A Work Project, presented as part of the requirements for the Award of a master's degree in management from the Nova School of Business and Economics.

Group Component:

From Design to Dominance: The ARM-SoftBank Acquisition
Group Component: A Cross-Border M&A Case Study in the Technology Sector

Individual Component:

Brexit's Currency Quandary and its Impact on the Arm Softbank Acquisition

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Abstract:

SoftBank's acquisition of ARM Holdings in 2016 for roughly $32 billion illustrates the complicated dynamics of integrating two multinational technology giants. SoftBank sought to leverage ARM's semiconductor leadership in IoT and chip design, in line with its vision for a connected future. Challenges included regulatory approvals, cultural integration, and alignment of strategic goals. The acquisition strengthened SoftBank's foothold in IoT and enabled synergies while maintaining ARM's autonomy. This strategic alignment has allowed ARM to thrive with increased R&D and global expansion. Further this report will analyze the geopolitical dynamics influencing this deal.

Keywords:

Revenue Strategies, Cost Synergies, Semiconductor Industry, Integrational challenges, Company valuation, Discounted Cash Flow Method, Cross-Border M&A, Brexit, IPO, Acquisition

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Case Study
Group Component

1 Introduction

Industries, economies, and cultures are changing because of the Fourth Industrial Revolution (4IR), in which technology is becoming a defining force as well as an enabler. ARM is among the few companies that best exemplifies innovation, which is the essential part driving this change. For this reason, on July 18th, 2016, a few weeks after the Brexit vote, SoftBank Group Corp. ("SBG") announced the mutually agreed takeover of ARM Holdings plc ("ARM") at a deal valuation of approximately $32 billion - a choice that many believed would have a significant impact on investments in British technology. Masayoshi Son, Chairman and CEO of SBG, made the following statement about the imminent acquisition:

> "W*e have long admired ARM as a world-renowned and highly respected technology company that is by some distance the market leader in its field. ARM will be an excellent strategic fit within the SoftBank group as we invest to capture the significant opportunities provided by the Internet of Things"* (SoftBank Group Corp. 2016)

There were a few reasons behind the choice to buy ARM "outright." At that point, SoftBank already owned several tech companies, including Boston Dynamics Robotics, SoftBank Telekom and Mobile Companies, Nvidia, and businesses in its Vision fund, all of which could have benefited from the chip architecture it had bought. The emergence of the internet of things (IoT) marked 2016. To help integrate new markets and support the promotion of new growth categories in sub-segments, SoftBank invoked its own extensive industry knowledge in its pre-sales statement (Massoudi, Fontanella-Khan und Waters 2016). SoftBank always wanted to keep ARM free to act as an independent company. Both companies believed in bringing together technology-driven cultures, long-term shared visions, and advancing a chip-based

future. SoftBank assumed that such an investment strategy would be more feasible off-market in terms of long-term growth due to increased research and development (R&D) spending, relocation, and employee expansion. As a result, ARM was not even traded publicly, neither in London nor on the NASDAQ (Riley 2016).

The key challenges that had to be addressed were the strategic, historical and financial integration of ARM into SoftBank's portfolio, a Japanese tech conglomerate.

2 Industry Overview

Particularly in the wake of the 2008 financial crisis, firms such as Apple, Alibaba, Amazon, Facebook, and Google are creating semiconductor chips that are becoming more and more important to the tech value chain. Central Processing Units (CPU) are becoming more and more essential as the world becomes more digitalized and uses the cloud.

Some more recent technological advancements, such as blockchain technology, internet of things, and artificial intelligence (AI) applications, are significantly boosting production in tandem with traditional businesses. The microprocessor accounted for the majority of semiconductor industry revenue between 1997 and 2012, generating a total economic profit of $161,5 billion across all segments. Nearly every subsegment, including memory, analog and diversified IDM, and electronic design automation, saw revenue growth between 2013 and 2017. According to (Hannigan 2019), the total positive economic profit climbed to $284,6 billion.

This spike in the segment's growth attracted new investors who were looking to acquire companies that would give them an advantage in the semiconductor market. Subsequently, significant transactions involving semiconductor companies, were completed in the years leading up to the acquisition. According to Merger Market, 2015 saw a surge in completed transaction of about 56%, compared to 2014 totaling at 136 deals (117 disclosed value deals)

in 2015 and 124 deals (108 disclosed value deals) in 2016 with a total value of $90,9 billion and $126,5 billion in 2015 and 2016 respectively as seen in exhibit CS11 (Merger Market n.d.).

3 Historical context: Merger Participants and overall industry

3.1 ARM Holdings plc

Originally based in the UK, ARM (formerly known as Advanced RISC Machines Ltd.) is the world's top developer of semiconductor intellectual property (IP). In 1990, ARM was founded as a joint venture by VLSI Technology (now NXP Semiconductors N.V.), Apple Computers (now Apple Inc.) (43%), and Acorn Computers (43%) (ARM Ltd., 2023). Designing and licensing a wide range of primary power-efficient CPUs as well as other IP blocks like memory controllers, interconnects, and system peripherals are ARM's areas of expertise. Licensing and maintaining relationships with important clients like Apple, Samsung Electronics, Microsoft, Windows, and Nvidia is one of ARMs' main business operations. These partnerships have given the tech company a current market share in the semiconductor segment of about 99%.

These clients are considered semiconductor manufacturers, system-on-chip (SoC) designers, and original equipment manufacturer (OEMs) (Arm Holdings plc n.d.). Such license agreements allow other companies to integrate ARMs technology into their custom-designed chips (Furber 2000).

The company's success in the 1990s resulted in the announcement of a dual listing for ARM on the London Stock Exchange and the NASDAQ in April 1998. Despite the dotcom bubble and the tech-stock crash, the company consolidated its market eligibility because of the expanding smartphone market, with its integrated CPUs.

3.2 ARM´S business strategy

Rather than licensing completed products or services, ARM licenses processor designs to semiconductor companies, who subsequently incorporate the technology into computer chips

(Arm Holdings plc n.d.). ARM's licensing approach is built on the notion of Reduced Instruction Set Computing (RISC), a design philosophy that stresses a smaller set of instructions to accomplish tasks. This strategy resulted in more efficient processors, making ARM architectures particularly suitable for a wide range of devices, from smartphones and tablets to embedded systems and beyond.

The two-tiered structure of ARM's licensing strategy was one of its most important features: the first tier entailed licensing the architecture itself, while the second tier required licensing the actual processor designs based on that architecture. As a result, ARM was able to collaborate with a diverse set of firms, including semiconductor makers, original equipment manufacturers (OEMs), and system-on-chip (SoC) designers (Furber 2000).

At the architectural licensing level, ARM offered enterprises with access to their RISC Instruction Set architectural (ISA). This enabled licensees to construct their own processor implementations while adhering to ARM's basic design principles. This amount of adaptability was crucial for businesses that sought to design processors to their individual requirements, whether for power efficiency, performance, or a combination of the two (Arm Holdings plc n.d.). The second step entailed licensing individual processor designs, such as those in the Cortex family. These ideas were used to build everything from low-power microcontrollers to high-performance application processors. Companies might license these designs, alter them to their specifications, and incorporate them into the company's products. Because of this versatility and adaptability, ARM's solutions were extremely appealing to a wide range of sectors.

ARM's business strategy was based on royalties and upfront licensing payments. Architecture licensing payments were normally a one-time expenditure, while ARM's continual revenues derived from recurring royalties depending on the number of chips built utilizing their designs.

This created motivation for ARM to develop a collaborative ecosystem because the success of its licensees was directly related to their own success (Son und Seagers 2016).

ARM's business strategy involves a variety of stakeholders, including key business customers who rely on ARM's RISC CPU architecture in their own manufacturing. These include Apple, Qualcomm, Samsung Electronics, NVIDIA, and Microsoft. In addition, the sole owner and major stakeholder is the SoftBank Group Cooperation. There is also internal management and employees who have a stake in the success of the company.

The widespread adoption of the ARM architecture across a variety of industries and applications demonstrates the effectiveness of this licensing model. ARM processors are in use in billions of devices worldwide, from mobile phones to networking equipment to IoT devices with 25-year life cycles.

3.3 Softbank Group

Since its establishment, SoftBank Group Corporation, a multinational technology giant, has profoundly changed the landscape of technology, telecommunications, and investing. SoftBank was founded in Tokyo, Japan in 1981 by entrepreneur Masayoshi Son. Son redefined the landscape of the tech industry with his company and the spirit *"Pioneering Innovation and Investment"*. During his study in business and technology at the University of California, Berkeley, Son developed software systems and discovered the potential inherent in future software development.

SoftBank has been a significant brand in the global technology business since the 1990s, noted for its broad investments and wise backing of creative firms. SoftBank had already established itself as a key player in the telecoms, internet, and technology industries prior to its 2016 acquisition of ARM Holdings.

The company's early years were distinguished by its participation in the software market distribution. The turning point for SoftBank came with the establishment of the internet in the

1990s . In 1995 the company owned 37% of Yahoo´s shares. In 1997 Son invested in numerous internet companies and was therefore, one of the most established players in the new economy, while owning – at that time, 53% of SoftBank (The Economist 2021). At the peak of the dotcom crisis, SoftBank held an enterprise value of approximately $140 billion.

