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

UNIVERSITÄT MANNHEIM

MASTERTHESIS
Spring Term 2021
(As of 8. März 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: NACON IPO

Supervisor: Marc Gabarro

Nacon is a French video game company established in 1981. Nacon designs and distributes AA-level video games and accessories and specializes in the search for niches left by the industry majors. Nacon's main markets are France, Germany, Belgium, Luxembourg, and the Netherlands. Nacon reached 113.1 million EUR in sales in 2019, with a 11.1% EBIT margin.

Nacon consists of 8 integrated studios specialized in racing, sports, simulation, adventure and action games plus 12 partner studios. Nacon employs 430 people in 8 countries, of which nearly 300 are developers. It launches between 10 and 15 games per year and has a portfolio of over 100 games. Furthermore, Nacon develops and distributes premium video game accessories making use of its 35 accessories-related patents.

Overall, the video game industry reached 120 billion EUR global revenue in 2019. Furthermore, the raise in e-sports and professional players has increased significantly over the last few years. They now attract hundreds of millions of viewers and have revenue of over 1 billion EUR.

On March 4th, 2020, Nacon shares issued at 5.50 EUR. Through the IPO, Nacon raised 100 million EUR, for a total market capitalization of 458 Million EUR. Nacon's IPO was the latest development in a restructuring process involving Bigben Interactive SA and Big Ben holding, the parent company of the conglomerate, which invests in several industries.

The goal of this thesis is to value Nacon to determine whether the offer price of 5.50 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 Nacon competitors. The student should elaborate on the first day return by looking at the relevant academic literature on the first day IPO returns.

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

Introductory Literature:
https://corporate.nacongaming.com/wp-content/uploads/2020/02/NACON-Slideshow-IPO_EN.pdf

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

Topic 3: FCA-PSA Merger

Supervisor: Minrui Gong

Fiat Chrysler Automobile N.V. (FCA) and Peugeot S.A. (PSA) are two-centuries-old European automotive manufacturers. In a historic move, the two giants completed a merger deal worth almost 20 billion EUR on January 16th, 2021. The resulting new holding company, Stellantis, now operates 16 car brands and becomes the world's 4th largest car maker in volume.

The deal was announced on December 18th, 2019. FCA offered to acquire 100% of PSA's shares in an all-stock transaction with a swap ratio of 1.742. Based on FCA's pre-announcement closing price of 13.59 EUR, the offer price can be calculated as 23.69 EUR, which represents an announced bid premium of 7.14%.

The deal was dubbed as a "merger of equals," where the stock of the new company is split 50-50 between shareholders of FCA and PSA. In 1998, Daimler-Benz and Chrysler struck a similar deal. Unfortunately, their dreamlike marriage collapsed in May 2007. As put by the former head of Chrysler Jürgen Schrempp, the deal was labelled "merger of equals" only for "psychological reasons." In fact, the so-called equal deal was never equal.

The union of FCA and PSA is the outcome of a fight for survival. FCA has seen its sales decline since 2009. While the electric vehicle industry grew aggressively, FCA lost its competitive edge for failing to produce cost-efficient electric cars. Deeply rooted in Europe, PSA needed FCA's help to open up the U.S. market. Unfortunately, both firms were heavily struck by the Covid-19 pandemic in 2020. To save the deal and to conserve cash, on September 14th, 2020, FCA decided to revise some merger terms, cutting a special dividend for FCA's shareholders almost by half. In response, FCA share jumped over 12% in Milan. In between, the deal got delayed by an EU antitrust investigation. Finally, PSA's CEO Carlos Tavares said on January 4th, 2021, during a meeting of PSA shareholders: "We are ready for this merger."

The goal of this thesis is to evaluate the merger deal and to determine whether the merger terms were fair. To that end, the student should first perform a comprehensive industry analysis. Next, the student should conduct a fundamental and a multiple-based valuation for PSA, and discuss potential synergies. To assess stock market reaction around the merger announcement, the candidate is required to analyze the two companies and their competitors with event-study methods. The candidate should elaborate the results referring to relevant literature on market response around M&A announcements.

