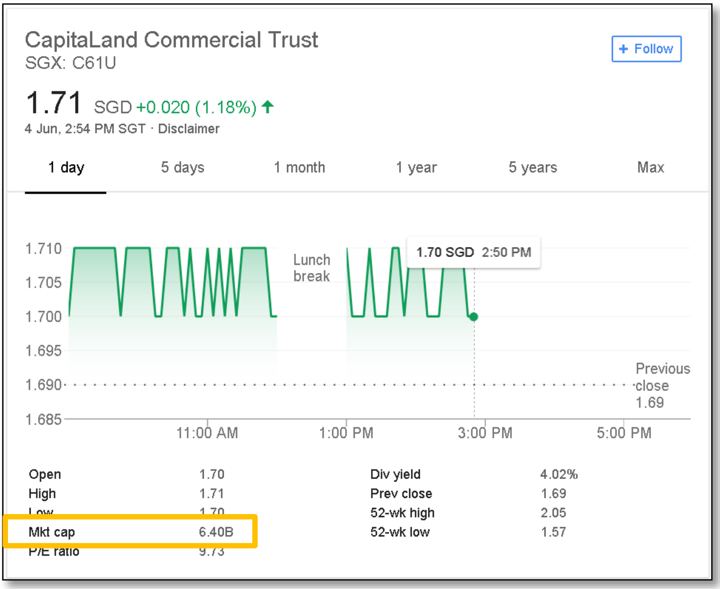


Figure 8—4 MIT's Portfolio (From MIT's Website)

"East", "North" and "West"(Figure 8—4).

A REIT with a portfolio of more than 10 properties is generally considered diversified. One could also look at its market capitalization. If the REIT's market capitalization is more than S$1 billion, it is of considerable size, and would likely bear a portfolio of diversified properties.

Market capitalization is the stock price multiplied by the number of shares in the market. Simply put, it is the amount of money you need to buy out all the shares in the stock market to own the entire REIT. To find the market capitalization of a REIT, you search Google for "[REIT name]



market cap". Using CapitaLand Commercial Trust as an example, a Google search will show you the market capitalisation (S$6.4 billion).

8.3.2 **Gearing Ratio**

Businesses fail because of their inability to pay off debts. If we own a REIT, this is something important to consider, and we should watch the REIT's debt every quarter.

When we buy a REIT, we want our REIT to have a gearing ratio of less than 0.35. What is gearing ratio? The formula for gearing ratio is:

$$\boxed{Gearing\ ratio = \frac{Total\ Borrowings}{Total\ \ Assets}}$$

If a REIT has a gearing ratio of 0.35, it means that for every \$1 of asset the REIT has, it has \$0.35 of debt. To put it simply, we do not want to borrow more than what we have. If we only have \$1, we do not want to borrow more than \$1.

We do not want our REITs to take on more debt than the total assets owned. A conservative gearing ratio would be 0.35.

Gearing ratio is available at www.reitdata.com, or from the annual report of the REIT you are looking at. www.reitdata.com allows you to sort by gearing ratio (Figure 8—5).

REIT	Period	Mkt	DPU cts	Yield	NAV	Gearing
AIMSAMP Cap Reit	Q3 - Dec17	1.290	2.620	8.101%	$1.351	33.80%
Ascendas Reit	Q3 - Dec17	2.560	3.970	6.223%	$2.030	35.20%
Ascott Reit	2H - Dec17	1.070	3.730	6.622%	$1.210	36.20%
BHG Retail Reit	2H - Dec17	0.650	2.730	8.400%	$0.830	32.20%

Figure 8—5 Reitdata.com Financial Data
(From Reitdata.com)

8.3.3 **Debt Maturities**

Another insightful way to look at a REIT's debt is to look at its debt maturity profile.

Debt Maturity Profile		
Timeframe	Amount Due (S$ million)	As % of total borrowings
<1 year	152	19.10%
1 to 2 years	120	15.00%
2 to 3 years	230	28.80%
3 to 4 years	266	33.30%
> 4 years	30	3.80%
Total Borrowings	798	100%

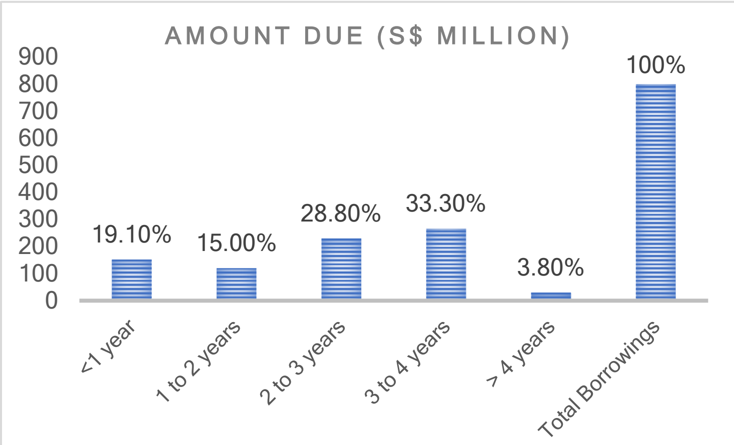


Figure 8—6 FCT Debt Maturities (from FCT Annual Report 2017)

We want to know the upcoming debt obligations a REIT must fulfil, and if their debt obligations are spread out over upcoming years without major concentration of debt obligations in a single year.

Take Frasers Centrepoint Trust (FCT) as an example. We can see that the management has spread the REIT's debt obligation evenly over four years without major concentration of debt maturities in one particular year (Figure 8—6).

If debt was not spread equally, the REIT will face periods where it needs to refinance more (and incur more interest on additional borrowing). Another key metric we can look at is known as Average Debt Maturity. It tells us the average number of years FCT's debt will take to mature when we look at all the debts as a whole.

From the annual report, we can also find a REIT's sources of funding. Table 8-2 shows FCT's sources of funding.

Sources of Funding	Type	Capacity (millions)
Revolving credit facilities	Unsecured	140
Medium Term Note Programme	Unsecured	1,000
Bank borrowings	Unsecured	60
Bank borrowings	Secured	286
Multicurrency Debt Issuance Programme	Unsecured	3,000
Total		4,486

Table 8-2 FCT Sources of Funding (from FCT Annual Report 2017)

The key here is to be sure that the REIT's debt maturities are spread over a number of years.

8.3.4 **Cost of borrowing**

Apart from looking at the REIT's debt maturity profile, we also look at the cost of borrowing. We want the cost of borrowing to be as low as possible. This is important in a climate of rising interest rates. When interest rates rise, the cost of borrowing increases, and REITs can be caught with too much interest expense.

When comparing the cost of borrowing for REITs, we should compare between two REITs in the same category, i.e., a retail REIT with another retail REIT. Where do we find the cost of borrowing? We can find it in the annual report, usually under "Capital Management" or "Capital Resources". You can also search via *Ctrl + F* on your computer for *cost of borrowing* or *cost of debt*.

Let us now compare two retail REITs: Frasers Centrepoint Trust (FCT) and CapitaLand Mall Trust (CMT).

Financial Year ended 30 September	2017	2016
Total Borrowings	$798 million	$734 million
Gearing	29.00%	28.30%
Interest Coverage	6.85 times	7.33 times
Average cost of borrowing	2.32%	2.10%
Average Debt Maturity	2.3 years	2.7 years

Table 8-3 FCT's Cost of borrowing (From FCT Annual Report 2017)

Key Financial Indicators as at 31December	2017	2016
Interest Coverage	4.8x	4.8x
Average Term to Maturity (years)	4.9 years	5.3 years
Average Cost of Debt	3.20%	3.20%

Table 8-4 CMT's Cost of borrowing (From CMT Annual Report 2017)

We can see (Table 8-3 and Table 8-4) that FCT's cost of borrowing has increased from 2.10% to 2.32% from 2016 to 2017, while CMT's cost of borrowing remained the same for the same period, at 3.2%.

Even though FCT's cost of borrowing has increased, we see that it is still lower than that of CMT. Cost of borrowing is important. If it gets too high, the REIT could run into problems paying off debt.

Additionally, if cost of borrowing increases, distributable income (for unitholders) will also decrease and affect distribution yields.

In this climate of rising interest rates, REITs usually try their best to borrow money at fixed interest rates rather than at floating rates (adjusted to the market's interest rates which are rising).

We will look at the percentage of loans with fixed interest rates, and loans with floating (variable) interest rates.

	Weighted average interest rate	Year of maturity	Face value $'000
Unsecured			2017
Retail bonds	3.08	2021	350,000
USD fixed rate EMTN notes	3.73	2018	534,760
JPY fixed rate MTN and EMTN notes	1.04 - 1.31	2019-2020	237,218
JPY floating rate MTN notes	3 months JPY LIBOR + Margin	2021 - 2023	161,309
HKD fixed rate MTN and EMTN notes	2.71 - 3.76	2022 - 2027	743,940
SGD fixed rate MTN notes	2.8 - 3.75	2020 - 2031	1,000,000
SGD floating rate bank loans	SOR + Margin	2019 - 2020	161,121
Total			3,188,348

Table 8-5 CMT Loan Profile (from CMT Annual Report2017)

Table 8-5 shows the loan profile of CMT. From here, we see that of the total face value loan of S$3,188,348,000, two items have floating rates: “JPY floating rate MTN notes”, and “S$ floating rate bank loans”.

Thus, S$161,309,000 and S$161,121,000 of the loans have variable interest rates and will be affected by rising interest rates. In short, 10.1% of loans are exposed to rising interest rates.

Percentage of borrowings on fixed rates or hedged via interest rate swaps	56%
Unencumbered assets as % of total assets	85.5%
All-in average cost of borrowings	2.4%
Corporate credit rating • S&P • Moody's	 BBB+ (Stable) Baa1 (Stable)

Figure 8—7 (From FCT's Investor Presentation 2017)

Looking at FCT investor's presentation (Figure 8—7), we see that 44% of FCT's loans are exposed to rising interest rates.

12. FINANCIAL DERIVATIVES	Group and Trust	
Derivative liabilities	2017 $'000	2016 $'000
Interest rate swaps used for hedging		
- Non-current	317	
Current		601
Total	317	601

Table 8-6 Financial Derivatives (From FCT Annual Report 2017)

From FCT's annual report (Table 8-6), we see FCT has interest rates swaps in place to hedge against rising interest rates.

