FAKULTÄT FÜR BETRIEBSWIRTSCHAFTSLEHRE
Lehrstuhl für Corporate Finance
Prof. Ernst Maug, Ph.D.

UNIVERSITÄT MANNHEIM

MASTERTHESIS
Spring Term 2021
(As of 7. September 2021)

Prerequisites:

- Proficiency in Microsoft Excel and willingness to become acquainted with statistical analysis software (e.g., Stata)
- Solid command of English
- Ability to conduct own data research
- Good knowledge of methods in Corporate Finance (company valuation etc.)

Topics are either case studies or empirical studies in corporate finance. Therefore, conducting literature research in research journals and especially in books is generally less important compared to data research in newspapers, databases and/or homepages.

The thesis can be written in German or English. Specific requirements are noted in the individual topic descriptions.

Please refer to the information available on our homepage at https://www.bwl.uni-mannheim.de/maug/lehre/masterlehre/masters-thesis/ , especially the document "How to Write a Thesis".

For case studies, please regard the following references:

Company valuation:

- In general: see literature references for the course Corporate Finance 1 on our homepage
- Banks: Copeland, T. E., Koller, T., Murrin, J., 2000, Valuation, 3rd Ed., Wiley, Chapter 21
- Implementation in Excel: Benninga, S., 2008, Financial Modeling, 3rd Ed., MIT Press

Event studies:

- Lecture Slides, Corporate Finance 1, Event Study Methodology
- Example: Weston, J. F., Siu, J. A., Johnson, B. A., Takeovers, Restructuring, and Corporate Governance, 3rd Ed., Prentice Hall, Appendix B, pp. 171-185
- Formal representation: Campbell, J. Y., Lo, A. W., and MacKinlay, A. C., 1997, The Econometrics of Financial Markets, Chapter 4
- Additional Method for very (!) many events: Dittmann, I., Maug, E., Schneider, C. (2008), How Preussag became TUI: A Clinical Study of Institutional Blockholders and Restructuring in Europe, Financial Management, 37 (3), pp. 571-598

Topic 1: Auto1 IPO

Supervisor: Marc Gabarro

Auto1 is an online platform to buy and sell second-hand cars. Auto1 operates in more 30 countries and trades over 600,000 cars a year. Auto1 generated around €3bn in revenue and had over 4,200 employees in 2020. Auto1's mission is to "build the best way to buy and sell cars online".

Christian Bertermann and Hakan Koç founded Auto1 in 2012 and reached 30,000 cars traded by 2014, showing rapid growth and great early adoption by both private and corporate clients. Auto1 reached 1 million cars traded across all its platforms by 2018, with 2 million cars being traded soon after, by 2020.

The automotive market in Europe is over €700bn, but less than 1% of its transactions are online. Auto1 solutions allow individuals and professionals to trade cars completely online. Auto 1 also provides integrated technology for professionals with Pan-European data integration for more precise, informative data.

Auto1 placed 26,315,790 new shares, raising approximately €1bn. Auto1 started trading at the Frankfurt Stock Exchange on February 4th, 2021. Based on the €38 offer price, Auto1 market capitalization totaled approximately €8bn. Two strategic investors, Sequoia Capital and Lone Pine invested €150 million at the IPO.

The goal of this thesis is to value Auto1's to determine whether the offer price of €38 per share was fair. To do so, the student should perform a comprehensive analysis of the industry. Then, the student should perform a fundamental valuation and a multiples-based valuation. To assess the market reactions to the announcement, the student is required to perform a study of the Auto1's competitors. The student should elaborate on the first day return by looking at the relevant academic literature on first day IPO returns. Additionally, the student should discuss the importance of securing block investors during the IPO process, its advantages and disadvantages and whether firms should disclose these block investments.

Preliminaries: Ability to conduct company valuations and event studies in Excel

Introductory Literature:

IPO documentation
https://ir.auto1-group.com/websites/auto1/English/3400/ipo.html

Topic 2: THG IPO

Supervisor: Marc Gabarro

The Hut Group (THG) is a British company that specializes in taking brands directly to consumers using its unique and proprietary end-to-end e-commerce technology. : "We build, grow and accelerate brands like no other." The company was founded in 2004 by Matthew Moulding as an online retailer for DVDs and has spent over 15 years developing its e-commerce software. THG has acquired over 25 companies.