SoftBank launched in the software distribution business, but its later expansion was driven by a shift toward telecommunications. SoftBank undertook a risky acquisition of Vodafone Japan in 2006, establishing itself as an established player in the Japanese telecoms sector. Masayoshi Son's grandiose aim of transforming SoftBank into a worldwide technological powerhouse began with this acquisition (Massoudi, Fontanella-Khan und Waters 2016).

SoftBank's strategy, inspired by Son's leadership, was centered on the concept of the "Information Revolution." Son envisioned a future in which information would be a driving force behind economic and societal developments, and he aspired to position SoftBank as a leader in this transition. This concept expanded beyond traditional telecoms and included a wide range of technology-related initiatives (SoftBank Group Corp. 2022).

SoftBank has been recognized for their investment strategy that involves taking significant risks in innovative and disruptive companies. In addition to providing financing, SoftBank actively participates in managing and directing the strategic growth of their portfolio firms (SoftBank Group Corp. 2023). This hands-on approach is intended to accelerate the growth and success of their investments by utilizing SoftBank's experience and resources.

The acquisition of ARM Holdings in 2016 was an investment in strategy that aligned with SoftBank's larger ambition. SoftBank's emphasis on new technologies was strengthened by ARM's expertise in chip design and extensive deployment across multiple sectors. The purchase strategically positions SoftBank to play a significant role in the dynamic connected devices environment, the Internet of Things (IoT), and the broader smart technology ecosystem.

3.4 The semiconductor industry

The global semiconductor industry is a crucial part of the technology world, with semiconductors being essential for the functioning of various electronic devices. John Neuffer, CEO of Semiconductor Industry Association (SIA), gave a market insight into how sales in the semiconductor sector were performing.

> *"The industry posted its highest-ever quarterly sales total, with most regional markets and semiconductor product categories contributing to the gains. Indications are positive for increased sales in the coming months, but it remains to be seen whether the global market will surpass annual sales from last year."* (Semiconductor Industry Association 2016).

Global semiconductor sales in 2016 increased by 2,6% from $334,9 billion in 2015 to $339 billion. One third of global revenue in 2016 is made up of semiconductor placement within communication devices such as smartphones, followed by about 29% which come from PC/Computer devices. The remaining third is made up of industrial/governmental, consumer and automotive uses (World Semiconductors Trade Statistics 2023). Sales for the top 25 semiconductor producers grew by 10,5%, solidifying their position in the market during that time. This resulted from the semiconductor industry's massive growth in mergers and acquisitions, which was fueled by controlled expansion, cheap borrowing costs, and the development of new business sectors. Apart from the purchase of ARM, Qualcomm also paid $47 billion to acquire NXP Semiconductors (European Comission n.d.). Among the biggest transactions of the year was Semiconductor's $2,4 billion acquisition of Fairchild Semiconductors (Semiconductor Intelligence, LLC 2015). The buyers wanted to increase its knowledge in fields like power electronics, automotive, IoT, and mobile. Together, Qualcomm, Samsung Electronics, and Intel produced a market share of more than 20% (Forni und van der Meulen 2017).

The industry noticed new opportunities brought about by advances in nanoelectronics, quantum computing, and artificial intelligence, which all required very large processing power. These advances also came with very high costs, complicated security protocols, and other drawbacks.

4 The acquisition process

4.1 Inside the Acquisition: Unraveling Transaction Particulars

On July 18th, 2016, the UK-listed and headquartered semiconductor design company ARM-Holdings plc ("ARM"; LON: ARM), which was listed on the London and New York Stock Exchange, received an offer from the Tokyo-listed and headquartered electronics and telecommunications conglomerate SoftBank Group Corp ("SoftBank") [TYO:9984]. The target possessed $16,7 billion in cash on hand at the time of the offer, but the bid had been predicated on a cash offer.

New debt had been issued, bringing the outstanding balance of $7,3 billion up to (Warren 2016). With a total price of $32 billion, the offer focused on the 98,55% of ARM share capital that the bidder did not already own. SoftBank was willing to grant a 43% premium over the closing price of £11,89, on July 15th, 2016, the day before the official announcement, offering £17 a share (Merger Market n.d.). As Son was asked which kind of synergies, he would see in combining SoftBank and ARM his answer was:

"Now is the time of discovery and technical explosion. The telecommunication sector is changing into IoT, combined with AI techniques we can screen much more data than we are used to know a day." (Son und Seagers 2016).

The following post-deal arrangements existed: Firstly, the acquirer planned for the target to operate as an independent entity under the SoftBank umbrella. Furthermore, the target was removed from the stock exchange following the scheme's effectiveness. In addition, the

acquirer intended to carry out a squeeze-out procedure if the transaction continued as a takeover bid.

The post-merger agreement demonstrated that SoftBank felt strongly connected to ARM's British heritage, believing in its strength and autonomous operations. Maintaining the autonomous strategy strengthened the overall synergies (SoftBank Group Corp. 2016). Furthermore, business relationships should be maintained through ARM and its major customers. The planned increase in ARM's internal staff should also promote innovation and internal growth while keeping the flexibility.

Key dates of the acquisition:

- **July 15th, 2016:** ARM closed with a share price of £11,89 before the acquisition announcement.
- **July 18th, 2016:** SoftBank Group Corp. and ARM Holdings plc announced an agreement for SoftBank to acquire ARM for approximately GBP 24,0 billion (approximately USD 31,0 billion or JPY 3,3 trillion). Shares soared a record 40,78% and opened at £16,74 that morning.
- **August 3rd, 2016:** Documented scheme of acquisition terms and operational synergies was announced to the public.
- **August 3rd, 2016:** Approval of Resolution on Recommended Acquisition of ARM and ARM´s Court Meeting and General Meetings of Shareholders by SoftBank.
- **September 2nd, 2016:** Final approval of the offer by ARM at a court hearing. ARM's stock closed on its final trading day at £17,00.
- **September 5th, 2016:** The completion date of the acquisition; The Scheme of Arrangement in respect of the recommended acquisition came into effect, and ARM's entire issued and to-be-issued share capital was owned by SoftBank and its wholly owned subsidiaries.

- **September 6th, 2016:** ARM was delisted from the London Stock Exchange and ceased to be a listed company (SoftBank Group Corp. 2016)

While the transaction itself was completed within a relatively short period, suggesting a certain efficiency, it would not be accurate to characterize the process as straightforward or entirely smooth. Regulatory approvals across multiple countries, concerns about preserving ARM's British heritage, intricate financing arrangements, and the complex nature of valuing a tech company were among the hurdles faced during this acquisition. Additionally, the timing of the deal, shortly after the Brexit referendum, added an extra layer of uncertainty and potential complications. Therefore, despite its completion, the acquisition journey encompassed several intricate and challenging aspects that might not align with a straightforward or entirely smooth process.

4.2 Understanding Challenges faced throughout the Deal

SoftBank had to overcome various strategic, historical, and financial obstacles to acquire ARM. Because of ARM's crucial role in the semiconductor industry because of the profound effect of its renowned architecture, it was the authorities' job to investigate potential anti-competitive consequences. The difficulty was to preserve the architectural clearance guarantee while continuing to service both small businesses and industry major players.

The transaction prompted some concerns. SoftBank's long-term ambition for ARM has been questioned by analysts. The integration of ARM's semiconductor paradigm, including existing customer ties, into SoftBank's extremely varied portfolio must be balanced against both firms' strategic goals (Toh, 2022).

It is worth noting that ARM has been headquartered in Cambridge, England, since the 1990s. The acquisition of a Japanese technology group led to a fusion of different norms and values. The approval of ARM shareholders, many of whom had a vested interest in preserving the company's British heritage, was essential. The transaction required the majority support of

ARM investors, and some were concerned about the potential impact on ARM's British roots (Farrell & Kollewe, 2016).

Considering the fair rating of the company, it is important to refer to the historical importance that the ARM represents for the British technology scene.

Of course, the portfolio integration and cultural differences of both companies could not be ignored. SoftBank's idea was to use the market power of ARM, to become a leading competitor in the IoT space, but it was uncertain whether SoftBank's network would want to and be able to rely on ARMs' architecture in the long term (Elliott 2016).

5 Strategic Evolution and Acquisition Dynamics

5.1 Strengthening SoftBank's position on the Internet of Things (IoT) market

Malicious tongues claimed that Son wanted to buy ARM because of the strengthening of the Japanese yen versus the weak English pound sterling, especially in the second half of 2016 after the Brexit referendum (refer to Case Study C for further details), when equipment billing activity accelerated.

One main reason for the acquisition was that ARM was, seen as a strategic reinforcement of the Vision Fund in IoT (ARM, 2016). With its market share of 99% in Mobile devices, ARM had already established a dominant position in an industry that was central to the digital era. This provided SoftBank with a foothold in the mobile technology market, which was essential for the company's vision of a future connected world.

