# M A S T E R T H E S I S
## Spring Term 2018
**(As of 27. August 2018)**

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://cf.bwl.uni-mannheim.de/en/teaching/thesis/masters_thesis_fss_2018/, 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: Delivery Hero IPO

Supervisor: Marc Gabarro

Delivery Hero, a food delivery company, published its IPO prospectus on June 19, 2017. The company went public on 30 June, 2017. The newly issued stocks were priced at €25.50 per share; at the top end of the initial offering range of €22.00 – €25.50. The IPO raised €465 million.

Delivery Hero is an online food ordering and food delivery company. Delivery Hero was founded in 2008 in Sweden by Niklas Östberg. Currently, Delivery Hero is headquartered in Berlin. Delivery Hero is present in many different countries around the world in America, Europe, Asia and the Middle East. The company operates a conglomerate of different brands, including Foodora, Foodpanda, and PedidosYa.

The market for delivering food is highly competitive, with many different companies in this rather recent new business model. New brands such as Foodora and its competitors only deliver food produced by other companies. This business model differs from the traditional one, which had vertical integration: from the restaurant that prepares the food to the delivery to the final costumer. The market segmentation poses significant challenges for these companies and it looks likely that some of the players will not survive in the long-run.

The goal of this thesis is to value Delivery Hero and to determine whether the offer price of €25.50 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 Delivery Hero's competitors. The student should elaborate on the first day return by looking at the relevant academic literature on the first day IPO returns. Exploring the role of network effects in this industry is encouraged.

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

**Introductory Literature**:

Company Website: https://www.deliveryhero.com/

Prospectus: https://ir.deliveryhero.com/websites/delivery/English/1250/prospectus.html

## Topic 2: The Acquisition of Shire Plc. by Takeda Pharmaceuticals Company Ltd

Supervisor: Peter Severin

On May 8th, 2018, the Japan-based pharmaceutical company Takeda Pharmaceuticals announced its intention to acquire Ireland-based Shire Plc. With a deal volume of $62 billion, the deal belongs to one of the largest acquisitions of the year. The offer will be paid in cash (46%) and shares (54%). This offer is a 60% premium compared to Shire's share price one day prior to the first declaration of interest by Takeda. After the bid had been rejected four times by Shire's board of directors, it finally gave its approval. The deal will lift the newly created firm into the 10 largest pharma companies in the world with a joint revenue of about $31.2 billion.

Takeda Pharmaceuticals, founded in 1781, is the largest pharmaceutical company in Asia. With more than 30,000 employees and $15 billion in revenues it is a top 15 pharma companies in the world. The proposed deal will about double Takeda's revenue and improve its global standing. Management predicts that the synergies will amount to about $1.4 billion three years after the acquisition. Nonetheless, the deal is also expected to greatly increase Takeda's debt load. S&P Global Ratings even warned the company that this acquisition might reduce the firm's credit rating by up to two notches. The success of the transaction my thereby critically depend on Takeda's ability to pay down its debt in the near future.

Shire Plc., which was founded in 1986, is a biopharmaceutical company that is headquartered in Ireland and listed on the London Stock Exchange. It is an innovative firm that is mostly focused on rare diseases. Its business with about 22,000 employees and about $15 billion revenues is not much smaller than Takeda's.

The goal of this thesis is to value Shire Plc 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 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:**
The deal announcement, 8th May:
https://www.reuters.com/article/us-shire-m-a-takeda/japans-takeda-clinches-62-billion-shire-deal-as-pharma-ma-rolls-on-idUSKBN1I90IC

https://www.bloomberg.com/news/articles/2018-05-08/takeda-inks-62-billion-deal-to-buy-shire-for-cash-and-shares

Shareholder rejection attempt, 28th June:
https://www.reuters.com/article/us-takeda-agm/takeda-shareholders-bin-proposal-from-anti-shire-group-only-10-percent-in-favor-idUSKBN1JO0DU