THG operates in 169 countries, using 39 different currencies for its operations. THG sells of its own brands, such as ESPA, Myprotrein, and Coggles. Furthermore, companies such as Honda, Nintendo, and Nestle use the THG Ingenuity software to gain real-time knowledge on consumers' behavior. THG sales reached 1140 million GBP in 2019, with EBITDA around 110 million GBP.

On 16 September 2020, THG issued shares at 500 GBP on the London Stock Exchange. The company floated 39% of its ordinary shares, raising about 1.8 billion GBP in total. The net proceeds to the company were 888 million GBP and the proceeds receivable by the selling shareholders about 960 million GBP. THG's approximate market capitalization immediately following admission was 5.4 billion GBP. The THG IPO was the largest UK IPO since 2017.

The goal of this thesis is to value THG to determine whether the offer price of 500GBP EUR per share was fair. To do so, the student should perform a comprehensive analysis of the industry. Then, the student should perform a fundamental valuation and a multiples-based valuation. To assess the market reactions to the announcement, the student is required to perform a study of the THG competitors. The student should elaborate on the first day return by looking at the relevant academic literature on the first day IPO returns. The student should discuss the advantages and disadvantages of a growth through acquisitions strategy.

Preliminaries: Ability to conduct company valuations and event studies in Excel

Introductory Literature:

IPO documentation
https://www.thg.com/investor-relations/

Topic 3: Ramsay Health Care failed attempt to acquire Spire

Supervisor: Luisa Langer

On 26th May 2021, Australian hospital operator Ramsay Health Care made an offer to buy British Spire Healthcare Group for 1 billion pounds ($1.42 billion) with the aim to strengthen its healthcare business in the country. The 240 pence per share offer represented a 24.4% premium on the closing price for Spire's stock on May 25th. Nevertheless, Spire's large shareholders voted against the offer from the Australian group, as it undervalued Spire. The advisory firm Glass Lewis also criticized the initial deal. On 5th July, Ramsay raised the offer to 250 pence per share, making it clear this was the final offer. On 19th July, shareholders of Spire refused once again Ramsay's offer, claiming it underestimated the value of the business.

Spire Healthcare is an independent hospital group listed on the London Stock Exchange. The company has major contracts with Britain's state-backed NHS healthcare network. Spire operates 39 hospitals in the UK and incurred an adjusted pre-tax loss of 231 million pounds in 2020, after reporting a profit of 9.6 million pounds in 2019. During the COVID-19 pandemic, Spire was hit by a drop in routine patient visits to hospitals.

Ramsay Health Care is Australia's largest private hospitals operator. The group has a global network that extends across 10 countries, including the UK. Ramsay UK operates 37 facilities and generates most of its revenue from the National Health Service. Ramsay UK cares for almost 200,000 patients per year and employs more than 7,300 staff.

The goal of this thesis is to value Spire and to determine whether the latest offer price of 250 pence per share is fair. To that end, the student should first conduct a comprehensive industry analysis. In the next step, the candidate should perform a fundamental and a multiples-based valuation of the stand-alone firm, as well as potential synergies. To assess the market reactions to the announcement, the student is further required to analyze the stock market reactions of the companies involved in the failed deal and their competitors. Exploring the role of large shareholders and the advisory firm in rejecting both offers is highly encouraged.

Preliminaries: Ability to conduct company valuation and event studies in Excel or Stata

Introductory Literature:

- Reuter news: Australia's Ramsay Health Care to buy UK's Spire for $1.4 billion.
- Financial Times news: UK hospital group Spire accepts new £1.4bn offer from rival Ramsay
- Bloomberg news: Ramsay Raises Spire Bid to $1.4 Billion, Says Offer Is Final

Topic 4: EQT Infrastructure acquires Solarpack

Supervisor: Luisa Langer

On 16th June 2021, EQT Infrastructure announced a voluntary takeover bid for Solarpack, a Spanish renewable energy developer and owner of solar photovoltaic plants. The takeover bid was valued at EUR 881.2 million. EQT offered EUR 26.50 per share in cash for Solarpack, roughly equivalent to a 45% premium over the previous day's closing price of EUR 18.28.