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

Introductory Literature:
First rumor
https://www.wsj.com/articles/fiat-chrysler-gets-second-chance-at-merger-this-time-with-peugeot-11572433235?mod=article_inline
Report on the press release of merger announcement
https://www.wsj.com/articles/psa-board-backs-binding-merger-agreement-with-fiat-chrysler-11576605907?mod=hp_lead_pos6
Official press release of merger completion

https://www.fcagroup.com/en-US/media_center/fca_press_release/FiatDocuments/2021/January/The_merger_of_FCA_and_Groupe_PSA_has_been_completed.pdf
An empirical research on merger announcements and target firm abnormal returns
https://www.jstor.org/stable/pdf/2327551.pdf

Topic 4: LVMH-Tiffany Acquisition

Supervisor: Minrui Gong

After an acrimonious public battle that spanned over half a year, LVMH Moët Hennessy Louis Vuitton (LVMH) the world-famous French conglomerate specializing in luxury goods, closed a deal to acquire the 183-year-old US jewelry brand Tiffany & Co. (Tiffany) on January 7th, 2021. The 13.2 billion EUR deal is the largest the world has ever seen in the luxury industry.

LVMH is a huge umbrella covering 75 brands, many of them – such as Rimowa – were brought in through acquisitions. To stay competitive against its rivals – such as Richemont and Kering, LVMH reached an agreement with Tiffany on November 25th, 2019, to buy 100% of Tiffany's shares in an all-cash transaction for 135 USD per share, which represents an announced bid premium of 7.56% (and a rumor bid premium of 36.99% based on Tiffany's closing share price on October 25th, 2019).

Due to the Covid-19 pandemic, coupled with trade disputes between France and the Trump Administration, things took a turn for the worse. In June 2020, LVMH requested to lower the price, arguing Tiffany breached its obligations under the previous agreement. In September 2020, the French foreign ministry requested LVMH to delay the acquisition beyond its expiry. Infuriated, Tiffany retaliated with a lawsuit against LVMH, condemning the conglomerate of having "unclean hands." LVMH confronted with a countersuit and brought more examples of Tiffany's mismanagement onto table.

The standoff ended on October 29th, 2020. The two companies settled on a final price of 131.5 USD (a mere 2.6% decrease,) which, in total, spared LVMH's shareholder 420 million USD. This price represents an announced bid premium of 1.19% (and a rumor bid premium of 33.44% based on Tiffany's closing share price on October 25th, 2019).

With lockdowns lifted in Asian countries and the rise of e-commerce in the second half of 2020, "revenge buying" kept the luxury industries afloat. A quick recovery might even be in sight for 2021. Despite the quarrel, LVMH still claimed to be convinced of Tiffany's "formidable potential" as ever, as suggested by LVMH's CEO Bernard Arnault.

The goal of this thesis is to evaluate the acquisition deal and to determine whether the acquisition terms were fair. To that end, the student should first perform a comprehensive industry analysis. Next, the student should conduct a fundamental and a multiple-based valuation for Tiffany, and discuss potential synergies. To assess stock market reaction around the acquisition announcement, the candidate is required to analyze the two companies and their competitors with event-study methods. The candidate should elaborate the results referring to relevant literature on market response around M&A announcements.

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

Introductory Literature:
First rumor
https://www.bloomberg.com/news/articles/2019-10-26/lvmh-is-said-to-explore-takeover-of-tiffany-in-u-s-luxury-push
First official announcement
https://r.lvmh-static.com/uploads/2020/02/cp-lvmh-stockholder-approval-press-release-eng.pdf

Second official announcement
https://r.lvmh-static.com/uploads/2020/10/press-release-en-29-oct-2020.pdf
Official announcement of deal completion
https://r.lvmh-static.com/uploads/2021/01/lvmh-press-release-7-jan-2021.pdf
An empirical research on merger announcements and target firm abnormal returns
https://www.jstor.org/stable/pdf/2327551.pdf

Topic 5: Illumina's Attempt to Acquire Pacific Biosciences: A Failed "Killer Acquisition"?