**Topic 3: The Acquisition of CA Technologies by Broadcom Inc.**

Supervisor: Peter Severin

On July 11th, 2018, the semiconductor company Broadcom Inc. reached an agreement for an acquisition with CA Technologies, a software company. The deal is priced at $18.9 billion and will be paid entirely in cash. CA Technologies' shareholders will receive $44.50 per share, which represents a premium of about 20% to the pre-announcement price of $37.21. This acquisition bid follows Broadcom's recent hostile takeover attempt of Qualcomm Inc., which was blocked by Donald Trump. Due to the lesser overlap in operations, this acquisition is less likely to face regulatory scrutiny. Tom Krause, Broadcom's CFO, argues that software would the natural extension to their overall business. The transaction remains subject to the approval of CA shareholders and antitrust approvals in the U.S., the EU, and Japan.

Broadcom Inc., founded in 1961 as a semiconductor division of Hewlett-Packard, designs, develops and produces analog and digital semiconductors. After a series of corporate restructurings, the firm was purchased by Avago for $37 billion dollars in 2015. Following this transaction, the firm received its current name Broadcom Inc. In the acquisition of a software company, the firm's management sees a natural extension of its core hardware business. The newly issued debt of $18 billion for the transaction is expected to be paid off quickly after the acquisition.

CA Technologies, which was founded in 1976, is a software firm that is active in areas such as internet security and distributed computing. The firm has projected sales of about $4 billion for the fiscal year 2018 with high-profit margins and very stable cash flows.

The goal of this thesis is to value CA Technologies and to determine whether the offer price of $44.50 per share is 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 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:**
Takeover announcement, 11th July, 2018:
https://www.bloomberg.com/news/articles/2018-07-11/broadcom-is-said-to-agree-to-buy-ca-technologies-for-19-billion

https://www.cnbc.com/2018/07/11/ca-technologies-soars-after-reportedly-nearing-deal-with-broadcom.html

https://www.wsj.com/articles/broadcom-nears-deal-to-buy-ca-technologies-for-about-18-billion-1531339706

## Topic 4: The Acquisition of XL Group by AXA

Supervisor: Mengqiao Du

On March 5th, 2018, the French insurance company AXA agreed to buy XL Group Ltd., a global insurance, and reinsurance company with a strong presence in North America, Europe, and Asia-Pacific. The merger agreement has been unanimously approved by the boards of AXA and XL Group. Total consideration for the acquisition would amount to $15.3 billion (or €12.4 billion), to be fully paid in cash. Under the terms of the transaction, XL Group shareholders will receive $57.60 per share. This represents a premium of 33% to XL Group closing share price of $43.30 on March 2nd, 2018.

Founded in 1986, XL Group is a leader in P&C Commercial and specialty lines with an active global network. It is a growing franchise with a high-quality underwriting platform and a rich and diversified product offering. XL Group is a highly agile company renowned for innovative client solutions and has a comprehensive business model of originating, packaging and selling risks. XL Group has ca. 7,400 employees worldwide and has a strong presence across specialty and mid-market segments via insurance and reinsurance.

AXA is a French multinational insurance firm founded in 1816 that engages in global insurance, investment management, and other financial services. AXA is a conglomerate of independently run businesses, operated according to the laws and regulations of many different countries. The company has a revenue of €132.59 billion as of the fiscal year 2017 and about 116, 500 employees.

The goal of this thesis is to value XL Group Ltd. and to determine whether the offer price of $57.60 per share is fair. To that end, the student should first conduct a comprehensive industry analysis. In a next step, s/he 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 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:**
Takeover announcement, 5th March, 2018:
https://www.bloomberg.com/news/articles/2018-03-05/axa-plunges-after-agreeing-to-buy-xl-group-for-15-3-billion

https://www.axa.com/en/newsroom/press-releases/20180305-AXA-to-acquire-XL-group

https://investor.xlgroup.com/static-files/92cf6b64-269e-473e-908c-b003a73c2c0a

**Topic 5: The Acquisition of Pinnacle by Conagra**

Supervisor: Mengqiao Du

The North American packaged foods company headquartered in Chicago, Conagra Brands Inc. said on 27th, June, it would buy Pinnacle Foods Inc. The cash-and-stock deal, which would make Conagra the No. 2 U.S. frozen food maker by sales after Nestle, comes as demand rises for convenient, healthy ready meals, especially among millennials. Pinnacle shareholders would receive $43.11 per share in cash and 0.6494 Conagra shares for each Pinnacle share, implying an offer price of about $68 a share. Including debt, the deal is valued at $10.9 billion. The deal is expected to close by the end of calendar year 2018.