To conclude, the less exposed a REIT is to loans with floating (variable) rates, the better it is in a climate of rising interest rates.

Another factor that affects the cost of borrowing is credit rating by agencies such as Standard & Poor's (S&P), Moody's, and Fitch Group. The more highly the REIT is rated, the lower its cost of borrowing. As a company is more creditworthy, it is deemed as less risky and lenders will charge a lower interest for loans.

	Moody's	S&P	Fitch	Meaning
Investment Grade	Aaa	AAA	AAA	Prime
	Aa1	AA+	AA+	High Grade
	Aa2	AA	AA	
	Aa3	AA-	AA-	
	A1	A+	A+	Upper Medium Grade
	A2	A	A	
	A3	A-	A-	
	Baa1	BBB+	BBB+	Lower Medium Grade
	Baa2	BBB	BBB	
	Baa3	BBB-	BBB-	
Junk	Ba1	BB+	BB+	Non Investment Grade Speculative
	Ba2	BB	BB	
	Ba3	BB-	BB-	
	B1	B+	B+	Highly Speculative
	B2	B	B	
	B3	B-	B-	
	Caa1	CCC+	CCC+	Substantial Risks
	Caa2	CCC	CCC	Extremely Speculative
	Caa3	CCC-	CCC-	In Default w/ Little Prospect for Recovery
	Ca	CC	CC+	
		C	CC	In Default
			CC-	
	D	D	DDD	

Rating	Spread
AAA	0.75%
AA	1.00%
A+	1.50%
A	1.80%
A-	2.00%
BBB	2.25%
BB	3.50%
B+	4.75%
B	6.50%
B-	8.00%
CCC	10.00%
CC	11.50%
C	12.70%
D	14.00%

Figure 8—8 (left) Credit Rating Chart (from cornell.edu.com)
(right) Credit Rating Vs Spread (from educba.com)

Junk bonds usually incur high costs to raise money as they are deemed riskier and rated less creditworthy by these agencies.

Let us look at the credit rating chart in Figure 8—8. We can see that if a company is rated below Baa3, BBB- and BBB- by Moody's, S&P and Fitch respectively, it is considered a junk "investment". Remember, we always choose companies with a higher credit rating. We can also see that the lower the credit rating, the higher the cost of borrowing. Assuming a "risk-free" investment (i.e., bonds backed by a sovereign government) is 0.5%, the cost of borrowing by a BBB rated company will be 0.5% (the baseline) plus the spread, which in this case is 2.25%. Thus, the cost of borrowing would be 2.25% + 0.5% = 2.75%.

Figure 8—9 CMT Credit Rating (from CMT Annual Report 2017)

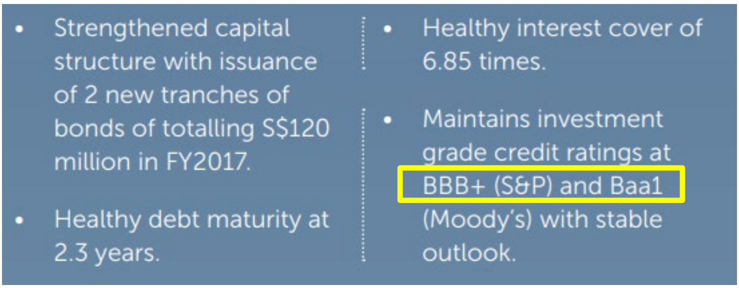


Figure 8—10 FCT Credit Rating (from FCT Annual Report 2017)

For CMT and FCT, we see that CMT has a credit rating of A2 by Moody's, and FCT has a rating of BBB+ and Baa1 by S&P and Moody's respectively. This makes them "investment grade" companies, and they enjoy relatively lower cost of borrowing.

In summary, the lower the cost of borrowing, the safer it is for a REIT.

An additional factor to consider is the opportunity cost as interest rates rise. What do we mean?

Interest rate (Risk-free rate)	Investor expected returns
1%	5%
2%	6%
3%	7%

Table 8-7 Risk-Free Rate Vs Investor Expectations (Compiled by authors)

In many countries, governments issue treasuries (bonds) to finance their expenses or projects. A bond that is backed by government credit is deemed risk-free. An investor can choose to invest in those treasuries, or in riskier assets, such as equities. Naturally, an investor would seek a higher yield if he invests in REITs, because he is taking on more risk. To illustrate, an investor may expect a spread of (5% - 1% = 4%) 4% (Table 8-7). When the interest rate is 1%, the investor would expect 5% in other investments. This spread is what keeps investors happy for taking on additional risk when investing in REITs. When interest rates rise to 2%, REIT investors will not be satisfied with their yield of 5%, because the spread will drop to 3% (5% -

2% = 3%). Investors would expect a yield of 6% now (2% + 4% = 6%). How do REIT investors achieve a higher yield? A higher yield can be achieved where a REIT distributes more money, or the unit price of the REIT decreases. Usually, what happens is that the unit price will decrease. Therefore, prices of REITs drop in a climate of rising interest rate.

$$\boxed{\frac{Dividend\ per\ share}{\Downarrow\ Share\ price} = Dividend\ Yield\ \%\ \Uparrow}$$

Let us calculate how this affects REIT unitholders. Suppose you bought a REIT when the interest rate was 1%, and interest rate has now risen to 4%; you effectively take on an opportunity cost of 3%. The key point here is to note that REIT unitholders suffer the most due to opportunity cost rather than to the increased cost of borrowings and thus lower distribution per unit by the REIT.

Let us put this in numbers. When interest rate is 1%, we would expect a REIT to give us a 5% yield. If a REIT distributes $100 of income to us for owning one unit, our unit is worth $2,000. We derive the value of our REIT unit by using a perpetual annuity valuation model where $100 (distribution) is divided by 0.05 to arrive at $2,000 ($100 / 0.05 = $2,000).

$$\boxed{Value\ of\ a\ Perpetuity = \frac{Annual\ Income}{Discount\ Rate}}$$

When interest rate rises from 1% to 2%, it increases finance costs, which in turn reduces distributable income. Perhaps instead of having $100 to distribute, this amount may be reduced to $99 (reduction of 1% due to increased cost of borrowing), causing a 1% downside in the income we receive.

Let us look at the real value of our REIT unit when interest rates rise to 2%. Since interest rates have risen, we want to achieve a 6% yield as explained earlier. Thus, when interest rate is 2%, the value of our REIT unit is $1,650 ($99 / 0.06 = $1,650). Do you see how much the value of the REIT has dropped (from $2,000 to $1,650)? That is a 17.5% drop as compared to a 1% downside due to increased cost of borrowing. We see that the opportunity cost is much more than the increased cost of borrowing.

8.3.5 **Interest Coverage**

The last aspect of debt we consider is a REIT’s interest coverage.

The usual formula for interest coverage is “Earnings Before Interest and Tax (EBIT) / Interest Expense”.

For REITs, it is slightly different. We take “Net Property Income / Borrowing Costs (or Interest Expense)”. Using Frasers Centrepoint Trust’s Financial Year 2017 figures, we get 7.3 (S$129,558m / S$17,633m). A number of 7.3 means

$$Interest\ Coverage = \frac{Net\ Property\ Income}{Interest\ Expense}$$

money earned by the REIT in 1 year is able to service the interests on loans for 7.3 years. As a rule, we prefer to invest in REITs with more than 5x interest coverage ratio. This is to ensure that the REIT can service their interests on loans.

8.3.6 **Occupancy Rate**

The main source of income for REITs comes from renting out space in their properties. If a REIT fails to rent out space, rental income is negatively affected, and the distributions that unitholders receive will be reduced. Thus, we want to make sure that the REIT has high levels of occupancy.

Let us study Suntec REIT's annual report a little further.

Committed Office Occupancy as at	31 Dec 2017	31 Dec 2016
Suntec City Office	99.5%	98.9%
One Raffles Quay	100.0%	100.0%
MBFC Towers 1 & 2	99.8%	99.8%
Singapore Office Portfolio	**99.7%**	**99.3%**
177 Pacific Highway	100.0%	100.0%
Southgate Complex	90.7%	86.1%
Australia Office Portfolio	**97.3%**	**95.9%**
Overall Office Portfolio	**99.2%**	**98.6%**
Committed Retail Occupancy as at	**31 Dec 2017**	**31 Dec 2016**
Suntec City Mall	99.0%	97.9%
Marina Bay Link Mall	99.5%	97.4%
Singapore Retail Portfolio	**99.0%**	**97.9%**
Southgate Complex	91.7%	89.0%
Australia Retail Portfolio	**91.7%**	**89.0%**
Overall Retail Portfolio	**98.8%**	**97.7%**

Figure 8—11 Suntec REIT occupancy level
(From Suntec REIT Annual Report 2017)

According to Figure 8—11, Suntec REIT contains a basket of both retail and office properties. We see that occupancy rates for office and retail portfolios were an astounding 99.2% and 98.8% respectively. It is evident that management has done a great job to increase occupancy rates for both office and retail portfolios after 2016. If a REIT that you own is seeing a low or decreasing occupancy rate, it is a sign that something is wrong and that is definitely a red flag. One easy way is to visit the properties owned by the REIT to conduct your own due-diligence observation of occupancy rate and traffic flow. Ideally, we want to buy REITs with occupancy rates in the high 90%'s.

8.3.7 **Weighted Average Lease Expiry**

Having a high occupancy rate is a good thing. But what if you had a building that is fully rented out, and all tenants are leaving next month? This is not good for a long-term investor, as we want our REIT to have predictable and consistent rental income every year. We look at a REIT's Weighted Average Lease Expiry, also known as WALE.

WALE is measured in years. It helps quantify the risk of units in a property portfolio becoming vacant. WALE is measured across all tenants' remaining lease in years and is weighted with the tenant's occupied area or the tenant's rental against the total area of the properties or rental of other tenants.

Let us look at Table 8-8. Imagine you have a shopping mall with three units, each with different areas, to rent out.

	Tenant 1	Tenant 2	Tenant 3
Area (sq m)	100	400	500
Lease (yrs)	5	10	5

Table 8-8 Shopping mall scenario (Created by the Authors)

In this scenario, you are able to lease out all three units, where tenants 1, 2, and 3 occupy spaces of 100, 400 and 500 square metres and have leases of 5, 10 and 5 years respectively.