The prevalence of ARM-based designs in smartphones meant that SoftBank could tap into the vast and diverse user base these devices represented. Further, SoftBank noticed ARM´s existing diversification into emerging markets such as artificial intelligence (AI), automotive, and cloud computing. SoftBank's established technology portfolio, with its profound industry expertise and global network, provided breeding ground for leveraging ARM's expertise to

position SoftBank as a key player in shaping the future by expanding its reach and influence (Tennant 2016). Another important aspect was ARM's licensing business model, which would allow SoftBank to benefit from a broader ecosystem of technology companies and innovators. To achieve this, SoftBank intended to sustain ARM´s long-term focus on generating more value per device and driving licensing wins and future royalty streams in new growth categories, especially "Enterprise and Embedded Intelligence" (SoftBank Group Corp. 2016). To achieve this long-term growth vision, SoftBank had to increase its investments driving innovation. To guarantee that ARM could keep a competitive advantage in research and development over both current and potential rivals, SBG planned to invest in engineering expertise and complementing acquisitions, to assist with ARM's numerous expansion ambitions. SBG considered that, as an unlisted company, it would be easier to implement such an investment plan for long-term growth.

5.2 A Shared vision for the future of the internet and its growth

At the time of the bidding and the intended takeover of SoftBank, ARM had no intention of selling the company. Due to its market power in the CPU manufacturing sector, ARM had created a strategically clever negotiating position for itself (Farrell und Kollewe 2016). Simon Segars, ARM's CEO, explained in an interview that the two main arguments in favor of a lucrative sale were certainly fulfilled (Seagers 2016). Firstly, the offer price, which was very accommodating for both ARM and its shareholders. With a premium of over 40% on each share, the shareholders agreed to the deal shortly after it was announced. The second approach is the shared vision. Both companies share a future of the internet and its growth. Through ARM's licensing model and SoftBank's financial support, ARM would achieve a greater impact in the market than standing alone. Both are interested in local growth, for example by increasing the number of employees, as well as global growth. This will be achieved through SoftBank's development, invention and the development of a shared ecosystem. As ARM's

core business does not overlap with SoftBank's and ARM will continue to operate autonomously under SoftBank's umbrella, the day-to-day business will not suffer. Segars emphasized that a higher level of investment improves the speed of innovation (Seagers 2016).

5.3 ARM's Tech Advantage Meets SoftBank's Resources

For Simon Seagers, it was not inevitable that ARM would be sold and privatized once more. Creating a global ecosystem with a high level of investment and innovation for future growth was of primary importance for the former CEO of ARM. ARM found a partner in SoftBank that shared its values and future vision (Seagers 2016).

Through the ARM-SoftBank alliance, ARM underwent significant operational transformations that were subtle yet impactful. SoftBank's infusion of financial support empowered ARM to bolster its research and development endeavors, introducing cutting-edge features into its products and expanding its product line (Seagers 2016). The arrangement, while under SoftBank's umbrella, allowed ARM to maintain operational autonomy, preserving its clientele and protecting its established brand identity. This collaboration also accelerated ARM's global expansion efforts, fostering accelerated growth rates and a more extensive international presence. Furthermore, SoftBank's support facilitated ARM's diversification, reducing its vulnerability to market fluctuations by broadening its product range.

On the other hand, SoftBank gleaned substantial advantages from the collaboration. Aligned in long-term vision, SoftBank strategically positioned itself as a significant player in the semiconductor industry, leveraging the acquisition to fortify its expansive technology portfolio. The partnership with ARM also opened avenues for SoftBank to harness ARM's expertise in artificial intelligence and robotics, fostering synergistic collaborations and innovative advancements (Farrell und Kollewe 2016). Integrating ARM's technological prowess into its existing portfolio presented SoftBank with opportunities to create fresh value propositions,

solidify its market presence in the tech and semiconductor sectors, and explore new avenues in smart home, automotive, and industrial solutions (Riley 2016).

As there was no overlap between the core businesses of SoftBank and ARM, both companies had an enormous benefit from mutual synergy effects, whether in financial, structural or operational terms.

6 Conclusion

Finally, the transaction provides an intriguing example of the extent to which organizations with disparate aims, cultures, and techniques may unite. Structure integration, strategic decisions, and retaining culture are all challenges that give important insights into the dynamics of both firms. The preservation of all interests is given special consideration.

The primary challenge was the art of balancing innovation and cutting-edge technology between two multinational corporations and global market interest. Maintaining British history, protecting Arm's independence, and correctly integrating it into the SoftBank portfolio highlight the various problems of a merger. The conclusion underlines the significance of strategic planning, adaptability, and intercultural sensitivity in an ever-changing global economic environment.

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Appendix

Exhibit CS 1: ARM's Income Statements 2013-2015

For the year ended 31 December
All values in million £ (except per share data and %)

	31.12.13	31.12.14	31.12.15
Revenue[1]	**714,60**	**795,20**	**968,30**
Royalties - Processors	317,50	326,00	463,10
Royalties - Physical IP	40,80	36,50	46,90
Licensing - Processors	244,40	309,10	326,60
Licensing - Physical IP	41,20	52,10	54,00
Software and tools	36,40	35,00	37,30
Services	34,30	36,50	40,40
Cost of Revenues	**-39,30**	**-37,80**	**-39,30**
Gross Profit	**675,30**	**757,40**	**929,00**
Operating Expenses			
Research and development	-202,90	-224,20	-278,00
Sales and marketing	-89,40	-93,20	-106,10
General and administrative	-128,20	-131,00	-138,80
Total operating expenses before exceptional items	**-420,50**	**-448,40**	**-522,90**
Exceptional items	-101,30	0,00	0,00
Total operating expenses after exceptional items	**-521,80**	**-448,40**	**-522,90**
Profit from operations	**153,50**	**309,00**	**406,10**
Investment income	13,30	11,30	12,10
Interest payable and similar charges	-0,20	-0,30	-0,30
Shares of results in joint venture	-4,00	-3,50	-3,10
Profit before tax	**162,60**	**316,50**	**414,80**
Tax (including exceptional items)	-57,80	-61,10	-75,10
Profit for the year	**104,80**	**255,40**	**339,70**
Earnings per share			
Basic and diluted earnings	104,80	255,40	339,70
Number of shares (millions)			
Basic weighted average number of shares	1.396,40	1.406,20	1.407,40
Effect of dilutive securities: Employee incentive schemes	15,40	14,90	12,90
Diluted weighted average number of shares	**1411,80**	**1421,10**	**1420,30**
Basic EPS	0,08	0,18	0,24
Diluted EPS	0,07	0,18	0,24
Calculated Metrics			
EBITDA	190,80	352,40	457,10
EBIT	162,80	316,80	415,10

(Arm Holdings plc 2015) (Arm Holdings plc 2016)

Exhibit CS 2: ARM's Balance Sheet 2013-2015

All values in million £ (except per share data and %)

	31.12.13	31.12.14	31.12.15
Assets			
Current assets			
Cash and cash equivalents	43,80	54,10	40,50
Short-term deposits and similar instruments	544,10	620,80	617,80
Fair value of currency exchange contracts	5,10	0,00	0,00
Embedded derivatives	0,00	2,60	6,90
Accounts receivable	136,20	138,60	183,70
Available-for-sale financial assets	1,20	0,00	23,10
Prepaid expenses and other assets	39,80	43,20	51,60
Current tax assets	6,90	8,90	22,90
Inventories	3,00	2,70	1,80
Total current assets	**780,10**	**870,90**	**948,30**
Non-current assets			
Long-term deposits and similar instruments	125,60	191,40	298,00
Loans and receivables	3,00	3,00	6,00
Available-for-sale financial assets	13,90	23,70	11,60
Investment in joint venture	6,50	3,00	2,60
Prepaid expenses and other assets	1,60	1,70	1,40
Property, plant and equipment	33,60	43,40	61,60
Goodwill	525,90	567,00	650,70
Other intangible assets	82,90	77,20	92,00
Deferred tax assets	65,30	55,90	48,00
Total non-current assets	**858,30**	**966,30**	**1.171,90**
Total assets	**1.638,40**	**1.837,20**	**2.120,20**
Liabilities			
Current liabilities			
Accounts payable	7,00	11,70	12,70
Fair value of currency exchange contracts	0,00	4,80	3,20
Embedded derivatives	7,00	0,00	0,00
Accrued and other liabilities	88,10	80,60	100,70
Finance lease liabilities	2,70	3,90	5,20
Current tax liabilities	18,80	31,90	30,60
Deferred revenue	156,70	127,40	110,10
Total current liabilities	**280,30**	**260,30**	**262,50**
Non-current liabilities			
Accrued and other liabilities	2,60	0,00	6,30
Finance lease liabilities	1,50	2,60	6,10
Deferred tax liabilities	0,10	0,40	3,20
Deferred revenue	42,50	45,60	44,50
Total non-current liabilities	**46,70**	**48,60**	**60,10**
Total liabilities	**327,00**	**308,90**	**322,60**
Net assets	**1.311,40**	**1.528,30**	**1.797,60**
Capital and reserves attributable to owners of the Company			
Share capital	0,70	0,70	0,70
Share premium account	18,10	24,90	27,20
Capital reserve	354,30	354,30	354,30
Share option reserve	61,40	61,40	61,40
Retained earnings	820,60	991,80	1.213,30
Revaluation reserve	0,00	4,30	17,70
Cumulative translation adjustment	56,30	90,90	123,00
Total equity	**1.311,40**	**1.528,30**	**1.797,60**
Total liabilities and shareholder's equity	**1.638,40**	**1.837,20**	**2.120,20**