EQT's offer was conditional on reaching minimum acceptance of 75% plus one share and it aimed to delist Solarpack if the bid was successful. Owners of 51% of Solarpack shares have already signed binding agreements to sell, according to a document filed with the Spanish stock exchange.

Solarpack is a geographically diversified solar PV developer and independent power producer. Since its inception in 2005, Solarpack has developed approximately 1.3 GWs across eight countries, mainly in Spain, Chile and India, out of which 450 MWs are owned and operated by the company. Headquartered in Getxo, Spain, Solarpack employs more than 260 people and has been listed on the Spanish Stock Exchange since 2018.

EQT is a purpose-driven global investment organization with more than EUR 67 billion in assets under management across 26 active funds. EQT funds have portfolio companies in Europe, Asia-Pacific and America with total sales of approximately EUR 29 billion and more than 175,000 employees. EQT works with portfolio companies to achieve sustainable growth, operational excellence, and market leadership.

The goal of this thesis is to value Solarpack and to determine whether the offer price of EUR 26.50 per share is fair. To that end, the student should first conduct a comprehensive industry analysis. In the next step, the candidate should perform a fundamental and a multiples-based valuation of the stand-alone firm, as well as potential synergies. To assess the market reactions to the announcement, the student is further required to analyze the stock market reactions of the companies involved in the deal and their competitors.

Preliminaries: Ability to conduct company valuations and event studies in Excel.

Introductory Literature:

- EQT's investor news: EQT Infrastructure announces a voluntary takeover bid for Solarpack, a Spanish renewable energy developer and owner of solar photovoltaic plants
- Bloomberg news: EQT Infrastructure announces a voluntary takeover bid for Solarpack, a Spanish renewable energy developer and owner of solar
- Reuter news: Solarpack shares soar on $1 billion bid from EQT

Topic 5: Carlyle Group's intention to buy Vectura

Supervisor: Luisa Langer

On 26th May 2021, Vectura Group announced it had agreed a 958 million pounds ($1.36 billion) takeover by a global investment firm, the Carlyle Group. According to the deal, Vectura shareholders will receive £1.55 for each share, including £1.36 in cash and a cash dividend of £0.19. The total acquisition value represents a premium of nearly 27% of the closing price of £1.22 per share of Vectura on May 25th. Through this acquisition, the Carlyle Group intends to buy 100% of Vectura's shares. The deal offer is from Murano Bidco, a newly formed company indirectly controlled by funds managed by Carlyle Europe Partners. Vectura's Chairman believes the offer is attractive for shareholders, as the company has made strong progress since embarking on its new strategy in 2019 to become a leading inhalation contract development and manufacturing company (CDMO). The takeover is expected to finalize in the third quarter of this year.

Nonetheless, on 9th July 2021, Vectura agreed to sell Phillip Morris for 1.05 billion pounds, turning away the previously agreed offer from Carlyle. Phillip Morris offer is of £1.65 for each share, which is 10 pence per share above the rival offer made by Carlyle. An auction process between the two potential acquirers was expected although Carlyle announced on 10th August that the £1.55 offer was final. This implies that a planned five-day auction overseen by the UK's takeover regulator had to cancelled.

Vectura Group is a British pharmaceutical company focused on inhaled drug delivery solutions that aid its partners to deliver their treatments to patients. The company has 13 key inhaled and 11 non-inhaled products marketed by partners with global royalty streams, and a diverse partnered portfolio of drugs in clinical development. Its partners include Novartis, GSK, Bayer, Chiesi, Almirall, and Tianjin KingYork.

Carlyle Group is one of the world's largest and most diversified global investment firms, with $260 billion of assets under management across 3 business segments and 437 investment vehicles. Founded in 1987 in Washington, Carlyle's global team is comprised of over 1,800 professionals operating in 29 offices across 5 continents.

The goal of this thesis is to value Vectura and to determine whether the offer prices made by Carlyle and Phillip Morris of £1.55 and £1.65 per share, respectively, are fair. To that end, the student should first conduct a comprehensive industry analysis. In the next step, the candidate should perform a fundamental and a multiples-based valuation of the stand-alone firm, as well as potential synergies. To assess the market reactions to the announcement, the student is further required to analyze the stock market reactions of the companies involved in the deal and their competitors. A discussion of the takeover battle between Carlyle Group and Phillip Morris is highly encouraged.