How do we calculate the WALE in years? The first step is to find in terms of percentage the size of the tenant's space relative to the total space in the shopping mall (Table 8-9).

Total mall space = 100 + 400 + 500 = 1,000 square metres		
Tenant	% occupied	Calculation
1	10%	100 / 1,000 = 10%
2	40%	400 / 1,000 = 40%
3	50%	500 / 1,000 = 50%

Table 8-9 Calculation of occupancy weightage (scenario)

After calculating each Tenant's occupancy percentage, we multiply weighted percentage by lease in years (Table

Total mall space = 100 + 400 + 500 = 1,000 square metres			
Tenant	Weighted %	Lease (years)	Calculation
1	10%	5	10% x 5 = 0.5
2	40%	10	40% x 10 = 4
3	50%	5	50% x 5 = 2.5
Total WALE = 0.5 + 4 + 2.5 = 7 years			

Table 8-10 Calculation of WALE (scenario)

8-10).

From Table 8-10, we have a WALE of 7 years. This means that overall, tenants in the entire property have leases that are expiring within 7 years.

Thankfully, there is a shortcut! We do not need to calculate WALE ourselves; we can always find it in the annual report. Simply use *Ctrl + F* function and search *WALE*.

There is an interesting trend where WALE is concerned. Different types of REITs have different WALE benchmarks.

From Table 8-11, we see that generally, retail REITs have

As of Dec 2017

REIT name	WALE (years)	Type
CapitaLand Mall Trust	1.82	Retail
Frasers Centrepoint Trust	1.87	Retail
Suntec REIT (looking only at retail portfolio)	2.35	Retail
Lippo Malls Trust	4.1	Retail
Suntec REIT (looking only at office portfolio)	3.8	Office
IREIT Global	5.1	Office
Manulife US REIT	5.7	Office
AIMS AMP Cap Industrial REIT	2.4	Industrial
Sabana REIT	2.6	Industrial
Mapletree Log Trust	4	Industrial
ESR REIT	4.3	Industrial
CDL HTrust	6.7	Hospitality
Ascendas-hTrust	7.1	Hospitality
OUE HTrust (looking only at hotel portfolio)	10.5	Hospitality
Frasers HTrust	16.3	Hospitality
Parkway Life REIT	7.91	Healthcare
First REIT	9.5	Healthcare

Table 8-11 WALE of REITs from Different Industries (From respective Annual Reports 2017)

the lowest WALE (1 to 4 years), followed by industrial REITs (2 to 4 years), office REITs (3 to 5 years), healthcare REITs (7 to 9 years) and hospitality REITs (6 to 16 years).

In general, a retail REIT with a low WALE is not necessarily bad. We must benchmark within the industry. The management of retail REITs want to have the option to increase rentals consistently, which is the reason why retail WALE periods are shorter. Rental rates are not locked in for too long and can be renegotiated upwards at lease expiry. For healthcare, stability of the tenant is important. Managements prefer to lock in a longer-term WALE. If you are planning to buy a healthcare REIT that has a WALE of 1 when the average healthcare industry WALE is about 7 to 9 years, you would be wise to reconsider your decision.

We want to buy a REIT with a WALE that is not significantly lower compared to other REITs in the same category (i.e. retail, office industrial, hospitality and healthcare REITs).

8.3.8 Increasing Distribution Per Unit

Investors invest in a REIT for stable income, rather than for capital gains. It is important for our REIT to increase distributions to unitholders to cover inflation. If our REIT pays a fixed distribution every year, profits are overtaken by inflation.

Take McDonald's Big Mac. 20 years ago, in 1998, a Big Mac cost US$2.50. Today, a Big Mac costs US$5.30. With 1998's US$2.50, we can only buy half a Big Mac today. If a REIT does not increase its distribution, our income would be eroded by inflation.

$$\boxed{\mathit{Distribution\ Per\ Unit} = \frac{\mathit{Distributable\ Income}}{\mathit{Number\ of\ Units}}}$$

Where can we find Distribution Per Unit (DPU)? It is usually in the first few pages of the annual report under "Financial Highlights". Taking First REIT as an example, we can see (Figure 8—12) that net property income has been increasing, which means that the REIT has been earning more money each year. This is a good sign.

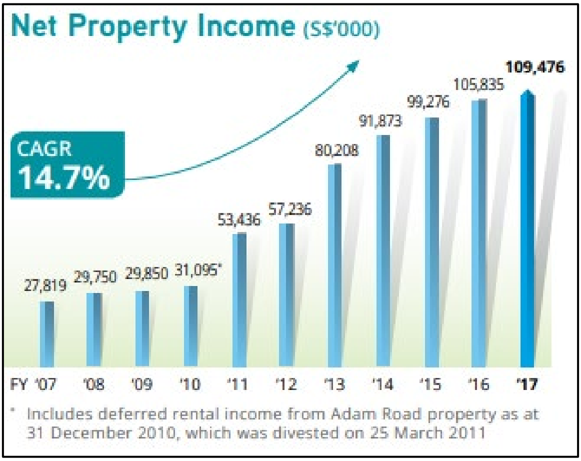


Figure 8—12 First REIT Net Property Income
(From First REIT Annual Report 2017)

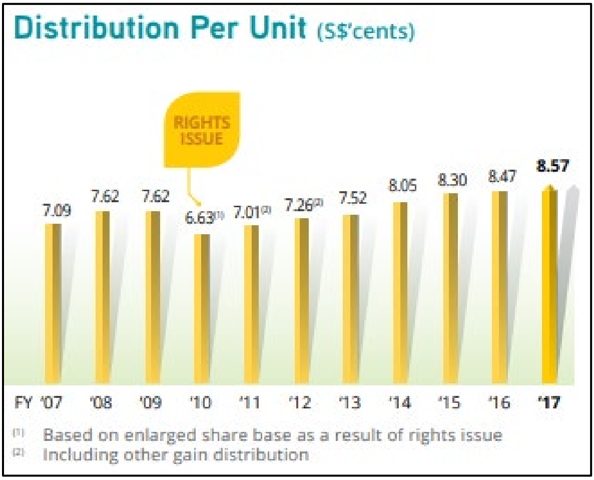


Figure 8—13 First REIT Distribution Per Unit past ten years
(From First REIT Annual Report 2017)

The distribution per unit shows you how much money investors are entitled to for owning a unit of the REIT. We want this number to be increasing.

From Figure 8—13, we see that the DPU has been increasing since 2010. It fell from 2009 to 2010 due to a rights issue, where more units of the REIT were circulated in the market. When more units are circulated, the amount of money each unitholder received decreases, because DPU = Net Income / Total Units in the market.

Thus, it is important to look at DPU, and not just at net income itself. We want DPU to be increasing year on year over a period of five to ten years.

8.3.9 **Property Yield**

When buying a REIT, we want property yield to be as high as possible.

Property yield is a relatable concept. If we invest in a property that is worth a million dollars to generate rental income, we want to generate the best possible income. If this property is only able to generate $1,000 of income a year, you would give it a miss, because that is a yield of only 0.1% a year ($1,000 / $1,000,000 = 0.1%)!

The same applies for owning a REIT. We want the properties in our REIT to have a decent rental yield. Property yield is a profitability ratio; it reflects how well the REIT's properties can generate income.

Property yield is calculated as follows:

$$\boxed{Property\ Yield\ \% = \frac{Net\ Property\ Income}{Total\ Value\ of\ Properties}}$$

We can find net property income in the income statement, and the value of all properties in the balance sheet under "Non-current assets".

Let us have a quick look at the property yield of Ascendas REIT ("A-REIT"). A-REIT is an industrial REIT and contains industrial properties in Australia and Singapore.

	Note	2017 $'000
Gross Revenue	21	830,592
Property operating expenses	22	-219,638
Net property income		610,954

Table 8-12 A-REIT Net Property Income
(From Ascendas REIT Annual Report 2017)

Non-current assets	Note	2017 $'000
Investment properties	4	9,874,204
Investment properties under development	5	125,062

Table 8-13 A-REIT Property Value
(From Ascendas REIT Annual Report 2017)

In this example, we have, for prudence's sake, included properties that were still under development. We derive property yield by taking "Net property income / (Investment properties + Investment properties under development)". This gives a yield of 6.1%.

We can compare property yield with other REITs in the same category which, in this case, are other industrial REITs.

Table 8-14 shows the comparison of property yields across industrial REITs in Singapore. We can see which REITs are doing better, and which are lagging. Generally, we want to own REITs with higher property yields.

From 2017 Annual reports

REIT	Net property income (S$'000)	Investment properties (S$'000)	Property yield
Mapletree Logistics Trust	$ 312,165	$ 5,540,081	5.63%
Sabana REIT	$ 53,379	$ 942,400	5.66%
ESR-REIT	$ 78,445	$ 1,372,800	5.71%
Ascendas REIT	$ 610,954	$ 9,999,266	6.11%
Viva Industrial Trust	$ 81,806	$ 1,284,700	6.37%
AIMS AMP Capital Industrial REIT	$ 79,433	$ 1,212,700	6.55%
Soilbuild Business Space REIT	$ 73,481	$ 1,110,600	6.62%
Mapletree Industrial	$ 256,830	$ 3,748,650	6.85%
Cache Logistics	$ 87,291	$ 1,206,913	7.23%

Table 8-14 Property Yield of Industrial REITs
(From respective Annual Reports 2017)

8.3.10 **Yield-Accretive Assets**

An acquisition of a new property by a REIT is deemed to be yield-accretive if it increases the DPU (distribution per unit) for unitholders. Acquisition of a property can happen in two ways: by borrowing money from the bank, or by raising more money through issuance of more shares into the market (known as rights issue).

Let me explain the first case of acquiring via debt.

Acquisition via debt	Before acquisition (10 properties)	After acquisition (11 properties)
No. of shares (units) in the market	1,000,000	1,000,000
Distributable income	$500,000	$600,000
Distribution per unit	$0.50	$0.60

Table 8-15 Example of yield-accretive acquisition via financing (Compiled by authors)

From Table 8-15, you can see that if a new property is acquired, the number of shares existing in the market remains the same, and there is no dilution. With an additional property, distributable income increases by $100,000. With higher distributable income and the same number of shares, DPU increases from $0.50 to $0.60, so each unitholder receives more money (distribution). Thus, we call this acquisition yield-accretive.