Supervisor: Alison Schultz

On November 1st, 2018, the gene sequencing company Illumina announced its plan to acquire the rival Pacific Biosciences in an all-cash deal valued at US$1.2 billion. Illumina's offer of US$8 per share represented a premium of about 77 percent to Pacific's stock price. The deal was expected to close in the fourth quarter of 2019. However, after antitrust authorities of both the U.S. and the U.K. had scrutinized the merger, on January 2, 2020, Illumina and Pacific released a joined statement that they will abandon the deal.

Founded in 1998, Illumina, Inc. is a San Diego based gene sequencing company which develops, manufactures, and markets integrated systems for the analysis of genetic variation and biological function. The company has significantly contributed to the cost reduction in sequencing a human genome. It serves customers from the pharmaceutical and biotechnical industry, as well as from academic and clinical institutions.

Pacific Biosciences of California, Inc. is a biotechnology company headquartered in Menlo Park, California. The company was founded by three Cornell graduates in 2004 and develops and manufactures systems for gene sequencing and real time biological observation. Pacific went public in 2010.

In reaction to the merger announcement, the U.S. Federal Trade Commission (FTC) raised concerns that Illumina would use the deal to prevent Pacific Biosciences from developing into a competitor in the market for next-generation DNA sequencing. Some commentators rated the deal as a "killer acquisition", i.e. claimed that Illumina would acquire the innovative target solely to discontinue Pacific's innovation projects and preempt future competition (c.f. Cunningham et al. 2021, OECD 2020).

The goal of this thesis is to value Pacific Biosciences and to determine whether the terms of the deal were fair. To that end, the student should first conduct a comprehensive industry analysis. In a next step, the candidate should perform a fundamental and a multiples-based valuation of the standalone firm, as well as potential synergies. To assess the market reactions to the announcement, the student should further analyze the stock market reactions of the companies involved in the deal and their competitors. Finally, drawing on recent literature, the student should argue if the deal can actually be considered a (failed) "killer acquisition".

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

Introductory Literature:

Official announcement for the acquisition, 1st Nov., 2018:
https://www.reuters.com/article/us-pacific-biosciences-m-a-illumina-inc/gene-sequencing-company-illumina-to-buy-pacific-biosciences-in-1-2-billion-deal-idUSKCN1N6618
Official announcement for abandoning the acquisition, 2nd Jan., 2020:
https://www.cnbc.com/2020/01/02/illumina-abandons-1point2-billion-deal-to-buy-rival-pacific-biosciences.html
Background on so-called "killer acquisitions":
Cunningham, Colleen, Florian Ederer, and Song Ma (2021): Killer acquisitions. Journal of Political Economy 129 (3), https://www.journals.uchicago.edu/doi/pdf/10.1086/712506.

OECD (2020): Start-ups, killer acquisitions and merger control, http://www.oecd.org/daf/competition/start-ups-killer-acquisitions-and-merger-control-2020.pdf.

Topic 6: The IPO of Zoom

Supervisor: Alison Schultz

When Zoom went public in April 2019, no one could foresee the immense growth the videoconferencing software company would experience with the outbreak of the pandemic one year later. Nevertheless, even back in 2019, Zoom's IPO was considered a stunning success. Its stock price rose by 80% on the first day of trading at NASDAQ and, with an issuing price of US$36 per share, Zoom raised US$356.8 million of funds. After some years as a "unicorn", the company was one of several tech firms that went public in 2019 (like, e.g., Uber and Pinterest) but the only one which operated in the black at the time of listing. By February 2021, the company's value has multiplied more than tenfold, resulting in a market value of about US$120 billion, as compared to a firm value of US$9.2 billion at the start of trading.

Zoom Video Communication, Inc. is an American communication technology company headquartered in San José, California. Founded by a former Cisco Webex engineer and executive in 2011, the company provides videotelephony and online chat services through a cloud-based peer-to-peer software platform. Zoom generates income through reoccurring subscription fees paid by businesses, institutions and individuals who use one of the various fee-based products. In addition, Zoom promotes hardware products. At the time of IPO, 78 percent of the revenue was generated by 50,800 business customers with more than 10 employees. After the IPO, Zoom's daily meeting participants rose from 10 million in the end of 2019 to 300 million in April 2020.