(Arm Holdings plc 2015) (Arm Holdings plc 2016)

Exhibit CS 3: ARM's OCI Statement 2013-2015

For the year ended 31 December

All values in million £ (except per share data and %)

	31.12.13	31.12.14	31.12.15
Profit for the year	**104,80**	**255,40**	**339,70**
Other comprehensive income			
Unrealized holding gains on available-for-sale financial assets reclassified to income statement	0,00	0,00	-4,30
Unrealized holding gains on available-for-sale financial assets	0,00	4,30	17,70
Currency translation adjustment*	-17,90	34,60	32,10
Other comprehensive income for the year	**-17,90**	**38,90**	**45,50**
Total comprehensive income for the year	**86,90**	**294,30**	**385,20**

(Arm Holdings plc 2015) (Arm Holdings plc 2016)

Exhibit CS 4: ARM's Cash Flow Statement 2013-2015

For the year ended 31 December
All values in million £ (except per share data and %)

	31.12.13	31.12.14	31.12.15
Profit before tax	**162,60**	**316,50**	**414,80**
Investment income (net of interest payable and similar charges)	-13,10	-11,00	-11,80
Share of results in joint venture	4,00	3,50	3,10
Profit from operations	**153,50**	**309,00**	**406,10**
Adjustments for:			
Depreciation and amortization of property, plant and equipment and intangible assets	28,00	35,60	42,00
Compensation charge in respect of share-based payments	59,20	68,50	70,50
Provision for impairment of available-for-sale financial assets	66,30	1,00	0,30
Profit on disposal of available-for-sale financial assets	-3,30	-0,30	-5,60
Loss on disposal of property, plant and equipment	0,60	0,10	0,20
Provision for doubtful debts	4,00	0,30	-0,10
Non-cash foreign currency losses/(gains)	-3,60	3,40	2,90
Movement in fair value of currency exchange contracts	-3,70	9,90	-1,60
Movement in fair value of embedded derivatives	4,40	-9,60	-4,30
Changes in working capital			
Accounts receivable	-19,80	-4,00	-37,20
Inventories	-0,70	0,30	0,90
Prepaid expenses and other assets	-8,80	-9,90	-17,40
Accounts payable	1,10	4,50	0,40
Deferred revenue	53,10	-24,80	-26,20
Accrued and other liabilities	8,30	-11,60	22,50
Cash generated by operations before tax	**338,60**	**372,40**	**453,40**
Income taxes paid	-23,30	-30,80	-73,90
Net cash from operating activities	**315,30**	**341,60**	**379,50**
Investing activities			
Interest received (net of interest paid of £0.3 million (2013: £0.2 million))	13,20	13,30	11,10
Purchases of property, plant and equipment	-13,50	-20,40	-30,50
Purchases of other intangible assets	-31,80	-10,00	-10,50
Purchases of available-for-sale financial assets	-8,90	-5,00	-3,80
Proceeds on disposal of available-for-sale financial assets	5,50	2,20	6,40
Purchase of short- and long-term deposits and similar instruments, net	-188,50	-145,10	-102,80
Purchase of subsidiaries, net of cash and borrowings acquired	-21,10	-12,80	-62,30
Investment in joint venture	-3,70	0,00	-2,70
Provision of long-term loan	-0,70	0,00	-2,90
Net cash used in investing activities	**-249,50**	**-177,80**	**-198,00**
Financing activities			
Proceeds received on issuance of shares	5,90	6,80	2,30
Proceeds received on issuance of shares from treasury	0,00	0,00	7,10
Purchase of own shares	0,00	-66,90	-92,20
Dividends paid to shareholders	-68,90	-86,10	-107,80
Repayment of borrowings	-1,10	-1,20	0,00
Repayment of finance lease liabilities	-3,30	-6,40	-5,10
Net cash used in financing activities	**-67,40**	**-153,80**	**-195,70**
Net increase/(decrease) in cash and cash equivalents	**-1,60**	**10,00**	**-14,20**
Cash and cash equivalents at beginning of the year	46,30	43,80	54,10
Effect of foreign exchange rate changes	-0,90	0,30	0,60
Cash and cash equivalents at end of the year	**43,80**	**54,10**	**40,50**

(Arm Holdings plc 2015) (Arm Holdings plc 2016)

Exhibit CS 5: ARM's Changes in Shareholder's equity 2013-2015

For the fiscal years 2013, 2014, 2015
All values in million £ (except per share data and %)

	Share capital	Share premium account	Capital reserve*	Share option reserve**	Retained earnings	Revaluation reserve***	Cum. translation adjustment	Total
Balance at 1 January 2013	**0,70**	**12,20**	**354,30**	**61,40**	**703,30**	**0,00**	**74,20**	**1.206,10**
Profit for the year	0,00	0,00	0,00	0,00	104,80	0,00	0,00	104,80
Other comprehensive loss								
Currency translation adjustment	0,00	0,00	0,00	0,00	0,00	0,00	-17,90	-17,90
Total comprehensive income for the year	**0,00**	**0,00**	**0,00**	**0,00**	**104,80**	**0,00**	**-17,90**	**86,90**
Shares issued on exercise of share options and awards	0,00	5,90	0,00	0,00	0,00	0,00	0,00	5,90
Dividends	0,00	0,00	0,00	0,00	-68,90	0,00	0,00	-68,90
Credit in respect of employee share schemes	0,00	0,00	0,00	0,00	59,20	0,00	0,00	59,20
Movement in tax arising on share options and awards	0,00	0,00	0,00	0,00	22,20	0,00	0,00	22,20
	0,00	**5,90**	**0,00**	**0,00**	**12,50**	**0,00**	**0,00**	**18,40**
Balance at 31 December 2013	**0,70**	**18,10**	**354,30**	**61,40**	**820,60**	**0,00**	**56,30**	**1.311,40**
Balance at 1 January 2014	**0,70**	**18,10**	**354,30**	**61,40**	**820,60**	**0,00**	**56,30**	**1.311,40**
Profit for the year	0,00	0,00	0,00	0,00	255,40	0,00	0,00	255,40
Other comprehensive income								
Unrealized holding gain on available- for-sale financial assets	0,00	0,00	0,00	0,00	0,00	4,30	0,00	4,30
Currency translation adjustment	0,00	0,00	0,00	0,00	0,00	0,00	34,60	34,60
Total comprehensive income for the year	0,00	0,00	0,00	0,00	255,40	4,30	34,60	294,30
Shares issued on exercise of share options and awards	0,00	6,80	0,00	0,00	0,00	0,00	0,00	6,80
Dividends	0,00	0,00	0,00	0,00	-86,10	0,00	0,00	-86,10
Purchase of own shares	0,00	0,00	0,00	0,00	-66,90	0,00	0,00	-66,90
Credit in respect of employee share schemes	0,00	0,00	0,00	0,00	68,50	0,00	0,00	68,50
Movement in tax arising on share options and awards	0,00	0,00	0,00	0,00	0,30	0,00	0,00	0,30
	0,00	**6,80**	**0,00**	**0,00**	**-84,20**	**0,00**	**0,00**	**-77,40**
Balance at 31 December 2014	**0,70**	**24,90**	**354,30**	**61,40**	**991,80**	**4,30**	**90,90**	**1.528,30**
Balance at 1 January 2015	**0,70**	**24,90**	**354,30**	**61,40**	**991,80**	**4,30**	**90,90**	**1.528,30**
Profit for the year	0,00	0,00	0,00	0,00	339,70	0,00	0,00	339,70
Other comprehensive income								
Unrealized holding gain on available- for-sale financial assets	0,00	0,00	0,00	0,00	0,00	17,70	0,00	17,70

Unrealized holding gain on available-for- sale financial assets reclassified to income statement	0,00	0,00	0,00	0,00	0,00	-4,30	0,00	-4,30
Currency translation adjustment	0,00	0,00	0,00	0,00	0,00	0,00	32,10	32,10
Total comprehensive income for the year	0,00	0,00	0,00	0,00	339,70	13,40	32,10	385,20
Shares issued on exercise of share options and awards	0,00	2,30	0,00	0,00	0,00	0,00	0,00	2,30
Dividends	0,00	0,00	0,00	0,00	-107,80	0,00	0,00	-107,80
Purchase of own shares	0,00	0,00	0,00	0,00	-92,20	0,00	0,00	-92,20
Proceeds from sale of own shares	0,00	0,00	0,00	0,00	7,10	0,00	0,00	7,10
Credit in respect of employee share schemes	0,00	0,00	0,00	0,00	70,50	0,00	0,00	70,50
Movement in tax arising on share options and awards	0,00	0,00	0,00	0,00	4,20	0,00	0,00	4,20
	0,00	**2,30**	**0,00**	**0,00**	**-118,20**	**0,00**	**0,00**	**-115,90**
Balance at 31 December 2015	**0,70**	**27,20**	**354,30**	**61,40**	**1.213,30**	**17,70**	**123,00**	**1.797,60**

