

## MASTER THESIS

**Spring Term 2024**

**(As of 4. March 2024)**

### 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: Birkenstock Holding Ltd. IPO

### Supervisor: Bastian Koch

German sandal maker Birkenstock went public on October 11<sup>th</sup>, 2023. The company priced its IPO at \$46 per share, in the middle of its \$44 to \$49 price range. This values the offering of over 31 million new ordinary shares at \$1,483 million. Birkenstock received about one-third of the proceeds and plans to use them to pay down debt, with the rest going to its current owner, private equity firm L Catterton.

Birkenstock is a famous footwear manufacturer based in Germany. The company's products, which include its famous contoured cork-soled sandal, are sold in more than 90 countries worldwide. Positioned initially as an orthopedic brand, Birkenstock has recently collaborated with luxury names such as Dior, Manolo Blahnik, and Valentino, ultimately landing Birkenstock a place in the luxury shoe category. The company still owns each step of its production line, with most of its operations still in Germany.

The goal of this thesis is to value Birkenstock and determine whether the offer price of \$46 per share was fair. To do so, the candidate should perform a comprehensive analysis of the industry. The candidate should also perform a fundamental valuation and a multiples-based valuation. To assess the market reaction to the announcement, the candidate is required to perform a study of Birkenstock's competitors. The candidate should elaborate on the first-day return, referring to the relevant literature on IPO first-day returns.

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

### Introductory Literature:

<https://www.reuters.com/markets/deals/birkenstock-latest-shoe-ipo-drop-tough-market-2023-10-05/>

<https://www.sec.gov/Archives/edgar/data/1977102/000119312523254724/d507917d424b4.htm>

## 2: ARM Holdings Plc. IPO

### Supervisor: Bastian Koch

On August 21<sup>st</sup>, 2023, British multinational semiconductor and software design company ARM filed for an initial public offering (IPO). The company officially went public on September 14<sup>th</sup>, 2023, at \$51 per share, giving it a valuation of \$54.5 billion. The offer included 95.5 million ordinary shares and raised \$4.87 million for ARM's current owner Softbank Group Corp., which offloaded 10% of its stake as part of the offering. The offering included an overallotment option for the underwriters of up to 7 million additional shares. The company sought an IPO because private investors in the SoftBank-led Vision Fund – who own 25% of ARM – wanted to cash in through an IPO. ARM also wants to be able to give stock options as incentives to employees.

ARM was established in 1990 as a joint venture between Acorn Computers, Apple Computer, and VLSI Technology. The original joint venture set out to develop a CPU that combined high performance with power efficiency. Its CPUs initially gained traction in mobile phones in the mid-1990s because ARM's energy-efficient processors provided an appropriate level of performance while consuming little power, which was critical for these smaller form factor devices. ARM was listed on the London Stock Exchange and the Nasdaq Stock Market from 1998 until 2016 when it was taken private by SoftBank Group, the company's controlling shareholder. ARM does not sell or produce chips. Instead, the company generates revenue by licensing its products to semiconductor companies, OEMs, and other organizations to produce their chips.

The goal of this thesis is to value ARM and determine whether the offer price of \$51 per share was fair. To do so, the candidate should perform a comprehensive analysis of the industry. The candidate should also perform a fundamental valuation and a multiples-based valuation. To assess the market reaction to the announcement, the candidate is required to perform a study of ARM's competitors. The candidate should elaborate on the first-day return, referring to the relevant literature on IPO first-day returns.

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

### Introductory Literature:

<https://www.reuters.com/markets/deals/softbanks-arm-discusses-pricing-ipo-52-per-share-source-2023-09-13/>

<https://www.sec.gov/Archives/edgar/data/1973239/000119312523235320/d550931d424b4.htm>

### Topic 3: Cargo Therapeutics IPO

#### Supervisor: Henrietta Oppong-Adjei

On October 20<sup>th</sup>, 2023, Cargo Therapeutics Inc, a California-based cancer treatment CAR T-cell therapies developer, announced that it had filed a preliminary prospectus with the Securities and Exchange Commission (SEC) to raise funds for clinical development and R&D in its initial public offering (IPO). Cargo announced the pricing of its IPO of 18,750,000 shares of its common stock at a public offering price of \$15 per share on November 9<sup>th</sup>, 2023. The firm also granted the underwriters a 30-day option to purchase up to 2,812,500 additional shares of common stock at the initial public offering price, less the underwriting discounts and commissions. The shares began trading on the Nasdaq Global Select Market on November 10<sup>th</sup>, 2023.