Preliminaries: Ability to conduct company valuations and event studies in Excel.

Introductory Literature:

- Company announcement: Recommended cash acquisition of Vectura by Murano Bidco
- Reuters news: UK pharma group Vectura agrees $1.4 bln takeover by Carlyle
- Bloomberg news: Carlyle to buy Vectura for $1.4 billion cash

Topic 6: Vonovia SE takeover of Deutsche Wohnen SE

Supervisor: Hamed Davari

On May 24th, 2021, Vonovia in accord with Deutsche Wohnen announced a voluntary public takeover offer for all outstanding shares of Deutsche Wohnen at €53.03/share, consisting of €52 cash and €1.03 dividend. The price constitutes a premium of 17.9% on the closing price of Deutsche Wohnen on May 21st and values the company at nearly €18bn. However, the offer was nearly missed the minimum acceptance rate of 50% (by 2.38%) at the annual general meeting of Deutsche Wohnen. This made Vonovia improve the offering price to €53/share, this time only in cash, on August 1st.

Deutsche Wohnen is one of the leading publicly listed property (real estate) companies in Germany and Europe. The company is listed in the DAX index of Deutsche Börse. Deutsche Wohnen's portfolio comprises of 160,000 residential and commercial units with a total fair value of approximately €26.2bn and nursing properties with around 10,580 beds and apartments for assisted living with a fair value of €1.2bn.

Vonovia is also a real estate company based in Bochum. Its history goes back to Deutsche Annington, which merged with GAGFAH and was subsequently renamed Vonovia. The company currently owns around 400,000 apartments in Germany, Sweden, and Austria, making it a major market player in these countries. Vonovia is a part of the DAX 30 and STOXX Europe 600 blue-chip indexes, and is one of the largest listed companies in Germany and Europe.

Deutsche Wohnen and Vonovia see many synergy opportunities such as being more able to invest in climate protection, needs-based housing and affordable housing. In addition, significant synergies are also expected from joint management and the complementary regional portfolios.

The goal of this thesis is to value Deutsche Wohnen and to determine whether the offer price is fair. To that end, the student should first conduct a comprehensive industry analysis. In the next step, the candidate should perform a fundamental and a multiples-based valuation of the stand-alone firm, as well as potential synergies. To assess the market reactions to the announcement, the student is further required to analyze the stock market reactions of the companies involved in the deal and their competitors.

Preliminaries: Ability to conduct company valuations and event studies in Excel or Stata.

Introductory Literature:

https://ir.deutsche-wohnen.com/websites/dewohnen/English/3210/annual-reports.html
https://www.deutsche-wohnen.com/en/about-us/press-news/press-releases/deutsche-wohnen-and-vonovia-sign-agreement-to-combine-both-companies
https://ir.deutsche-wohnen.com/websites/dewohnen/English/6100/news.html?newsID=2139491

Topic 7: The Squeeze-Out of MAN SE

Supervisor: Hamed Davari

On February 28th, 2020, TRATON SE informed the management of MAN SE of its intention to conduct a squeeze-out merger in accordance with section 62(5) of the German Transformation Act (UmwG) in conjunction with section 327a(1) of the German Stock Corporation Act (AktG). At this time, TRATON owned about 94.36% of MAN's share capital. The annual general meeting, at which shareholders would vote on the restructuring, was initially scheduled for June 30th, 2020. After several delays due to the Covid-19 pandemic, MAN SE issued an ad-hoc publication stating that the decision was postponed to June 2021. At the virtual general meeting, on June 29th, 2021, a majority of shareholders of MAN voted in favor of accepting the proposed cash compensation of €70.68 per share.

With more than €10bn of revenue in 2020, MAN SE is one of the heavyweights in the international truck and bus market. While most of its revenues are from Europe, it is also gaining a foothold in Latin America as well as China through its stake in Hong Kong-based Sinotruk. Through its majority shareholder, MAN is an indirect subsidiary of the Volkswagen Group. TRATON SE had its stock market debut in 2019 with a dual listing in Frankfurt and Stockholm. In a similar move, Volkswagen's competitor Daimler announced in February 2021 that it intends to spin-off and list its truck segment Daimler Truck. Therefore, the merger squeeze-out of MAN SE is part of a general overhaul in the German commercial vehicle industry.