(Arm Holdings plc 2015) (Arm Holdings plc 2016)

Exhibit CS 6: Notes to the Financial Statements

Notes to Financial Statements	
1	The majority of the Group's revenues come from the licensing of IP and subsequent receipt of royalty revenues and there are therefore very few direct costs associated with the sale of goods; where there are direct costs of revenues, these are measured with reference to the purchasing agreements in place with the Group's suppliers. Many license agreements are for products which are designed to meet the specific requirements of each customer. Revenue from the sale of such licenses is recognized on a percentage-of-completion basis over the period from signing of the license to completion of ARM's contractual obligations. In addition to license fees, contracts generally contain an agreement to provide post-delivery service support (in the form of support, maintenance and training) which consists of the right to receive services and/or unspecified product upgrades or enhancements that are offered on a when-and- if-available basis. Fees for post-delivery service support are generally specified in the contract. Revenue related to post-delivery service support is recognized based on fair value, which is determined with reference to contractual renewal rates. Sales of software, including development systems, which are not specifically designed for a given license (such as off-the-shelf software) are recognized upon delivery when the significant risks and rewards of ownership have been transferred to the customer. Revenue comprises the value of sales of licenses to ARM technology, royalties arising from the resulting sale of licensees' ARM technology-based products, revenues from support, maintenance and training and the sale of development boards and software toolkits.
*	These items may be reclassified to the income statement if certain conditions are met.
**	Capital reserve. In 2004, the premium on the shares issued in part consideration for the acquisition of Artisan Components Inc. was credited to reserves on consolidation in accordance with Section 131 of the Companies Act 1985.The reserve has been classified as a capital reserve to reflect the nature of the original credit to equity arising on acquisition.
***	Share option reserve. This represents the fair value of options granted on the acquisition of Artisan Components Inc. in 2004.
****	Revaluation reserve. The Company includes on its balance sheet equity investments, which are classified as available-for-sale financial assets. These are carried at fair value. Unrealized holding gains or losses on such investments are included, net of related taxes, within the revaluation reserve (except where there is evidence of permanent impairment, in which case losses would be recognized within the income statement).

(Arm Holdings plc 2015) (Arm Holdings plc 2016)

Exhibit CS 7: Comparable Companies Description

Ams-OSRAM AG	AMS Osram AG is an Austrian electronics company that designs and manufactures sensors for small form factor, low power, highest sensitivity, and multi-sensor applications. It is a global leader in intelligent sensors and emitters, offering a unique product and technology portfolio for sensing, illumination, and visualization. (ams OSRAM AG, n.d.)
u-blox Holding AG	U-blox Holding AG is a Swiss company that specializes in creating wireless semiconductors and modules for consumer, automotive, and industrial markets. The company is engaged in the development, manufacture, and marketing of products and solutions that enable precise positioning and wireless connectivity for people, vehicles, and machines. U-blox operates as a fabless IC (integrated circuit) and module supplier, and it is considered a global leader in its field with a vital local knowledge of key markets due to its worldwide presence. (u-blox AG, n.d.)
Elmos Semiconductor SE	Elmos Semiconductor SE is a German manufacturer of semiconductor products, with its headquarters in Dortmund, Germany. The company specializes in developing, producing, and marketing semiconductors, primarily for use in the automotive industry since 1984. Elmos is known for creating innovative microelectronics-based solutions to enhance people's lives, shape future mobility, and contribute to a greener and safer world. It is considered a leading manufacturer of automotive mixed-signal semiconductors and has been a figurehead for the profound structural change in Dortmund. (Elmos Semiconductor SE, n.d.)
Nordic Semiconductor ASA	Nordic Semiconductor ASA is a Norwegian fabless technology company founded in 1983, with its headquarters in Trondheim, Norway. The company specializes in wireless communication technology that powers the Internet of Things (IoT). Nordic Semiconductor is known for designing, marketing, and delivering integrated circuits (ICs) for wireless innovation. (Nordic Semiconductor ASA, n.d.)
Melexis N.V.	Melexis N.V. is a global supplier of micro-electronic semiconductor solutions, specializing in the design, development, testing, and marketing of integrated circuits for automotive electronics systems. Melexis offers a wide range of semiconductor integrated circuits, covering various sensor technologies, drivers, and transceivers. Their products find applications in diverse industries, including automotive, industrial, and IoT sectors. The company focuses on enabling the best imaginable future through its innovative solutions and commitment to excellence. (Melexis N.V., n.d.)
STMicroelectronics N.V.	STMicroelectronics N.V. is a multinational corporation and technology company of French-Italian origin that is headquartered in Plan-les-Ouates near Geneva, Switzerland. It is a global semiconductor company that creates semiconductor technologies for a smarter, greener, and more sustainable future. The company develops and markets a wide range of products, including discrete and integrated circuits. Their products are to be found in products as diverse as electric cars and key fobs, giant factory machines and data centers, washing machines and hard disks, and smartphones and toothbrushes. (STMicroelectronics N.V., n.d.)
Infineon Technologies AG	Infineon Technologies AG is Germany's largest semiconductor manufacturer, (50,280 employees), making it one of the ten largest semiconductor manufacturers worldwide. The company is a global leader in power systems and IoT, enabling solutions for green and efficient energy, clean mobility. Infineon designs, develops, manufactures, and markets application-specific ICs, positioning itself as a semiconductor solutions provider for communi-cations, auto and memory markets. (Infineon Technologies AG, 2002)
NXP Semiconductors N.V.	NXP Semiconductors N.V. is a Dutch semiconductor designer and manufacturer headquartered in Eindhoven, Netherlands. The company employs approximately 31,000 people in more than 30 countries. NXP focuses on designing purpose-built, rigorously tested technologies that enable devices to sense, think, connect, and act intelligently to improve people's daily lives. As a world leader in secure connectivity, NXP aims to enable a smarter, safer, and more sustainable world through innovation in sectors like

	automotive, communication, industrial, mobile, smart city and smart home. (NXP Semiconductors N.V., n.d.)

(Elmos Semiconductor SE n.d.) (Infineon Technologies AG 2002) (Melexis N.V. n.d.) (NXP Semiconductors N.V. n.d.) (Nordic Semiconductor ASA n.d.) (STMicroelectronics N.V. n.d.) (ams OSRAM AG n.d.) (u-blox AG n.d.)

Exhibit CS 8: Comparable Companies Financials 2015

All values in million $ (except per share data, % and ratios/multiples)	**ams-OSRAM AG**	**u-blox Holding AG**	**Elmos Semi-conductor SE**	**Nordic Semi-conductor ASA**	**Melexis N.V.**	**STMicro-electronics N.V.**	**Infineon Technologies AG**	**NXP Semiconductors N.V.**
Revenue	691,65	351,73	243,79	193,07	444,15	6.897,00	6.657,53	6.101,00
EBITDA	214,73	78,96	56,63	43,41	144,76	845,00	1.510,73	2.532,00
EBIT	161,53	53,32	24,69	34,98	119,44	109,00	637,61	2.015,00
Current Assets	370,58	219,83	172,13	122,51	215,30	4.680,00	4.601,39	4.812,00
Cash/Cash Equivalents	112,55	112,42	54,33	29,29	80,23	1.771,00	752,55	1.614,00
Current Liabilities	266,87	55,42	50,22	45,34	58,68	1.560,00	1.772,35	2.548,00
Debt	299,39	59,30	40,01	10,00	16,50	1.612,00	2.004,93	9.212,00
Market Cap	2.477,47	1.443,10	342,97	797,12	2.183,96	5.900,50	12.559,17	28.813,75
Enterprise Value	2.620,78	1.378,32	285,55	777,82	2.120,24	5.467,50	12.314,28	36.699,75
Earnings-Per-Share	0,88	5,77	0,91	0,15	2,72	0,12	0,64	6,36
Shares Outstanding	200,28	6,73	19,73	162,44	40,05	878,54	1.123,27	342,00
Share Price	13,09	204,93	14,47	4,79	52,93	6,22	10,96	107,31
Price-to-Earnings	**14,89**	**35,52**	**15,90**	**31,92**	**19,45**	**51,86**	**17,04**	**16,87**
EV/EBITDA	**12,21**	**17,46**	**5,04**	**17,92**	**14,65**	**6,47**	**8,15**	**14,49**
EV/EBIT	**16,23**	**25,85**	**11,57**	**22,24**	**17,75**	**50,16**	**19,31**	**18,21**
EV/Sales	**3,79**	**3,92**	**1,17**	**4,03**	**4,77**	**0,79**	**1,85**	**6,02**

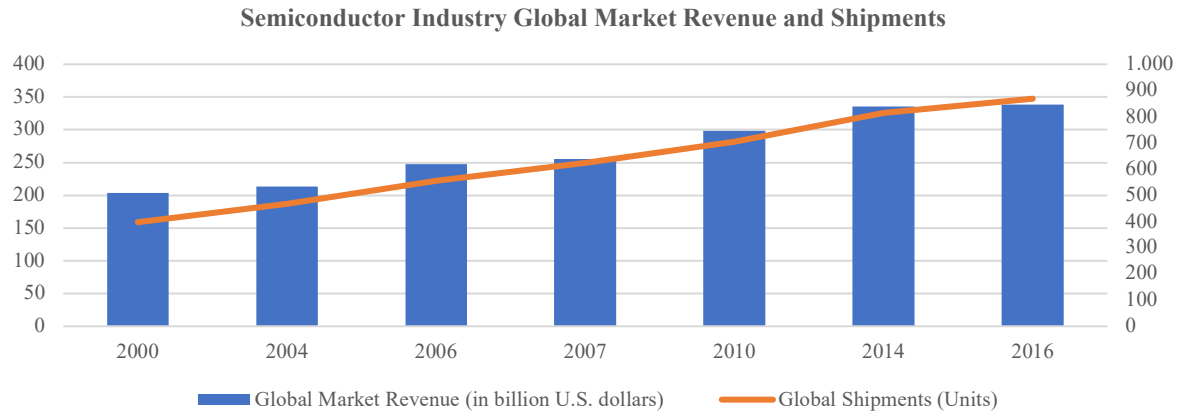
(Bloomberg L.P. n.d.)