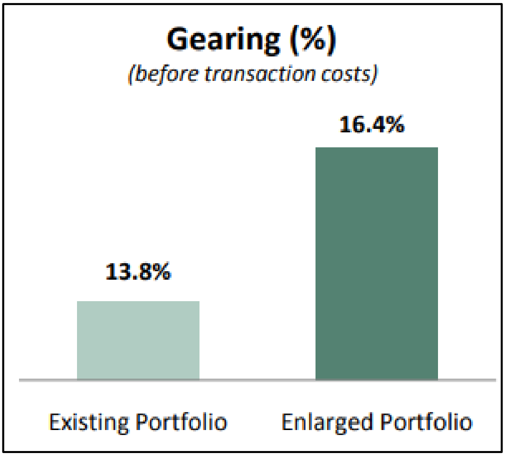


Figure 8—14 First REIT Gearing Ratio
(From First REIT Annual Report 2017)

First REIT did this in 2011 when they acquired Sarang Hospital in Yeosu City, South Korea. The acquisition was funded purely through debt, and there was no need to issue rights, and unitholders' shares were not diluted. As a result (Figure 8—14), First REIT's gearing ratio increased from 13.8% to 16.4%. From this example, we also see the advantage of buying a REIT with low gearing ratio. A low gearing ratio means that a REIT can still borrow more money for yield-accretive acquisitions.

The second way to acquire properties is to issue units (shares) to raise money for acquisition. If a REIT has a high gearing ratio (e.g., 40%), it is not likely to be able to borrow more money as the regulations limit a REIT's gearing ratio to 45%. Under this circumstance, a REIT would raise money by issuing more units known as rights issue, to fund an acquisition.

From Table 8-16, we can see that a REIT wants to buy a property that will cost them $1 million and add $100,000 to distributable income. For the sake of simplicity, we will assume that the REIT will issue units at $2. To raise $1 million, the REIT will have to issue 500,000 units. Thus, we see a dilution of shares from 1 million to 1.5 million units due to the new issuance.

Non-accretive acquisition

Unit price	$2	
Cost of property	$1,000,000	
Acquisition via units	Before acquisition (10 properties)	After acquisition (11 properties)
No. of shares (units) in the market	1,000,000	1,500,000
Distributable income	$500,000	$600,000
Distribution per unit	$0.50	$0.40

Table 8-16 Example of non-accretive acquisition via issuance of new units
(compiled by authors)

If the new property increases distributable income by $100,000, after acquisition, the REIT is able to distribute $600,000. When calculating new DPU (distributable income / total units in the market), since the proportion of units has increased more than the rise in distributable income, the DPU falls, and each unitholder receives less (from $0.50 to $0.40). We deem this acquisition non-accretive.

Using the example in Table 8-17, we will show a yield accretive acquisition via issuance of new units. We see that the increase in distributable income is proportionately more than the rise in number of units issued. In this case, the difference is that the property adds $300,000 of distributable income. The end result is an increase in DPU

Yield-accretive acquisition

Stock price	$2	
Cost of property	$1,000,000	
Acquisition via units	Before acquisition (10 properties)	After acquisition (11 properties)
No. of shares (units) in the market	1,000,000	1,500,000
Distributable income	$500,000	$800,000
Distribution per unit	$0.50	$0.53

Table 8-17 Yield Accretive Acquisition Via Issuance of New Units (Compiled by authors)

from $0.50 to $0.53

When buying a REIT, we want a REIT with strong management with a consistent history of yield-accretive acquisitions. This is important if you want to receive more money year after year (increasing DPU)!

8.3.11 **Increasing Net Asset Value**

The last criterion in assessing a REIT is increasing Net Asset Value (NAV). We want to find a REIT whose NAV per unit has remained on an uptrend for the past five to ten years.

NAV is "Total Assets – Total Liabilities". It is the value of a business (i.e., the net worth of a business). If a business closes, it sells all its assets, then repays the money it owes. After paying off liabilities, any money left is its NAV. It is the money that belongs to the shareholders of the company.

For unitholders, when NAV per unit increases, the value of your unit increases over time. When this happens, you can expect gain capital gains for your REIT unit in the long run.

NAV per unit is easily found in a REIT's quarterly and annual reports. Looking at Frasers Commercial Trust's (FCT) Q2 2017 Factsheet, we see that the NAV/unit has remained flat.

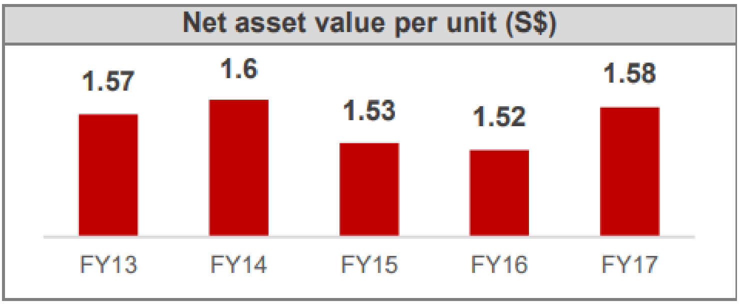


Figure 8—15 FCT NAV/unit (from FCT Q2 2017 Factsheet)

Compare this with another office REIT, OUE Commercial Trust.

	FY2014	FY2015	FY2016	FY2017
Net Asset Value per Unit (S$)	$1.10	$0.96	0.93	0.91

Table 8-18 OUE Commercial Trust NAV/unit (From OUECT website – Investor Relations)

We see that OUE Commercial Trust's NAV/unit has decreased over the years.

Comparison of NAVs should always be done within the same REIT categories.

If we look at the healthcare category, mainly First REIT and Parkway Life REIT, we observe that these two medical REITs generally have increased NAV/unit over the years, adding more value to unitholders year upon year (Table 8-19).

NAV/unit						
Year	2012	2013	2014	2015	2016	2017
First REIT	$0.827	$0.966	$1.018	$1.039	$1.087	$1.093
Parkway Life REIT	$1.572	$1.629	$1.711	$1.691	$1.715	$1.761

Table 8-19 NAV/Unit for First REIT & Parkway Life REIT (From respective REITs' Annual Reports)

8.4 TYPES OF REITS

There are five main types of REITS in Singapore: office, retail, industrial, hospitality and healthcare. If you are keen to find out more about what kind of REIT you are studying, please refer to www.reitdata.com. This informative website contains information on all REITs listed on SGX. The "Assets type" column shows the type of assets a REIT is holding in percentage (*Figure* 8—16). For instance, Ascendas REIT is an industrial REIT with 84% of its assets based in Singapore and 16% of its assets based in Australia.

REIT	Assets Type
AIMSAMP Cap Reit	Industrial (27): Singapore + Australia
Ascendas Reit	Industrial (132): Singapore (84%) + Australia (16%) by Valuation

Figure 8—16 REIT Asset Type information
(From www.reitdata.com)

8.4.1 **Retail REITs**

Retail REITs comprise properties leased out for retail activities. An example is the shopping mall. Apart from Frasers Centrepoint REIT, another example of a retail REIT is Suntec REIT, which owns shopping malls like Park Mall and Suntec City Mall.

8.4.1.1 Anchor Tenants

When it comes to choosing the right retail REIT, it is important for a retail REIT to keep strong anchor tenants.

Anchor tenants can draw regular crowds. A good crowd attracts potential tenants to rent spaces in the mall, which maximises rental income for REIT owners.

Being popular, anchor tenants usually do well in their business and tend to rent spaces in the mall for a period of five to ten years. Anchor tenants (like supermarkets) can occupy larger floor space, which contribute significant rental revenue. By occupying large amounts of space for a long period of time, anchor tenants usually have long weighted average lease expiry (WALE) and this lowers a REIT's vacancy risk.

Looking at the 2017 annual report of Frasers Centrepoint Trust (you can find this by searching Google for "FCT annual report 2017"), we see some examples of anchor tenants in Causeway Point Shopping Centre.

Top 10 Tenants (as at 30 September 2017)	% of Mall's Gross Rental Income
Metro (Private) Limited[1]	7.6%
Courts (Singapore) Limited	6.1%
Cold Storage Singapore (1983) Pte Ltd[2]	5.2%
Food Republic Pte Ltd	3.9%
Cathay Cineplexes Pte Ltd	2.3%
Uniqlo (Singapore) Pte Ltd	2.2%
McDonald's Restaurants Pte Ltd	1.9%
Aspial Corporation Ltd[3]	1.6%
Copitiam Pte Ltd[4]	1.5%
RE&S Enterprises[5]	1.4%
Total	33.7%

1 Includes leases for Metro Department Store & Clinique Service Centre
2 Includes leases for Cold Storage supermarket, Guardian Pharmacy and 7-Eleven stores
3 Includes leases for Lee Hwa Jewellery, CITIGEMs and Goldheart Jewellery
4 Operator of Kopitiam food court
5 Operator of Kuriya Japanese Market and Ichiban Boshi restaurant

Figure 8—17 FCT Top 10 tenants
(From FCT Annual Report 2017)

From Figure 8—17 , we see that FCT's top ten tenants are popular and well-known businesses. Cold Storage is a well-known supermarket and it tends to stay in the shopping mall permanently because of loyal customers.

8.4.1.2 Asset Enhancement Initiatives (AEI)

Most retail REITs organise AEIs to boost rental income. AEIs can vary in scale. One example of an AEI is Northpoint City North Wing shopping centre by Frasers Centrepoint Trust (FCT). AEIs can include improvements to the mall facade to attract more traffic, renovation of the mall to increase leasable space and increase rental income. Generally, good retail REITs carry out AEIs periodically and introduce changes to the mall.

8.4.1.3 Triple Net Lease

Most retail REITs rent their space based on a “triple net lease” agreement in which the tenant agrees to pay real estate tax, insurance, and maintenance cost. The tenant pays monthly rental and utility bills as well. A triple net lease arrangement is advantageous to the REIT owners because it lowers the cost of operating the REIT.

8.4.2 **Industrial REITs**

8.4.2.1 Nature of Industrial REITs

Generally, industrial REITs are more susceptible to an economic recession. During a recession, we expect occupancy rates to drop quite significantly. One benefit of industrial REITs is that less is spent on maintenance of the physical building (façade, ambience etc.). Comparing industrial properties with mall properties, mall properties require regular maintenance to ensure the mall keeps up its image. Thus, lower capital expenditure (capex) is needed to maintain properties for an industrial REIT.