Cargo Therapeutics is a clinical-stage biotechnology company positioned to advance next-generation, potentially curative cell therapies for cancer patients. The firm's mission is to develop CAR T-cell therapies that can outsmart cancer and deliver more cures to patients. Cargo seeks to address the limitations of approved cell therapies, including limited durability of effect, safety concerns, and unreliable supply. Cargo is currently evaluating its lead program, CRG-022 in a potentially pivotal Phase 2 clinical trial in patients with large B-cell lymphoma (LBCL) whose disease relapsed or did not respond to CD19 CAR T-cell therapy. Chimeric antigen receptor (CAR)-T cell therapy uses immune cells called T cells that are genetically altered to locate and destroy cancer cells (CD 19 in this case) more effectively.

The goal of this thesis is to value Cargo Therapeutics Inc. and determine whether the offer price of \$15 per share was fair. To do so, the student should perform a comprehensive analysis of the industry. Then, the student should also perform a fundamental valuation and a multiples-based valuation. To assess the market reaction to the announcement, the student is required to perform a study of Cargo's competitors. The student should further elaborate on the first-day return by looking at the relevant academic literature on IPO first-day returns.

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

#### Introductory Literature:

<https://www.sec.gov/Archives/edgar/data/1966494/000119312523270801/d486542ds1a.htm>

<https://investors.cargo-tx.com/news-releases/news-release-details/cargo-therapeutics-announces-pricing-initial-public-offering>

#### Topic 4: S&P Global Acquires IHS Markit Ltd.

##### Supervisor: Henrietta Oppong-Adjei

On November 30<sup>th</sup>, 2020, S&P Global (NYSE: SPGI) and IHS Markit (NYSE: INFO) announced they had entered into a definitive merger agreement to combine in an all-stock transaction. Under the terms of the transaction, which values IHS Markit at an enterprise value of \$44 billion, including \$4.8 billion of net debt, S&P will issue 0.2383 shares (equal to \$97.541) for each share of IHS Markit common stock. Upon completion, S&P's shareholders will own 67.75% of the combined company, and the shareholders of Markit will hold approximately 32.25%. The initial response from regulators led HIS Markit to announce on May 13<sup>th</sup>, 2021 that it had decided to sell its Coal, Metals, and Mining business as well as Oil Price Information Services (OPIS) in a separate deal. S&P announced the completion of the merger on February 28<sup>th</sup>, 2022.

S&P Global Inc. operates mainly through 5 segments providing credit ratings, benchmarks, analytics, and workflow solutions in the global capital, commodity, and automotive markets. Founded in 1888 and headquartered in New York, the company now has offices globally. IHS Markit is also a US-based provider of critical information, analytics, and solutions to customers in business, finance, and government with the aim of helping them make informed decisions. Douglas Peterson, the CEO of S&P Global said the merger between the two firms "increases scale while rounding out our combined capabilities and accelerates and amplifies our ability to deliver customers the essential intelligence needed to make decisions with conviction."

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 IHS Markit and discuss potential synergies. To assess the stock market reaction to the merger announcement, the candidate is required to analyze both S&P Global and IHS Markit, as well as their competitors with event-study methods. The candidate should also elaborate on the results referring to the relevant literature on market responses to M&A announcements.