Exhibit CS 9: Comparable Companies Betas, Cost of Debt and Market Capitalisation

Company Name	Beta (5-year-monthly 2015)	Cost of Debt 2015	Market Cap (in millions USD)
u-blox Holding AG	1,021	-0,070	1443,100
ams-OSRAM AG	1,292	0,860	2477,500
Elmos Semi-conductor SE	0,754	0,600	343,000
Nordic Semiconductor ASA	1,125	0,490	797,100
Melexis N.V.	1,193	0,680	2184,000
STMicro-electronics N.V.	1,140	3,560	5900,500
Infineon Technologies AG	1,022	0,800	12559,200
NXP Semiconductors N.V.	1,970	3,840	28813,800

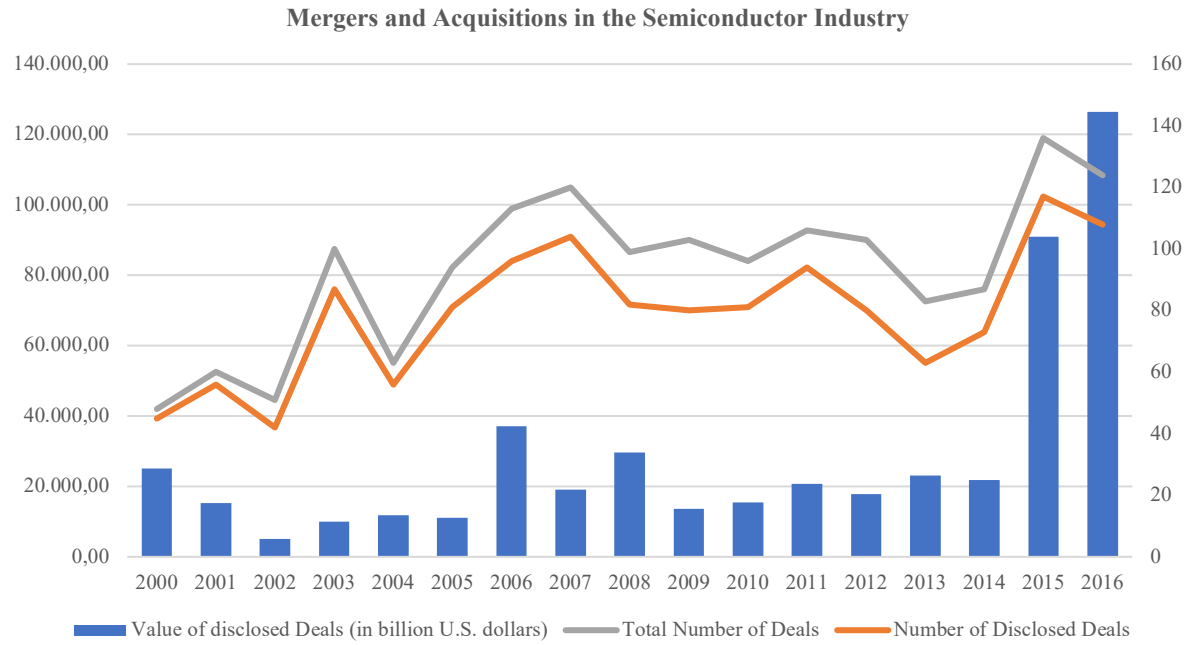
(Bloomberg L.P. n.d.)

Exhibit CS 10: Semiconductor Industry Global Market Revenue and Shipments 2000-2016



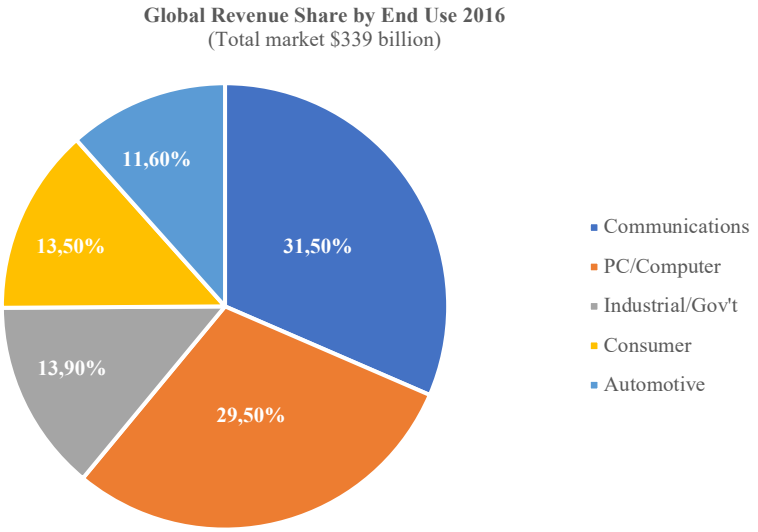
(Forni und van der Meulen 2017) (Semiconductor Industry Association 2016)

Exhibit CS 11: Mergers and Acquisitions in the Semiconductor Industry



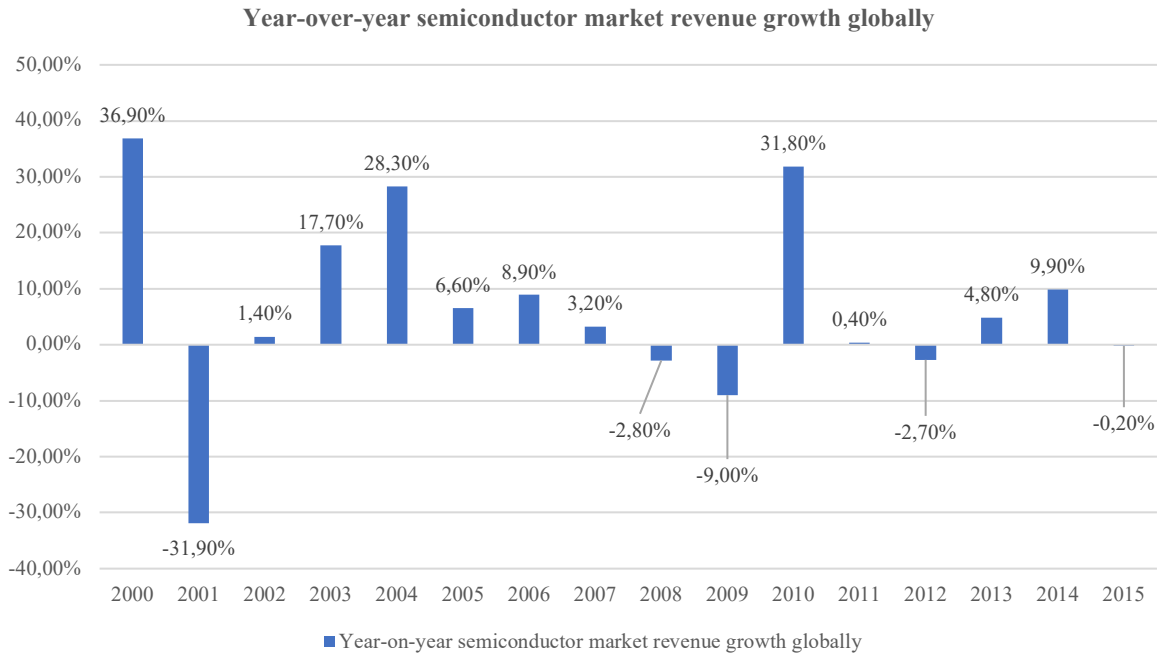
(Merger Market n.d.)