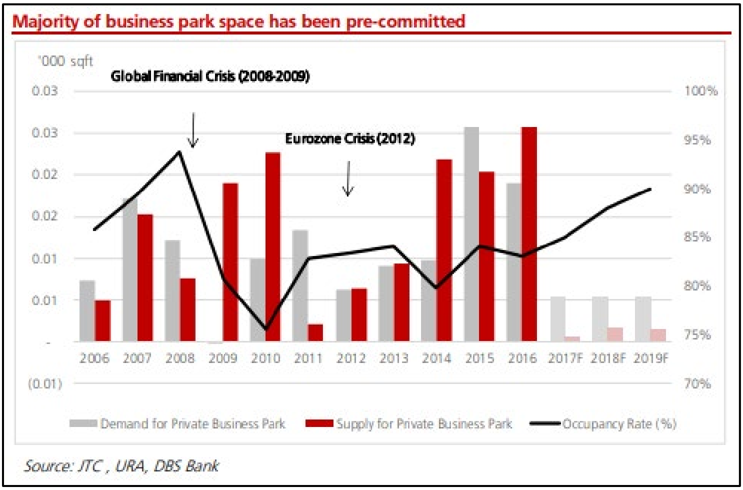


Figure 8—18 Demand & Supply for Industrial Park
(From DBS's Industrial Outlook Report, 22 August 2017)

From Figure 8—18, we see that during the 2008 financial crisis, overall occupancy rates for business parks fell sharply from over 90% to about 75%.

8.4.2.2 Types of Industrial Properties

Here, we shall draw references from Ascendas' portfolio.

8.4.2.2.1 Business and Science Parks

Business and Science Parks are clusters of suburban offices, corporate headquarters (HQ) buildings, and research and development (R&D) space in government-designated zones. Manufacturing activities are not allowed in these properties.

8.4.2.2.2 Integrated Development Amenities and Retail

Integrated Development, Amenities and Retail (IDAR) refers to two or more types of space such as business space, retail, and warehousing facility within one integrated development. Typically, IDAR projects are larger-scale developments that possess the requisite infrastructure and amenities to meet modern business needs.

8.4.2.2.3 Hi-Specs Industrial

Hi-specs industrial properties are vertical corporate campuses with higher office content combined with high-specifications mixed-use industrial space. Properties typically have a modern facade, air-conditioned units, sufficient floor loading and ceiling height, as well as high-power capacity to allow both office functions and manufacturing activities to be carried out. Such properties include data centres.

8.4.2.2.4 Light Industrial

Light Industrial properties are properties with low office content combined with manufacturing space. The manufacturing content in light industrial properties is higher than that in high-specifications industrial buildings. Flatted factories, a subset of light industrial properties, are stacked-up manufacturing spaces used for general manufacturing.

Ground floor space tends to command higher rental rates due to higher floor loading and better accessibility.

8.4.2.2.5 Logistics

Warehouses and distribution centres are equipped with high floor loading and high floor height. In Singapore, the majority of our warehouses are single-storey or multi-storey facilities with vehicular ramp access; others are multi-storey facilities with heavy duty cargo lift access.

Figure 8—19 (left) Business & Science Parks, (right) Integrated Development Amenities & Retail (Ascendas' portfolio)

Figure 8—20 (left) Hi-Specs Industrial, (right) Light Industrial (Ascendas' portfolio)

Figure 8—21 Logistics (Ascendas' Portfolio)

8.4.3 **Office REITs**

Office REITs have commodity-like characteristics. They are sensitive to economic performance. Office REITs have an impact on Singapore's competitiveness. If the cost of renting an office is too high in Singapore, it might deter businesses from setting up and conducting commerce here.

8.4.4 **Healthcare REITs**

8.4.4.1 Features of Healthcare REITs

Healthcare REITs are generally stable as they include hospitals and nursing homes. With an aging population increasingly prevalent in developed countries, healthcare REITs will thrive. It is not practical for hospitals to change location as costs can be astronomical.

Long-term master leases are for more than 10 years. Healthcare REITs generally give stable distribution. However, there is a high counterparty risk. If the medical group providing medical services (wards, operating suites, day surgery, laboratory services, etc.) becomes insolvent and vacates the property, occupancy rate of other clinics or tenants will drop immediately, unlike for retail REITs, where the departure of one tenant will not affect rental income too adversely as there are still other tenants. While there are attempts to lease the property out to more tenants, one main medical group usually occupies the entire hospital.

8.5 VALUATION

There are two ways to determine the value the REITs you want to own.

8.5.1 **Distribution Yield**

One way of valuation is by looking at the distribution yield. A REIT is only worth investing in if its yield is above the inflation rate. With an inflation rate of approximately 5% per year, it makes sense to invest in a REIT that gives more than 5% distribution to beat inflation. A good benchmark is to enter a REIT with a distribution yield of 6% or higher. We can use this formula to compute our entry price:

$$Entry\ Price = \frac{Distribution\ Per\ Unit\ (DPU)}{Dividend\ Yield\ \%}$$

If I am interested in entering a REIT that pays a DPU of $1 per unit, my entry price is $1 / 6% = $16.67. This means that if the price of the REIT is below $16.67, I will enter.

8.5.2 **Price-to-Book Value/Unit**

We look for REITs with price-to-book value per unit (BV) of below 1. It is the same as price-to-book ratio (PBR). For example, a PBR of 0.5 means an investor pays $0.50 for every $1 of net asset. A PBR of 1 means an investor pays $1 for every $1 of net asset.

8.6 SUMMARY

When we analyse REITs, these are the main questions to ask:

- How does the REIT earn money? For this, look at the properties on their portfolio.
- Does the REIT have a healthy balance sheet; how is its financial health (e.g., is it over-leveraged with debt)? For this, check gearing ratio, debt maturities, and interest coverage.
- Can the REIT sustain its pay-out over a long time (i.e., is it able to maintain a sustainable distribution to unitholders)? For this, we look at occupancy rates, and a history of increasing distribution over a period of years.
- Is the REIT efficient in generating income from its properties and increasing value for unitholders? For this, look at a REIT's property yield and NAV track record.
- Is the (unit price) REIT cheap for its value? For this, we work out its distribution yield and its price-to-book value per unit ratio.

Bonus content: Scan the code below to learn more about real estate agencies.

9 HOTEL INDUSTRY

What is the hotel industry? It consists of properties that provide temporary or short-term accommodation. These include hotels, motels, inns, resorts, and service apartments. The global hotel industry is worth a staggering US$450 billion.

Millennials are known to chase experiences instead of just material possessions. Growing up, I did not get to travel much, let alone visit different types of hotels. In my first job, due to work requirements, I had to travel, and it provided me the opportunity to experience the world of hotels. I can still remember stepping into a Hilton for the first time. The moment I entered the hotel, I experienced such delight. The rooms were thoughtfully furnished, the pillows were extra fluffy, and the amenities were great. There were even discount vouchers attached to my welcome note.

On my personal vacation, I stayed at a resort villa. Similarly, there were discount vouchers for in-house restaurants and spas. It is not uncommon for hotels to promote in-house services, as this is an opportunity to improve profitability. When you order room dining service, what do you notice about the prices? They are expensive! Hotels also provide buffet meals for walk-in diners, which provides another source of revenue, especially if the hotel occupancy (and room service orders) is low.

There are different categories of hotels targeted at different segments of travellers, namely, budget, mid-scale, upscale, and luxury. For example, Shangri-La, Hilton Worldwide, and Mandarin Oriental cater to high-end and corporate travellers; Australia's Mantra Group is positioned to attract mid-scale travellers.

Companies that operate within this industry enjoy high operational leverage.

9.1 OPERATIONAL LEVERAGE

What is operational leverage? This is when a business does not incur additional expenses to service or deliver products to customers. Operational leverage happens when fixed cost is high while variable cost is low. Think about it for a moment.

A hotel keeps a core crew of staff regardless of the occupancy rate. It does not increase the number of staff when the occupancy goes up or down. Likewise, if the hotel operator leases the hotel property from its owners, rent is being paid independent of occupancy rate. Beyond covering basic operating costs, every additional room booked means additional revenue contributing directly to profits. In other words, there are economies of scale because the hotel's revenue far exceeds operating or overhead expenses.

Let me use an example of "WealthyHotel" under two scenarios. Here is some background information on the hotel's business numbers.

WealthyHotel has 280 rooms and its room rate is $200 per night. At full occupancy, the total room revenue per night would be $56,000. The fixed costs of the hotel are rental, depreciation, and personnel costs. The fixed costs amount is $20,000. Variable costs include housekeeping consumables and cleaning costs and come up to $8,400 (or $30 for each room per night). The maximum room profit would be $27,600 ($56,000 -$20,000 - $8400 = $27,600) for full occupancy.

Scenario 1: Peak Season

There are 200 rooms (71% occupancy) booked for a night. Revenue for that night would be $40,000. Fixed costs remain at $20,000 and variable costs come to $6,000 ($30 per room, for 200 rooms). Profit is $40,000 less $26,000 = $14,000, or a 35% profit margin ($14,000 / $40,000).

Scenario 2: Lull Period

The nearby airport faces an unforeseen technical issue and planes cannot land. This problem is expected to persist for a few weeks. The transport minister has ordered the cancellation of all inbound flights and hotel guests have cancelled their bookings.

As a result, only 120 rooms are booked (43% occupancy). The revenue would be 120 x $200 = $24,000. Fixed costs remain at $20,000 and the total variable costs are 120 x $30 = $3,600. Profit is $400, which nets below 2% profit margin.

From these two scenarios, you can see how profits are affected by room occupancy. If a hotel can maintain occupancy rates between 70% and 90%, there is a high chance for the hotel to keep in a healthy profit margin range.

Nasdaq-listed Huazhu Group Ltd ("HTHT", formerly known as China Lodging Group), enjoys good operational leverage. The Group owns several hotel brands such as HanTing, Elan, and Hi Inn. Different brands are positioned for different customer segments.