Pinnacle Foods Inc. is a packaged foods company headquartered in Parsippany, New Jersey. It specializes in the shelf stable and frozen food categories. The company has $3.14 billion in revenues as of the fiscal year 2017 and around 4,000 employees. The company's products are sold through supermarkets, convenience stores, as well as through military channels.

Founded in 1919, Conagra Brands, Inc. manufactures and markets packaged foods for retail consumers, restaurants, and institutions. The revenue of the firm is $7.83 billion as of the fiscal year 2017 and has around 12,600 employees. Conagra's refrigerated and frozen segment, with brands like Banquet and Healthy Choice, has been growing fast.

The goal of this thesis is to value Pinnacle and to determine whether the offer price of $68 per share is fair. To that end, the student should first conduct a comprehensive industry analysis. In a next step, s/he 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 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:**
Rumors, 21th June, 2018:
https://www.bloomberg.com/news/articles/2018-06-21/conagra-is-said-to-approach-pinnacle-foods-about-potential-deal

Official Announcement, 27th June, 2018:
https://www.reuters.com/article/us-pinnacle-fds-m-a-conagra-brands/conagra-to-buy-pinnacle-for-8-1-billion-creating-frozen-food-powerhouse-idUSKBN1JN19Y

https://www.bloomberg.com/news/articles/2018-06-27/conagra-to-buy-pinnacle-for-8-1-billion-to-add-frozen-foods

## Topic 6: The Acquisition of Juno Therapeutics by Celgene

Supervisor: Mattia Colombo

On January 22, 2018, U.S. biotech firm Celgene announced its intention to buy cancer drug maker Juno Therapeutics. Under the terms of the merger agreement, Celgene will pay $87 per share in cash, or a total of approximately $9 billion, net of cash and marketable securities acquired and Juno shares already owned by Celgene (approximately 9.7% of outstanding shares). Since rumors of the merger began one week before the announcement, Juno's stock price rose more than 75% and closed $85.65 on the announcement day.

Celgene is an American biotechnology company focused on the discovery, development, and commercialization of medicines for cancer and inflammatory disorders. Increased competition for its main blood cancer drug, Revlimid, and the failure of a high-profile experimental candidate for Crohn's disease in a late-stage trial in October pushed the company to invest in new drug technologies. With the merger, Celgene is planning to gain market share and boost long-term growth.

Juno Therapeutics is a Seattle-based biopharmaceutical company founded in 2013 and is specialized in the development of innovative cellular immunotherapies for the treatment of cancer. The company focuses on the creation of a new type of drug technology called chimeric antigen receptor T-cell (CAR-T) therapies, which reengineer patients' own immune cells to target and destroy blood cancers. Juno's first drug is expected to be approved in the U.S. by 2019.

The goal of this thesis is to value Juno Therapeutics 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 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**:
https://www.sec.gov/Archives/edgar/data/1594864/000119312518015255/d531432dex991.htm

https://www.reuters.com/article/us-juno-m-a-celgene/celgene-to-buy-juno-for-9-billion-to-boost-cancer-pipeline-idUSKBN1FB1DB

https://www.bloomberg.com/technology

http://fortune.com/2018/01/22/celgene-juno-deal-analysts-respond/

## Topic 7: Alternative forms of incorporation in Germany – the case of the KGaA

Supervisor: Ernst Maug & Mattia Colombo

Germany has some forms of incorporation that are somewhat unusual from an international perspective. Understanding these forms of incorporation and why and when they are used may provide important insights into corporate finance and financial contracting.