In a squeeze-out, minority shareholders are forced to tender their shares for a reasonable cash compensation. While the amount of €70.68 per share greatly exceeds MAN's historical stock price of €36.10 on February 28th, 2020, it is well below the offer price of €90.29 from the termination of the control and profit transfer agreement in 2019. Thus, there is a high probability that some minority shareholders will try to challenge the amount offered in court.

The goal of this thesis is to value MAN and to determine whether the offered price of €70.68 per share was fair. To that end, the student should first conduct a comprehensive industry analysis. In a next step, she should perform a fundamental and a multiples-based valuation. In accordance with the "Stollwerck ruling" from the highest German court (BGH) in 2010, the student is further required to discuss and apply different stock price based compensation measures for MAN's minority shareholders. In addition, the student should elaborate on the squeeze-out process in general and on what constitutes a fair compensation in such a context.

Preliminaries: Ability to conduct company valuations in Excel. Ability to read documents in German is helpful..

Introductory Literature:

Official announcement, 28th February 2020:
https://traton.com/en/newsroom/press_releases/press_release_28022020.html

MAN Annual Report, 2020:
https://www.corporate.man.eu/man/media/content_medien/doc/global_corporate_website_1/investor_relations_1/gb/2021_gb/MAN_GB_2020.pdf

Bundesgerichtshof (BGH), „Stollwerck Ruling", 2010 (in German):
https://lexetius.com/2010,2193

Topic 8: M&A antitrust and political connections of suppliers and customers.

Supervisor: Hamed Davari

Merging firms need to convince antitrust agencies in the US (Federal Trade Commission and Department of Justice) before they could consummate their merger. This is to ensure that the merger does not create a dominant position for the merged entity or less innovation in the industry. A merger could positively or negatively affect suppliers and customers of the merging parties along the supply chain. Neither is an increase in output prices desirable for customers, nor an excessive bargaining power for the supplier. On the other hand, an efficiency-increasing merger is beneficial to the customer, which in turn, could lead to higher sales and profits for the supplier. As such, both the suppliers and customers of the merging parties have incentives to support or forestall a merger. This project aims to investigate whether politically connected suppliers and customers affect merger review outcomes, depending on their interests.

The candidate is expected to get the US merger data from SDC for1998-2018 and identify direct suppliers and customers of the merging parties from Bureau of Economic Analysis Benchmark and Customers input and output tables. Next, (s)he should match all these firms with their political connection measures, including but not limited to: having a representative or a senator in the house, lobbying, campaign contributions, and having a politician on the board. Further, (s)he is expected to analyze suppliers and customers market reactions to the merger and infer their interest regarding the merger. The candidate is also required to develop an identification strategy to tease out the effect of the political connection of interest (may it be lobbying or any other measure), which could be using turnover shocks to the committees with supervision over governmental antitrust bodies in the house and senate.

The data on mergers come from SDC, lobbying and campaign contribution data are from Center for Responsive Politics, and data on politicians on the board is available from Boardex. CRSP and Compustat and the other standard databases are available and will be given to the candidate, if necessary. Lastly, we will provide the data on merger review outcomes.

Preliminaries: Solid econometrics skills. Ability to work with large datasets, name matching in any common data analysis language, e.g., Stata, R, or Python.

Introductory Literature:

Mehta, Mihir, N. Srinivasan, Suraj, Zhao, Wanli 2020, “Politics of M&A antitrust”, Journal of Accounting research. DOI: 10.1111/1475-679X.12291

Fidrmuc, Jana P., Roosenboom, Peter, Zhang, Eden Quxian, 2018, “Antitrust merger review costs and acquirer lobbying”, Journal of corporate finance, DOI: 10.1016/j.jcorpfin.2018.05.001

S. Betton, B. E. Eckbo and K. S. Thorburn, 2007, *“Handbook of corporate finance”,* North Holland, Chapter 15.6