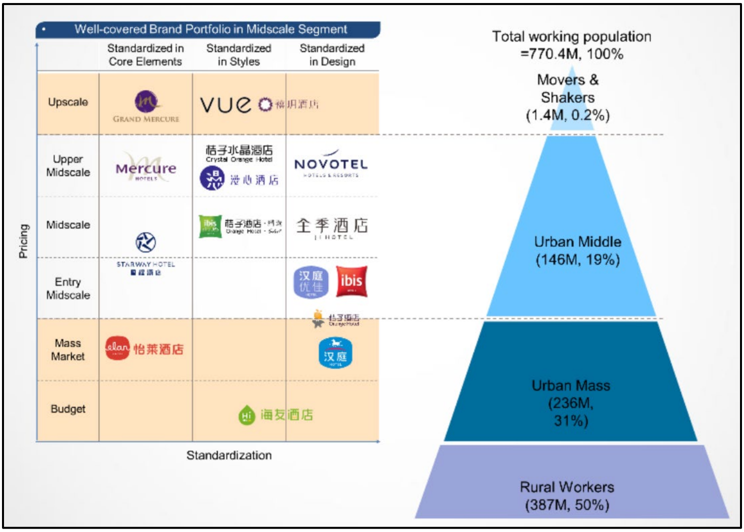


Figure 9—1 HTHT Brand Positioning
(From Investor Relations, then-China Lodging Group)

RMB, '000	Q1 FY 2018	Q1 FY 2017	Increase
Net revenue	2,091,224	1,614,062	29.6%
Minus: Hotel operating costs	1,506,035	1,199,226	25.6%
Minus: other operating costs	227,420	216,178	5.2%
Income from operations	357,769	198,658	80.1%

Table 9-1 HTHT Income Statement
(From HTHT Q1 2018 Financial Results Announcement)

From Table 9-1, we see the hotel unit increased its first quarter revenue by 29.6%. However, costs did not escalate as much, and the Group reported a higher percentage increase in profits.

9.2 RISK

Next, let's look at the risks faced by the hotel industry. The biggest threats to hotels are Airbnb and online travel agencies (OTA).

Airbnb is an online marketplace where home owners can put their homes on lodging listings for travellers to lease or rent on a short-term basis. For travellers, it offers a no-frills, unique experience of staying in a local residence at a lower price. Morgan Stanley estimated that Airbnb could occupy 6% of the traditional hotel demand by 2018. However, amidst reports of privacy and safety issues, the majority of travellers do not use Airbnb.

In this era of rising internet penetration and convenience, OTAs are gaining dominance and hotels are increasingly dependent on them to drive sales. Four dominant OTAs, namely, Expedia, Priceline, TripAdvisor, and Ctrip (now known as Trip.com), are growing much faster in terms of users and bookings made through them. As a result, hotels are paying more commissions and advertising fees to OTAs. Direct bookings (to the hotel website or booking hotline) are more profitable because there are no intermediaries.

At the same time, greater price transparency and independent reviews have added pressure on hotels to exceed expectations and be more price-competitive.

To reduce the impact of these threats, hotels are stepping up their game with loyalty programmes. For example, depending on membership tier or status, Wyndham provides discounts, free WiFi, early check-in, late check-out, and suite upgrades. Hilton Honors, Hilton's hotel reward programme, has an interesting membership auction concept allowing members to use accumulated points to bid for experiences such as concerts, races, and other exclusive activities. As a traveller, I am likely to choose the same hotel brand if I have had a wonderful experience previously. When perks are gamified, there is a higher chance that I would select the same hotel group when I visit a new country, to accumulate more points.

The hotel industry is considered 'consumer discretionary', which means that during an economic crisis, it faces a dramatic drop in demand. Despite bad times, the business needs to maintain itself, and there is a limit to how much costs can be reduced or eliminated. As revenue falls more quickly than cost, hotel businesses tend to suffer a greater decline in profits. This can cause huge swings in the share prices of hotel businesses.

Figure 9—2 Price Chart of Wyndham Worldwide (From Investing.com)

During the 2008 - 2010 crisis, Wyndham Worldwide's share price fell significantly from about $30 to $4, before recovering.

When deciding whether to invest in the hotel industry, certain criteria should be considered. A potential investor considers the following questions for the hotel industry:

- What is the asset turnover?
- What is the track record of room growth and what's in the pipeline?
- What are its average daily rate (ADR) and revenue per available room (RevPAR)?

9.3 Asset Turnover

For a chicken farm owner, the chickens and eggs are his inventory. For a hotel operator, the rooms form the inventory. They are sold on a per-night basis. The challenge faced by a hotel business is the amount of capital required to build the number of rooms. There are unique ways in which hotels with recognisable brands expand room inventory. We will explore four common ways: owned, leased, managed or franchised.

Owned: As an owner, the business must pay for property construction costs and ongoing maintenance expenses. These costs are also known as capital expenditure and it is the cost that owners must incur to maintain the hotel.

Leased: There are private hotel owners who choose not to sell their hotels. Instead, they lease their entire hotel property and collect monthly rental. As the lessee, the business is required to either pay a fixed rental, use a revenue sharing model, or a combination of both. This may pose some risk because the rental expense is fixed while the income from the hotel rooms is variable.

Managed: The business manages hotel rooms on behalf of the private hotel owner. This happens when the owner does not have the resources or experience to run the hotel.

Franchise: The business would lend its brand name, logos, management expertise, IT infrastructure and standard operating procedures to the franchisee. This is known as the asset-light approach. The business does not have to bear construction costs as this is borne by the franchisee. In return, the business takes a pre-determined cut of the franchisee's fees. A possible downside would be if the franchisee mismanages the hotel property and tarnishes the franchise brand.

Big hotel brands such as Hilton Worldwide, Hyatt Hotels,

	Owned	Leased	Managed	Franchise
Sales Recognition	100%	100%	Partial	Partial
Profitability	Low	Low	High	High
Capital Requirement	High	Rental	Low	Low
Scalability	No	No	Yes	Yes
Reputation Control	Yes	Yes	Yes	No

Table 9-2 Different hotel business models (Compiled by authors)

Choice Hotels and Wyndham are pursuing the franchised and managed models to grow room inventories. Most of these names do not own the majority of their hotels.

As of December 2017, Hyatt Hotels had 728 hotels and 185,713 rooms. Of this, 32% are franchised, 10% owned and leased, 54% managed, and 4% joint venture. Wyndham's revenues are mostly derived from asset-light and fee-based franchise sales. It has over 5,700 franchisees in 80 countries. Some groups do not disclose their breakdown.

An effective way to measure how efficiently hotel businesses utilise their assets is the asset turnover ratio. It is derived by dividing sales by total assets. A higher ratio indicates that the business is efficient; a low ratio shows inefficiency.

Generally, hotel businesses that derive a higher proportion of their revenues from management contracts and franchise royalty have higher asset turnover.

FY 2017	Hyatt Hotels	Hilton	Wyndham Hotel	Huazhu Hotels (formerly China Lodging)	Choice Hotels
Asset Turnover	0.36	0.24	0.44	0.47	1.09

Table 9-3 Asset Turnover for Different Hotels
(Compiled from respective Annual Reports 2017)

Asset turnover ratio is also a factor of hotel occupancy. A higher occupancy would generate more sales for the business, which pushes up asset turnover. We will explore this under average daily rate (ADR) and revenue per available room (RevPAR) later in this chapter.

9.4 Track Record of Rooms Growth and Pipeline

Regardless of growth strategy, it is important to determine if the management is growth-oriented. Has the number of rooms grown? Are more rooms being added in the pipeline? The ability to grow rooms is a key factor in driving future sales. It is like growing your inventory.

Using the figures in the respective annual reports or presentations, an investor can measure their historical growth rate.

	FY 2010	FY 2017	5-Year CAGR
Wyndham Worldwide	633,235	753,195	2.5%
Hyatt Hotels	126,268	186,000	6.6%
Choice Hotels	495,145	525,573	0.9%
China Lodging	50,438	379,675	33.4%
Hilton Worldwide	609,634	804,097	4.0%

Table 9-4 Room Inventories
(Compiled from respective Annual Reports 2010 & 2017)

For the pipeline, it is important to find out the number of hotels and their locations. Most of the information can be found in the hotel group's earnings call transcripts. If you have difficulty finding this, go ahead and email or make a telephone call to management.

For example, in the Q1 2018 earnings call, Mr Christopher Nassetta, CEO of Hilton Worldwide, mentioned that there were 355,000 rooms in the group's pipeline, with 45% of estimated openings expected from international markets. He further shared that 24% of the new pipeline would be in China, a fast-growing tourism country. You would want to know when it will be ready.

In the Q1 2018 earnings call, Mr Teo Nee Chuan, CFO of Huazhu Hotels Group, mentioned a pipeline of 744 hotels, or a 19.5% growth on top of their existing 3,817 hotels. Their growth plan for financial year 2018 will be to open 650 to 700 more hotels. This provided more clarity than the information shared by Hilton Worldwide.

As for Choice Hotels, the management was aiming for domestic unit growth of between 2.5% and 3.5%.

9.5 Average Daily Rate (ADR) & Revenue Per Available Room (RevPAR)

These are two industry-specific metrics for the hotel industry: ADR and RevPAR.

They are simple key performance indicators that allow quick comparison within the sector, or within a business's own historical performance.

The formula for ADR is room revenue divided by the number of rooms sold.

$$\boxed{ADR = \frac{Room\ Revenue}{Number\ of\ rooms\ sold}}$$

The ADR tells us the daily average price of rooms sold. When the economy is strengthening, hotels make small incremental adjustments to their ADR. When the economy is weak, hotels reduce ADR to stimulate demand. For example, suppose a hotel has $100,000 in room revenue, and 400 rooms sold out of a capacity of 600 rooms. The ADR would be $250 while the occupancy would be 66.7%. Note this does not include revenue from other services, such as in-room dining or walk-in diners.

Choice Hotels, which owns brands like Comfort Inn, Sleep, Quality, Clarion, and Econo Lodge, serves mostly economy travellers. In the first quarter of 2018, their ADR was US$80.30 excluding WoodSpring. On the other end of the spectrum, Marriott, which owns Le Méridien, The Ritz-Carlton, Sheraton, Westin, and others, had an ADR (comparable worldwide) of US$159.92 for Q1 2018. Is it possible to conclude that Marriott is better-run? This would not be an apple-to-apple comparison, because Choice and Marriott serve different segments of users. It makes more sense to compare Marriott with Hilton Worldwide, which has an ADR of US$145.21.

A meaningful way to derive level of improvement in performance over the years is to use compounded annual growth rate (CAGR).