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

##### Introductory Literature:

<https://www.reuters.com/article/idUSKBN28A1AO/>

<https://investor.spglobal.com/news-releases/news-details/2022/SP-Global-Completes-Merger-with-IHS-Markit-Creating-a-Global-Leader-to-Power-the-Markets-of-the-Future/>

## Topic 5: The Carve-Out of SCHOTT Pharma

### Supervisor: Henrietta Oppong-Adjei

SCHOTT AG, a Carl Zeiss Stiftung's company headquartered in Mainz, Germany, announced on March 31<sup>st</sup>, 2022, that it was exploring the option of either selling off or carving out its pharmaceutical glass business, SCHOTT Pharma. On August 1<sup>st</sup>, 2022, the company announced that about 30% of the shares in SCHOTT Pharma AG & Co. KGaA will be listed on the Frankfurt Stock Exchange. Further details released on September 18<sup>th</sup>, 2023, show the shares will be offered at a price in the range of €24.8 to €28.5, which values the firm at about € 4 billion, and a total of 34,641,362 shares will be offered, including 4,518,438 shares as an overallotment option. This represents 23% of the shares in the firm. SCHOTT Pharma was successfully listed on September 28<sup>th</sup>, 2023. The shares were offered at €27 and rose by about 16% on the first trading day, closing at €31.30.

SCHOTT Pharma designs advanced drug containment and drug delivery solutions grounded in science to ensure that medications are safe and easy to use for people around the world. The company's portfolio comprises drug containment and delivery solutions for injectable drugs ranging from pre-fillable glass and polymer syringes to cartridges, vials, and ampoules. As a global market leader with a pure-play focus on injectables, SCHOTT Pharma is represented in all major pharma hubs with 16 state-of-the-art production sites in Europe, North and Latin America, as well as Asia. Its parent firm, SCHOTT AG, is still a private limited liability firm that primarily operates as a holding company. SCHOTT AG has subsidiaries in several countries in Europe.

The goal of the study is to value the carve-out and determine whether the offer price of €27 was fair. The student should also assess the market reaction to the announcement of the IPO. To this end, the student should examine SCHOTT Pharma and its competitors in an event study. The student should further examine the medium to long-term effects of the carve-out by comparing the profitability of the firm with that of its competitors in the few years after the carve-out and elaborate on the effect, considering the relevant literature on the effects of carve-outs and IPOs.

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

### Introductory Literature:

<https://www.reuters.com/markets/deals/schott-pharma-debuts-frankfurt-stock-exchange-2023-09-28/>

<https://www.eqs-news.com/de/news/corporate/schott-pharma-ipo-final-offer-price-set-at-eur-27-00-per-share/1907465>

## Topic 6: ExxonMobil acquires Pioneer Natural Resources

### Supervisor: Minrui Gong

In response to a global transition from fossil fuels to renewable energy, the traditional energy sector has adopted two major strategies: Diversification and consolidation. The following acquisition concerns the latter.

On October 11<sup>th</sup>, 2023, ExxonMobil Corporation (“Exxon” hereafter) (NYSE: XOM) announced that it had reached a definitive agreement with Frontier Natural Resources Co (“Frontier” hereafter) (NYSE: PXD) to acquire the latter for \$59.5 billion. The transaction will be financed with Exxon’s equity: one Frontier share will be paid with 2.234 Exxon shares, equivalent to \$253. Based on Frontier’s closing price on October 10<sup>th</sup>, 2023, this represents a bid premium of 6.57%. As early as April 2023, Bloomberg reported that Exxon was in talks with Frontier. On October 6<sup>th</sup>, 2023, it was further reported that Exxon planned to acquire Frontier for around \$60 billion.

Previously known as Standard Oil Company created by the oil tycoon John Rockefeller, ExxonMobil is among the largest multinational corporations worldwide. It produces about 3% of the world’s oil and 2% of the world’s energy. Pioneer is a hydrocarbon exploration company headquartered in Irving, Texas. It is the largest acreage holder in the Permian Basin, the highest-producing oil field in the US.

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 DCF valuation and a multiples-based valuation for Pioneer and discuss potential synergies. To examine the stock market reaction to the acquisition announcement, the candidate should analyze the two companies and their competitors with event-study methods. The candidate should interpret the results referring to relevant literature on market responses around M&A announcements.