With 10 percent of total revenue, Zoom's costs for research and development are less than half of the median percentages among its peers. This cost advantage is at least partly due to the fact that a large Chinese subsidiary undertakes much of the product development. Human right activists have accused Zoom for adhering to pressure from Chinese authorities to censor Hong Kong based activists. Moreover, data privacy groups have criticized Zoom's privacy and corporate data sharing policies, its lack of transparency and poor encryption practices.

The goal of this thesis is to value Zoom and to determine whether the issuing price of US$36 per share was fair. To that end, the student should first conduct a comprehensive industry analysis. In the next step, she should perform a fundamental and multiples-based valuation. To assess the market reactions to the announcement, the student is further required to analyze the stock market reactions for Zoom's competitors.

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

Introductory Literature:
Official announcement, 18th April 2019:
https://www.cnbc.com/2019/04/18/zoom-ipo-stock-begins-trading-on-nasdaq.html
Short context on tech IPOs in 2019 by the Economist:
https://www.economist.com/business/2019/06/22/business-services-like-zoom-and-slack-make-for-better-listings (accessible via the University library's newspaper collection)
Prospectus Zoom, 16th April 2019:
https://investors.zoom.us/static-files/b364f5fd-ba6b-4b9e-a4d7-7d305152bbd8

Topic 7: Lawyer-directors and corporate litigation

Supervisor: Hamed Davari

The number of lawyer-directors (LD's) has increased considerably in the US since the turn of the century. While this phenomenon may have various causes, this project focuses on its consequences. Lawyers bring their knowledge, expertise, and networks to the firm, which potentially adds to the firm's human capital. They could reduce litigation risk and better represent the firm in the court of law, or screen and select the lawyers who have this capability. In addition, since they are mostly independent directors, they could provide better monitoring and thus reduce the agency costs, which is advantageous to the shareholders. On the other hand, LD's counsel could get distorted, because as compared to an independent counsel, they have a vested interest in the firm. Moreover, the firm having a lawyer on board arguably benefits from a better network of lawyers and thus could either sidestep or bend the law, hoping to secure less sever outcomes, if litigated at all.

The candidate is expected to review the literature on lawyer-directors and provide an extensive overview. Next, (s)he is expected to investigate the market reaction to LD appointments and provide a summary of LDs presence as a function of firm characteristics. Further, (s)he should analyze the relationship between the probability of being litigated with having a lawyer on board and see whether these measures are affected by appointing a LD. The candidate is required to develop and employ a plausible identification strategy, yet the two options at the outset are (1) board members unexpected turnovers and (2) enactment of Sarbanes-Oxley Act, which mandated employing independent directors.

The two main databases are Boardex and Federal Judicial Center data set that has all federal, civil, criminal, bankruptcy, and appellate court case information reported by the courts to the Administrative Office of the U.S. Courts and covers mid-1969 through to the present. The standard datasets like CRSP and Compustat, among others if necessary, are also available and will be given to the candidate. The candidate is expected to match all the datasets and provide a conclusive answer to the question in the first paragraph, namely, whether LD's are value-adding or value-destroying and determine if this effect materializes via the litigation channel.

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

Introductory Literature:

Litov, L., Sepe, S. and Whitehead, C., 2014. *Lawyers And Fools: Lawyer-Directors In Public Corporations*. Georgetown Law Journal. DOI: 10.2139/ssrn.2218855

Henderson T, Hutton I, Jiang D, 2018, "*Lawyer CEOs"*, DOI: ssrn.com/abstract=2923136

Burak Güner A, Malmendier U, Tate G, JFE; 2008, "*financial expertise of directors*", DOI: 10.1016/j.jfineco.2007.05.009

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 lead to market power 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 merger data from SDC terminal in 1998-2018 and subsequently 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 terminal, 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, I 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