ADR (US$)	2012	2013	2014	2015	2016	2017	5-Year CAGR
Hilton Worldwide	131	136	142	141	144	145	2.1%
Choice Hotels	74	75	77	80	83	84	2.6%
Huazhu Hotels	178	180	179	179	185	203	2.7%

Table 9-5 ADR Comparisons
(Compiled from Annual Reports & Press Releases, 2012 – 2017)

From Table 9-5, we conclude that Huazhu Hotels Group had the highest ADR increase. The average increase of between 2-3% suggests that there are limitations to how much a hotel can increase its ADR.

ADR is not the only indicator of the overall health of the hotel business. Occupancy is another key consideration. It matters if a hotel achieves 50% or 80% occupancy, as its profits would be impacted significantly. Occupancy can be compared across hotels serving the same consumer segment, or with historical trend.

A metric that combines ADR and occupancy is RevPAR (Revenue per Available Room).

The formula is to multiply ADR by the occupancy rate.

$$\boxed{RevPAR = ADR * Occupancy\ Rate}$$

An increasing RevPAR indicates that occupancy is improving, or ADR is increasing, or both.

For example, Choice Hotels had an ADR of US$80.30 and occupancy rate of 56.5%. Multiplying both numbers, we get a RevPAR of US$45.37. Meanwhile, Marriott achieved an ADR of US$159.92 and occupancy rate of 69.8%, for a RevPAR of US$111.62.

An investor should not look solely at RevPAR as the ultimate performance indicator either. Looking at both occupancy rate and ADR is still important to find out the drivers of sales.

For Huazhu Hotels, ADR was RMB207 and occupancy was 83.7%, giving the company a RevPAR of RMB173.

Assuming valuations are the same, let us compare Huazhu Hotels with Choice Hotels (Table 9-6). Using the metrics discussed in this chapter, Huazhu Hotels has superior metrics. The 5-year share price comparison on Google Finance was in Huazhu's favour.

	Huazhu Hotels	Choice Hotels
Occupancy	83.7%	56.5%
5-Year CAGR %	33.4%	0.9%
Pipeline	19.5% more hotels	2.5% to 3.5% hotel unit growth
Asset Turnover	0.47	1.09

Table 9-6 Comparison Between Huazhu Hotels & Choice Hotels (compiled from Annual Reports & Press Releases)

Figure 9—3 Price Comparison (China Lodging now known as Huazhu Hotels) (from Google Finance)

9.6 SUMMARY

- Compared to increasing average daily rate, it is easier to grow sales by improving occupancy. Focus on occupancy and identify the actions taken to improve this.
- Look for companies with higher asset turnover. Their assets are well-utilised.
- Track records of historical growth give us some assurance for management's growth orientation and strategy.
- Find out the number of upcoming new hotels in the management's pipeline, where they are located, and expected opening dates.
- Hotel-related stocks are best purchased during times of economic crisis.

10 HOW TO GET STARTED

This book contains all of our own experiences in the stock market. If you really want to get started in buying companies from the stock market, the first thing you must do is to open a brokerage. Both Kelvin and I use CGS-CIMB's brokerage platform to screen for stocks. Their stock screeners are one of the best in Singapore.

If you are keen to open a brokerage account and get started in investing, you can contact the person below!

Chin Wee has over 5 years of experience. Many of his clients are highly satisfied.

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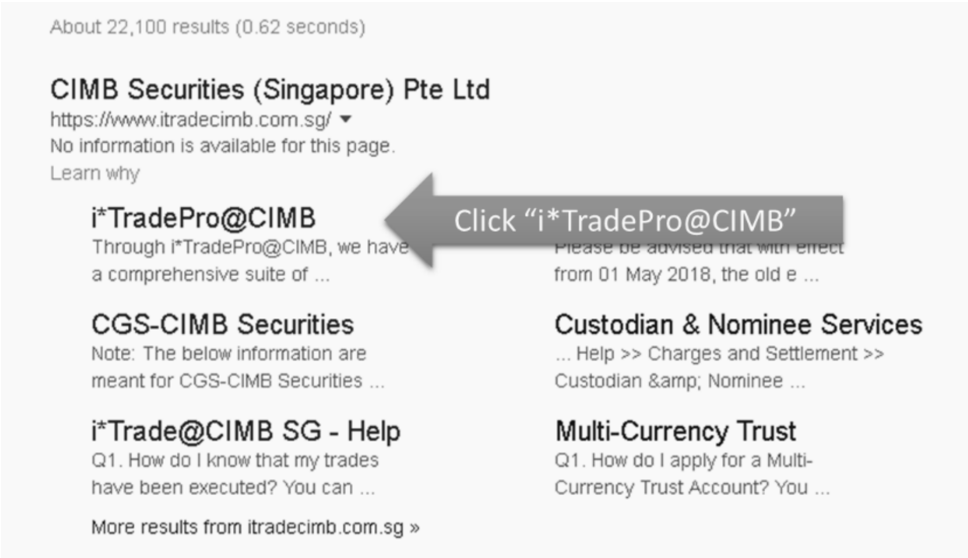
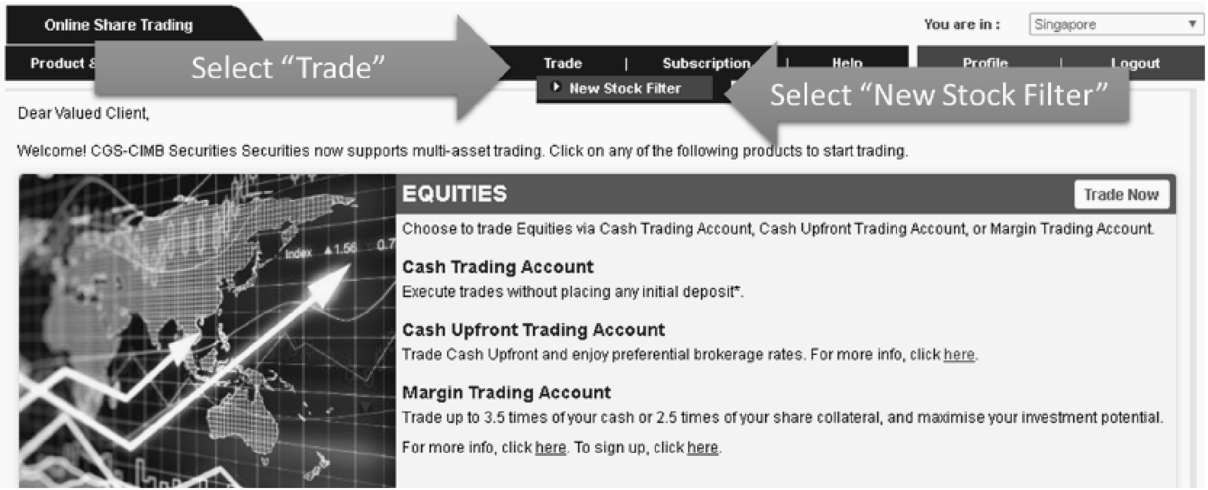
10.1 How To Use CIMB Screener

Google "CIMB iTrade"