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

### Related materials:

News report on April 7, 2023: <https://www.bloomberg.com/news/articles/2023-04-07/exxon-pioneer-held-preliminary-talks-over-possible-deal-wsj>

News report on Oct 6<sup>th</sup>, 2023: <https://www.reuters.com/markets/deals/exxon-mobil-advanced-talks-60-bln-acquisition-pioneer-sources-2023-10-06/>

The announcement: [https://corporate.exxonmobil.com/news/news-releases/2023/1011\\_exxonmobil-announces-merger-with-pioneer-natural-resources-in-an-all-stock-transaction](https://corporate.exxonmobil.com/news/news-releases/2023/1011_exxonmobil-announces-merger-with-pioneer-natural-resources-in-an-all-stock-transaction)

## Topic 7: Extra Space Storage acquires Life Storage

### Supervisor: Minrui Gong

Urbanization concentrates population towards cities, driving urban housing prices to record highs. Rental services for storage space emerge against this backdrop. The following acquisition is a recent horizontal integration between two players in the US self-storage market.

On April 3<sup>rd</sup>, 2023, Extra Space Storage Inc. (“Extra Space” hereafter) (NYSE: EXR) announced that it had reached a definitive agreement with Life Storage (“Life” hereafter) (NYSE: LSI) to acquire the latter in an all-stock transaction valued at \$36 billion. Life shareholders will receive 0.895 share of Extra Space for each share held in Life, equivalent to \$162.93. Based on Life’s closing price prior to the announcement, this offer represents a bid premium of 22.42%.

Extra Space and Life are both real estate investment trusts that invest in self-storage facilities. They are the second and the fourth largest player in the US in terms of facility count, respectively. Before the announcement, the industry leader – Public Storage – stated in February 2023 that it had approached Life for an all-stock takeover, which Life later rejected.

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 DCF valuation and a multiples-based valuation for Life Storage and discuss potential synergies. To examine the stock market reaction to the acquisition announcement, the candidate should analyze the two companies and their competitors with event-study methods. The candidate should interpret the results referring to relevant literature on market responses around M&A announcements.

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

### Related materials:

Public Storage’s unsolicited bid: <https://investors.publicstorage.com/news-events/press-releases/news-details/2023/Public-Storage-Proposes-to-Acquire-Life-Storage-in-All-Stock-Transaction/default.aspx>

Life Storage rejects Public Storage’s proposal: <https://www.reuters.com/markets/deals/life-storage-rejects-11-bln-takeover-bid-public-storage-2023-02-16/>

Official announcement: <https://ir.extraspace.com/news-releases/news-release-details/extra-space-storage-life-storage-combine-form-preeminent-storage>

## Topic 8 Tapestry acquires Capri Holdings

### Supervisor: Minrui Gong

In the landscape of luxury fashion, European giants have dominated and continue to dominate the global market. Recently, two US companies have decided to join forces in an attempt to match their European rivals.

On August 10<sup>th</sup>, 2023, Tapestry Inc. (“Tapestry” hereafter) (NYSE: TPR) – the parent company of Coach, Kate Spade, and Stuart Weitzman – announced its acquisition of Capri Holdings Limited (“Capri” hereafter) (NYSE: CPRI) – the parent company of Michael Kors, Versace, and Jimmy Choo. Tapestry will purchase 100% of Capri’s equity for \$57 per share in cash, or \$6.69 billion in total. Based on Capri’s closing price prior to the announcement, this offer represents a bid premium of 64.69%.

Commenting on the deal, Capri’s CEO Joanne Crevoiserat expressed his enthusiasm towards the acquisition and said uniting the six brands under one roof would allow leveraging Capri’s competence – especially its “data-driven customer engagement platform” – to deliver strong financial outcome.

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 DCF valuation and a multiples-based valuation for Capri and discuss potential synergies. To examine the stock market reaction to the acquisition announcement, the candidate should analyze the two companies and their competitors with event-study methods. The candidate should interpret the results referring to relevant literature on market responses around M&A announcements.

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

### Related materials:

Official announcement: <https://www.capriholdings.com/news-releases/news-releases-details/2023/Tapestry-Inc.-Announces-Definitive-Agreement-to-Acquire-Capri-Holdings-Limited-Establishing-a-Powerful-Global-House-of-Iconic-Luxury-and-Fashion-Brands/default.aspx>