Exhibit CS 12: Global Revenue Share by End Use of Semiconductors 2016



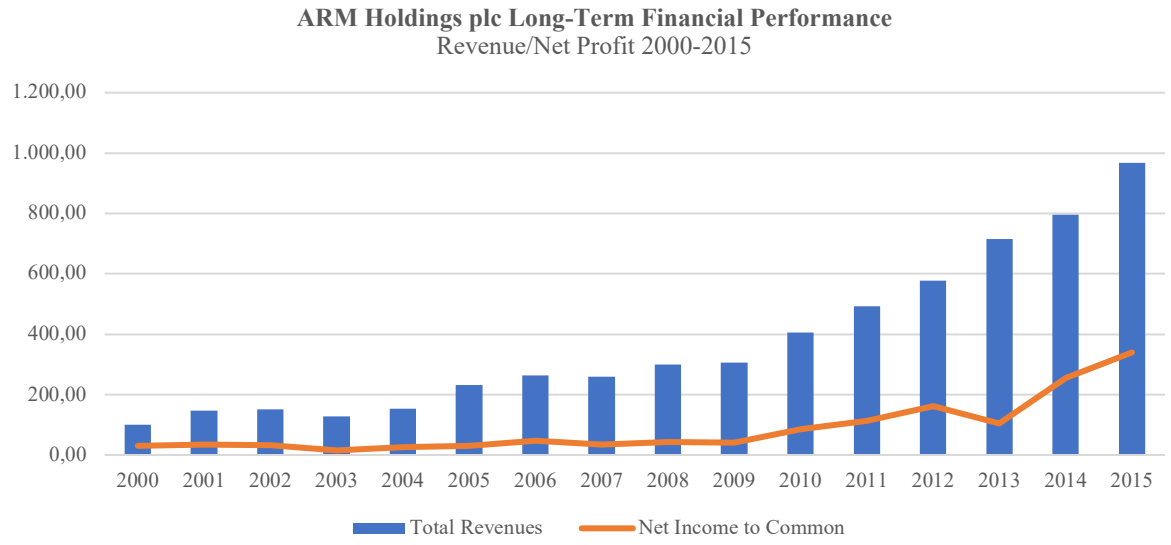
(Semiconductors Industry Association 2017)

Exhibit CS 13: Year-Over-Year Semiconductor Market Revenue Growth Globally 2000-2015



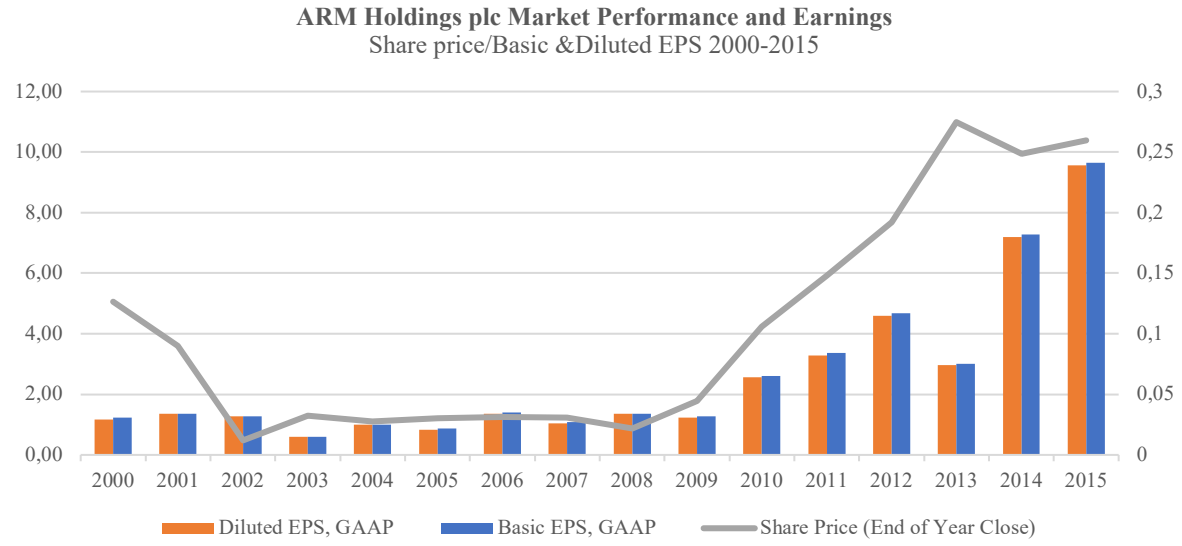
(World Semiconductors Trade Statistics 2023)

Exhibit CS 14: ARM Holdings plc Long-Term Performance 2000-2015



(Bloomberg L.P. n.d.)

Exhibit CS 15: ARM Holdings plc Market Performance and EPS



(Bloomberg L.P. n.d.)

Teaching Note
Group Component

1 Synopsis

In 2016, SoftBank's acquisition of ARM Holdings brought about a significant shift in the semiconductor and electronic devices sector. This $32 billion strategic move took place against the backdrop of the Fourth Industrial Revolution, where technology is shifting from an enabler to a defining force across industries. The acquisition was primarily motivated by ARM's strong market position and potential on the Internet of Things (IoT) space, according to Masayoshi Son, Chairman and CEO of SoftBank.

SoftBank was attracted to ARM, a well-known semiconductor design developer with a commanding market share, because of its ability to develop efficient central processing units (CPUs) and its alliances with major technology companies such as Apple, Samsung, Microsoft and Nvidia. Through the acquisition, ARM's technology would be used in several industries, including consumer electronics, smartphones, and newer areas such as augmented reality, autonomous driving, and the Internet of Things.

The industry overview highlighted the importance of semiconductor chips in the technology value chain, particularly in the wake of the 2008 financial crisis. The semiconductor industry experienced a significant increase in revenue due to the growth of blockchain, cloud usage, IoT, AI applications, and digitalization in general. This led to a surge in M&A transactions, with 304 significant deals totaling $171,3 billion in 2016 and 2017 (Merger Market, 2023).

ARM's history, from its founding in 1990 to its initial public offering and eventual acquisition by SoftBank in 2016, demonstrated the company's resilience and value. However, there were challenges during the acquisition process, including securing regulatory approvals in multiple countries, concerns about preserving ARM's British heritage, challenging valuation issues, and complicated financing arrangements. A SWOT analysis revealed that market dependency and

integration difficulties were weaknesses, while strategic synergies and a global market presence were strengths.

SoftBank's goals included establishing a presence on the Internet of Things, leveraging ARM's licensing program, and broadening its technology offering. ARM, which initially had no plans to sell, saw advantages in SoftBank's independence, financial strength, global reach and product breadth.

There were significant strategic implications for both companies; ARM was able to invest more in R&D while increasing its efficiency, become independent, expand internationally, and diversify, while SoftBank gained a stronger market position, a broader technology portfolio, opportunities for synergies, and greater influence in the semiconductor and technology industries.

In summary, this case study revolves around understanding the strategic motivations behind an acquisition and the complex process of valuation. Understanding the strategic rationale behind an acquisition, such as SoftBank's purchase of ARM Holdings, reveals the complexity of such strategic moves in the technology industry. Examining valuation methodologies, particularly discounted cash flow (DCF) analysis, sheds light on the intricate financial assessments that guide acquisition decisions. Unraveling the factors that drive valuations-synergies, revenue projections, market premiums-enriches the understanding of how companies assess the value of an acquisition target and the potential impact on both parties. It provides comprehensive insight into the strategic thinking and financial methodologies used to evaluate and justify such significant business transactions.

2 Positioning

The ARM Holdings Acquisition case study provides an immersive learning experience for students specializing in finance or management with a focus on mergers, acquisitions and restructuring (M&A). This case study not only delves into the intricacies of strategic decision-

making, but also engages students in the quantitative aspects of financial analysis. Students will engage in extensive financial modeling using Discounted Cash Flow (DCF) and multiple valuation methodologies. In addition, the challenge of making sound assumptions and projections about ARM's future performance, requiring precise judgment and a deep understanding of industry and market trends, will be a focus and will require the development of critical thinking skills deemed necessary for successful business decision-making.

3 Pedagogical Objectives

The ARM Holdings acquisition case study offers multifaceted pedagogical objectives, combining strategic, financial, and geopolitical dimensions. Students engaging in this study will delve into the complexities of mergers and acquisitions in the technology sector, dissecting motivations, financial modeling, and the impact of geopolitical events like Brexit. Here are the key pedagogical objectives:

- **Strategic Thinking and Critical Decision Making:**
  - Analyzing the motivations behind the ARM Holdings acquisition from both SoftBank and ARM's perspectives.
  - Evaluating the strategic implications, by analyzing the long-term vision and strategic positioning as well as risks, and benefits for both parties involved within the tech industry amidst rapid technological advancements.
  - Exploring the role of cultural integration and heritage preservation in cross-border acquisitions.
- **Financial Modeling and Valuation Techniques:**
  - Applying various valuation methods, including DCF and multiple valuation models, to assess ARM's value

- Developing and justifying sound assumptions for forecasting future company performance
- Calculating complex financial metrics such as WACC, dissecting its components—cost of equity, cost of debt, and beta calculations—to derive a precise assessment of the company's required rate of return
- The determination of a terminal growth rate, a critical component in forecasting future cash flows, will be a focal point

Regulatory Implications:

- Understanding the impact of geopolitical events like Brexit on global mergers and acquisitions.
- Assessing how regulatory changes, economic uncertainties, and currency fluctuations influenced the acquisition decision and subsequent outcomes.

4 Analysis

4.1 Navigating the ARM Acquisition: Process and Motivations

This section explains the exact background, the process and the motivations of both companies based on the acquisition. Before entering this section of the case, the instructor should introduce different motives to merge or acquire companies. It will help students analyze the specific motives in this study. In July 2016 the announcement of the agreement occurred in the media, initiating the whole acquisition process. Due to the timing, a few weeks after the Brexit referendum, the historical context and the intercultural embedding, the acquisition was not a conventional one. It involves several key stages and financial considerations to go through this process. On July 18th , 2016, ARM Holdings plc and SoftBank Group Corp. announced in a joint statement that they have mutually agreed to acquire Arm through an all-cash offer of the entire issued and to be issued share capital of the company (SoftBank Group Corp. 2016).