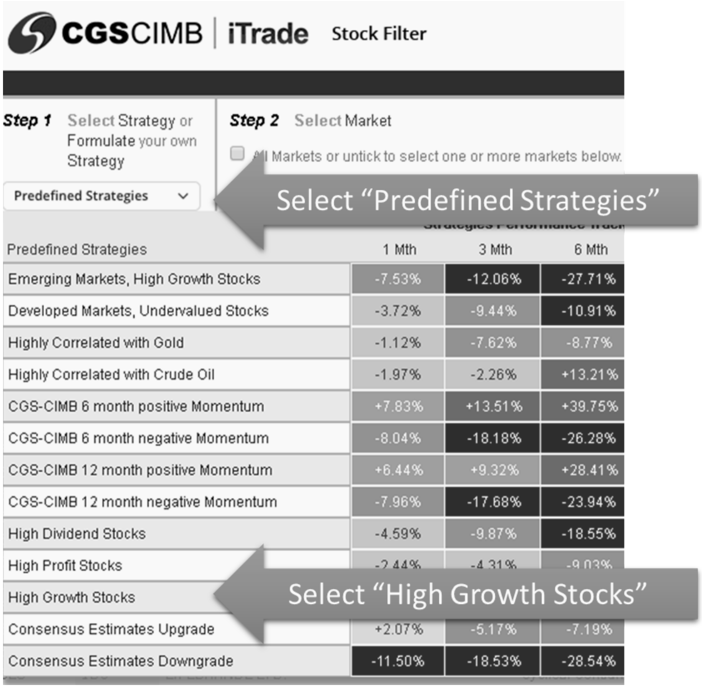


Log in to your account



Head to the screener

Select a strategy

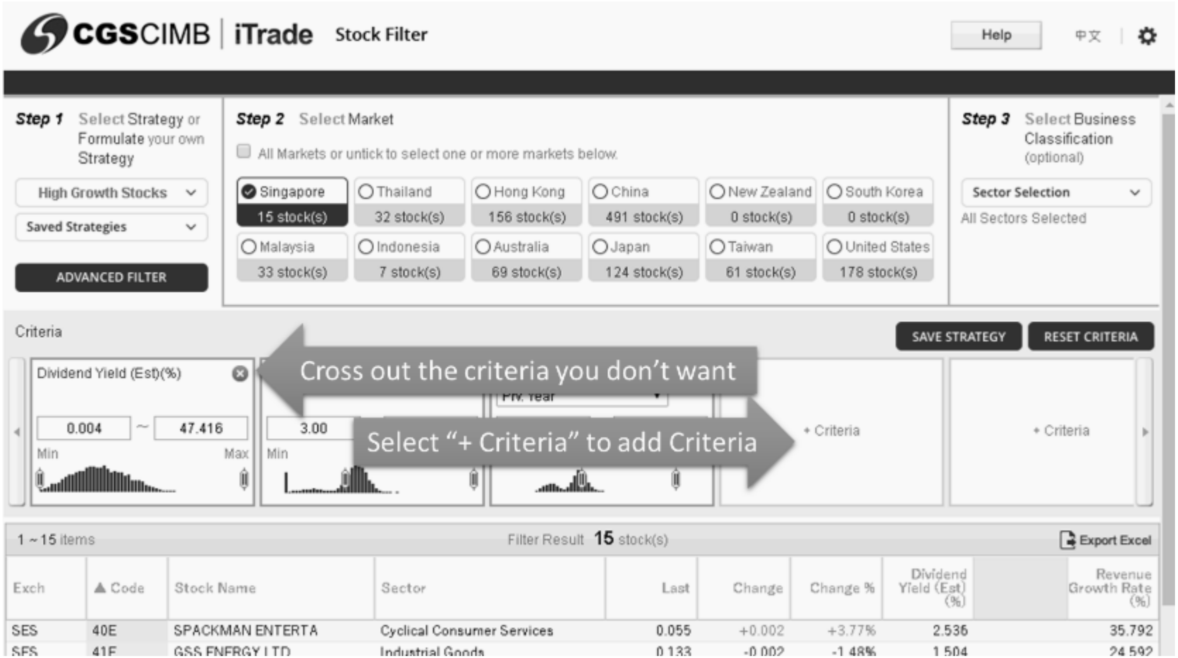


Predefined Strategies	1 Mth	3 Mth	6 Mth
Emerging Markets, High Growth Stocks	-7.53%	-12.06%	-27.71%
Developed Markets, Undervalued Stocks	-3.72%	-9.44%	-10.91%
Highly Correlated with Gold	-1.12%	-7.62%	-8.77%
Highly Correlated with Crude Oil	-1.97%	-2.26%	+13.21%
CGS-CIMB 6 month positive Momentum	+7.83%	+13.51%	+39.75%
CGS-CIMB 6 month negative Momentum	-8.04%	-18.18%	-26.28%
CGS-CIMB 12 month positive Momentum	+6.44%	+9.32%	+28.41%
CGS-CIMB 12 month negative Momentum	-7.96%	-17.68%	-23.94%
High Dividend Stocks	-4.59%	-9.87%	-18.55%
High Profit Stocks	-2.44%	-4.31%	-9.03%
High Growth Stocks	[illegible]	[illegible]	[illegible]
Consensus Estimates Upgrade	+2.07%	-5.17%	-7.19%
Consensus Estimates Downgrade	-11.50%	-18.53%	-28.54%

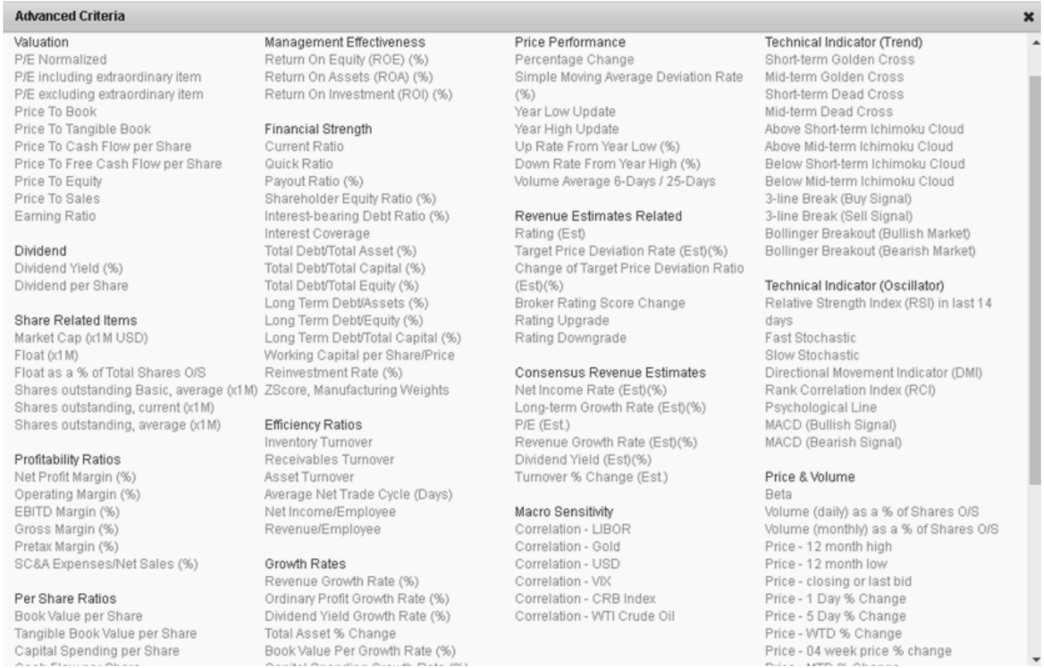
Screen by countries

Screen by sectors

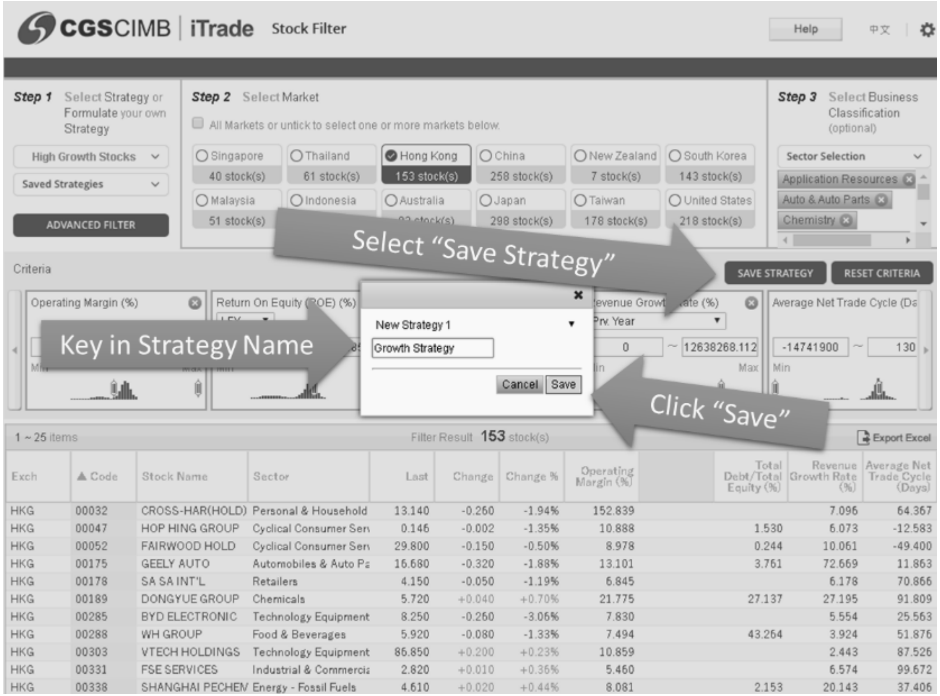
Screen by financial metrics



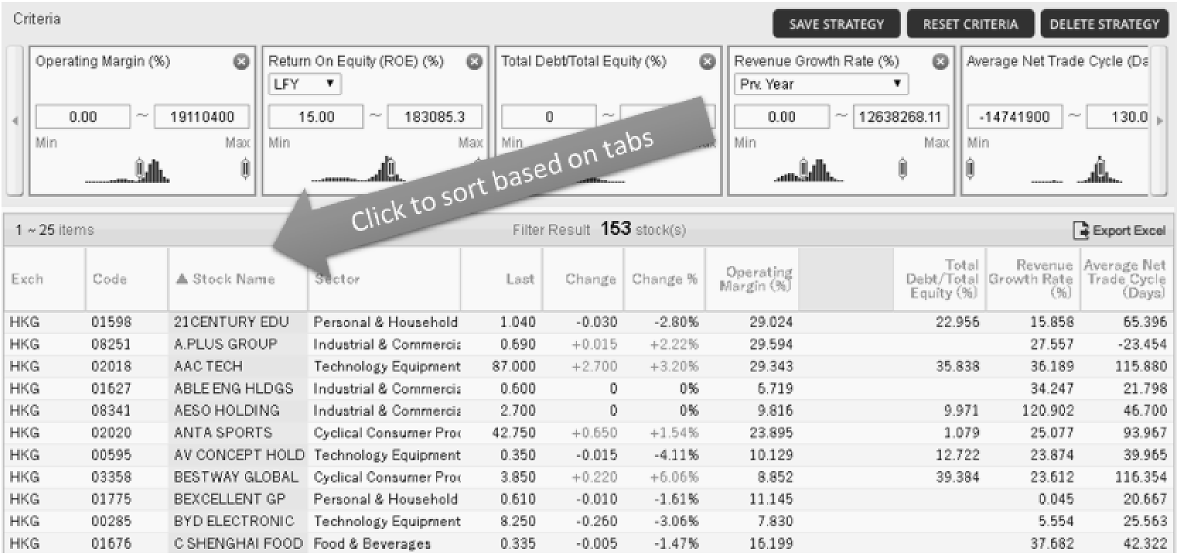
Select the financial metrics you want



Save strategy for future use



Sort your screened results



Exch	Code	▲ Stock Name	Sector	Last	Change	Change %	Operating Margin (%)		Total Debt/Total Equity (%)	Revenue Growth Rate (%)	Average Net Trade Cycle (Days)
HKG	01598	21CENTURY EDU	Personal & Household	1.040	-0.030	-2.80%	29.024		22.956	15.858	65.396
HKG	08251	A.PLUS GROUP	Industrial & Commercia	0.690	+0.015	+2.22%	29.594			27.557	-23.454
HKG	02018	AAC TECH	Technology Equipment	87.000	+2.700	+3.20%	29.343		35.838	36.189	115.880
HKG	01627	ABLE ENG HLDGS	Industrial & Commercia	0.600	0	0%	6.719			34.247	21.798
HKG	08341	AESO HOLDING	Industrial & Commercia	2.700	0	0%	9.816		9.971	120.902	46.700
HKG	02020	ANTA SPORTS	Cyclical Consumer Pro	42.750	+0.650	+1.54%	23.895		1.079	25.077	93.967
HKG	00595	AV CONCEPT HOLD	Technology Equipment	0.350	-0.015	-4.11%	10.129		12.722	23.874	39.965
HKG	03358	BESTWAY GLOBAL	Cyclical Consumer Pro	3.850	+0.220	+6.06%	8.852		39.384	23.612	116.354
HKG	01775	BEXCELLENT GP	Personal & Household	0.610	-0.010	-1.61%	11.145			0.045	20.667
HKG	00285	BYD ELECTRONIC	Technology Equipment	8.250	-0.260	-3.06%	7.830			5.554	25.563
HKG	01676	C SHENGHAI FOOD	Food & Beverages	0.335	-0.005	-1.47%	16.199			37.682	42.322

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