One form of incorporation that has recently enjoyed increased popularity is the "partnership limited by shares," or Kommanditgesellschaft auf Aktien (KGaA). Some German blue chips maintained this form of incorporation for several decades (e.g., Merck, Henkel). Recently, the professional association of financial analysts in Germany (Deutsche Vereinigung für Finanzanalyse und Asset Management – DVFA) expressed concern about the tendency to convert traditional stock corporations subject to the stock corporation act to KGaAs, which seem to provide stock investors with fewer rights and weaken the rights of the supervisory board.

The task of the thesis is to collect as complete a data set as possible of KGaAs and KGaA-conversions and provide a matched sample analysis to answer a range of pertinent questions: Which companies are most likely to seek the KGaA? Is this form of incorporation particularly attractive to family firms, firms in certain industries (e.g., technology) or firms with a large fraction of intangible assets? Arguably, stock investors in KGaAs enjoy a hybrid status, which gives them fewer rights than shareholders in stock corporations, but more rights than the owners of non-voting shares. Hence, why do shareholders in stock corporations vote in favor of conversions? Are conversions associated with discounts in valuations?

**Preliminaries**:
The thesis requires knowledge of German and a willingness to understand some es-sentials of German corporate law.

**Introductory Literature:**
Der spröde Charme der KGaA, FAZ, January 11, 2018, see http://plus.faz.net/finanzen/2018-01-11/d32eb819ee0cc1e466ade43c08ec7b87/?GEPC=s5

Burkart, Mike, and Samuel Lee, 2008, The One Share - One Vote Debate: A Theoretical Perspective, Review of Finance 12:1, pp. 1-49.

## Topic 8: Does Activism Come in Waves?

Supervisor: Tamas Barko

It is a well-established fact in the literature that the reshaping of the corporate landscape, mergers and acquisitions, happens in waves. However, despite the extensive research on (hedge fund) activism, it is unclear whether investor activism also shows periods of heightened activity. This thesis should investigate the question whether activist investors focus on certain industries at a time. Is activism more successful when focused? Does activism have spillover effects to non-targeted firms? Does activism increase competition in an industry?

The candidate is first required to establish a database of investor activism cases. As a starting point, the candidate needs to parse Schedule 13D filings from the EDGAR database for a reasonable time frame, e.g., 2000-2015 (the candidate may use the script of Ekaterina Volkova). Schedule 13D filings must be filed immediately after acquiring a 5% or larger stake (block) in a company, which has been widely used in the literature as a proxy for investor activism. As a next step, the candidate is required to verify the identity of the blockholder and the purpose of acquiring a block. After establishing the database of activism cases, the candidate is required to merge the data with stock market, product market and accounting information.

In the analysis, the candidate is expected to define measures of investor activism intensity in each industry. The candidate further has to determine whether activist investors are more likely to achieve their goal when activism is more prevalent in an industry. The candidate then has to analyze the returns to activism for the activist and verify whether the accounting metrics of targeted firms improve. Finally, the candidate is expected to analyze whether activism has spillover effects. The spillover effects should be quantified through product market competition, as well as the examination of the performance of non-targeted, but otherwise similar firms within an industry.

**Preliminaries**: Ability to collect data from public sources and financial databases. Outstanding econometrics skills. Proficiency in a statistical software, such as Stata. Experience with web scraping using Python, R, or a similar programming language is a plus, but not a necessity.

**Programming help:** https://sites.google.com/view/evolkova/data-block-ownership

**Introductory Literature:**

Brav, A., Jiang, W., & Kim, H. (2010). Hedge fund activism: A review. Foundations and Trends in Finance, 4(3), 185-246.

Brav, A., Jiang, W., & Kim, H. (2015). Recent advances in research on hedge fund activism: Value creation and identification. Annual Review of Financial Economics, 7, 579-595.

Harford, J. (2005). What drives merger waves? Journal of financial economics, 77(3), 529-560.

Hoberg, G., & Phillips, G. (2010). Real and financial industry booms and busts. The Journal of Finance, 65(1), 45-86.