SoftBank will receive 1.412 million shares of Arm for a total consideration of nearly $32 billion (£ 24 billion). The deal was the largest technology deal in UK and the second largest Japanese outbound deal. The overall deal integrates three aspects: the price tag, the funding by SoftBank and possible resulting synergies. The set deal price by $32 billion marks a 43% premium over the closing share price on July 15th, 2016, of $15,67. The offered price equals the asking price by twenty times ARM's expected 2016 revenue, twenty-four times its $1,28 billion in revenue from 2015, and fifty-seven times its $568 million net income from 2015.

While the acquisition time SoftBank already had a large debt amount of nearly $113 billion. For this reason, SoftBank sold a stake of its China´s Alibaba shares and Finland´s Supercell for a total amount of $17 billion (Sen 2023).

A further $9 billion was raised again through a loan to finance the takeover. According to an article in the Wall Street Journal, SoftBank had been speculating about a takeover since 2014. There were several reasons for SoftBank to incorporate Arm into its portfolio and create mutual synergies. Firstly, it was Arm's strong footprint in the IoT and intellectual property sector. This was confirmed by SoftBank's CEO, Masayoshi son with the following statement:

"ARM is a market leader and the next big paradigm shift, the Internet of Things, is coming. I believe that the Internet of Things is a great opportunity".

Another reason was the shared culture and long-term vision of both companies. Both firms believed, and still believing, in a technology-oriented culture which is growing every single day. The long-term vision should respond to needs of cultural innovation and the commitment to the future changes. Furthermore, SoftBank wanted to support ARM in expanding its R&D division and maintaining its British heritage while investing in multiple Arm growth initiatives.

Another synergy is that Arm's own innovation can flourish under SoftBank's leadership. SoftBank provides Arm with the network and financial resources and in return SoftBank takes ownership of Arm's intellectual property to integrate it into its portfolio companies.

After both companies announced the documented scheme of acquisition terms and operational synergies on August 3rd, 2016, this was followed by the "Approval of Resolution on Recommended Acquisition of ARM and ARM´s Court Meeting and General Meetings of Shareholders". On September 2nd, the final approval of the offer was given by the approval of ARM at court hearing. As of September 6th, 2016, following the completion of the Acquisition, ARM was delisted from the London Stock Exchange and discontinued to be a listed company. The financial results of ARM were merged and included in the consolidated financial statements of SBG after the final acquisition date of September 5th, 2016. (SoftBank Group Corp. 2016)

4.2 Valuation Results

This chapter includes a comprehensive examination of ARM Holdings' valuation through two fundamental methodologies: the Discounted Cash Flow (DCF) analysis and the Comparable Company Analysis (CCA). The DCF meticulously scrutinizes ARM's future cash flows, discounting them to present value, offering an intrinsic perspective on the company's worth. Conversely, the CCA method contextualizes ARM's valuation by comparing it against industry peers, utilizing key financial multiples to assess relative performance and market positioning. By linking these analyses, this chapter offers a multifaceted view of ARM's valuation, leveraging both intrinsic and market-driven perspectives to discern the company's financial standing and potential within the industry landscape.

To move forward with the DCF students will have to calculate a discount rate (WACC) which demands an in-depth analysis, considering factors such as the cost of equity, cost of debt,

corporate tax rate, and capital structure weights. (Fernando, Khartit und Perez 2023) (Hargrave, Kindness und Kvilhaug 2023) (Goedhart, Koller und Wessels 2005)

4.2.1 DCF valuation

To derive the company's valuation via the Discounted Cash Flow (DCF) method, it was essential to make forward-looking assumptions concerning the company's future trajectory post-2015. Students should follow a comparable approach like the method illustrated in Figures 1 & 2. The case study supplies comprehensive exhibits including actual figures from the Income Statement, Balance Sheet, Cash Flow Statement, Statement of Other Comprehensive Income, and Changes in Shareholders' Equity. Alongside these, a set of predefined assumptions are given, supporting students in forecasting the company's values through 2020. To compute the Weighted Average Cost of Capital (WACC) and the Terminal Growth Rate accurately, students were provided with specified sources, enabling precise calculations necessary to the valuation process. (Arm Holdings plc 2015) (Arm Holdings plc 2016)

i. **Revenues:** From 2016 through 2017 revenues are estimated to grow at 21% and 13% respectively. These estimations were derived from Bloomberg and analysts' estimations. For the following years, revenues are expected to grow at the average rate from the past three years. Therefore, revenues grew from £968,3 million in 2015 to approximately £2.147,43 million in 2020.

ii. **Cost of Goods Sold (COGS):** As the COGS are directly linked with the sale of products and services it is obvious that they will remail closely linked with revenues in the forecast. For 2016 it is expected that COGS will be the average share of revenue for the actual COGS from 2013 to 2015. From 2016 on it is expected this number will grow by 3% each year due to inflation and general price increases. In the case of ARM Holdings plc. COGS remain at a very low amount, as the company mainly sells licenses and architecture designs.

iii. **Research and Development Expenditure (R&D):** Especially for tech companies Research and Development expenditure usually present a larger share of the cost side. The average for the years 2013-2015 amounted to a revenue share of around 28%. It is expected that R&D costs will decline between 2-3% each year until 2018. As of 2018 R&D costs will remain at a constant 20% share of revenue amounting to about £429,49 million. Even though Softbank wants to expand ARM's R&D division we do expect the efficiency to increase because of the specialized knowledge of processes that ARM has acquired of the years.

iv. **Sales, General, Marketing and Administrative Expenditure (SGM&A):** SGM&A expenditure ranged from 28% share of revenue in 2013 to 25% share of revenue in 2015. We expect this trend to continue over the following years. By leveraging economies of scale, ARM Holdings plc. can expect to lower their average SGM&A share of revenue, while increasing profitability through enhanced sales. We therefore expect SGM&A to decline by about 2-3% throughout the forecast. SGM&A expenses are expected to reach an all-time high in 2018 at £266,91 million before dropping to £236,22 million.

v. **Exceptional Items:** In 2013 ARM Holdings plc. incurred £101,3 million in Exceptional Items. They resulted from indemnification, settlement and license costs of £41,8 million and £59,5 million in impairment charges from valuing down available-for-sale financial assets. In the following years no further, exceptional items have been reported. Thus, it is expected that there will not be anything reported under this category in later years.

vi. **Depreciation and Amortization (D&A):** As there are no signs of material short-term or long-term investments depreciation is expected to remain as a constant share of

revenue. This share is calculated as an average of the shares from 2013-2015 and it amounts to 4,24% revenue share.

vii. **Interest Expenses:** As no signs of added debt raising is mentioned in 2015 annual report it is assumed that interest expenses will remain constant at the amount of 2015 (£300 thousand) Also, no increase of interest rates soon was mentioned in annual reports or expected by stock analysts.

viii. **Other Income and Other Expenses**: Other Income as well as Other Expenses will continue to increase/decrease at the average rate of the past three years.

ix. **Tax Rate:** The corporate Tax Rate at the time of the acquisition in the United Kingdom was 19% percent. For the forecast we predict that this will remain constant.

x. **Net Working Capital and Changes in Net Working Capital (NWC):** As changes in revenue impact various components of working capital due to the operational demands of the business we expect it to develop as a share of revenue. Therefore, we expect the NWC to remain at a constant 73% share of revenues for the projection starting in 2016.

xi. **WACC** Because the WACC considers the cost of equity and the cost of debt, weighted by their respective proportions in the capital structure capturing the overall cost of funds a company uses to finance its operations it is a suitable discount rate. Students should therefore calculate the WACC based on these parameters:

a. **Cost of Equity:** It is based on Nasdaq's 10-year average annual returns, the Japanese 10-year-government bond as the risk-free rate and ARM's 5-year-montly beta against the NASDAQ stock exchange.

b. **Cost of Debt:** According to Bloomberg's data the cost of debt can be assumed to be 0,19%. Given the close-to-zero interest period over the years from 2014 onwards this number is very low.

c. **Tax rate:** As mentioned before the tax rate should be assumed to be 19%.

xii. **Terminal Value Growth Rate:** This rate is assumed to stand at 5,86%. The value was derived by subtracting the global annual inflation rate since the year 2000 (4,04%) from the average annual semiconductor industry growth rate (9,91%). We do assess the value to be rather high, however given the fact ARM operates in a significant growth potential sector, we deem this value accurate.

xiii. **Synergies:** We expect this acquisition to generate both revenue and cost synergies for the target company. Specifically, we expect revenue synergies of approximately 15% of ARM's total revenues. A Deloitte study on M&A in different industries suggests that such deals typically generate between 3% and 37% in revenue synergies in the Telecommunication, Media and Technology industry (TMT), with a median amount of 8%. Given SoftBank's strong presence in various technology sectors, and the strong potential for the semiconductor niche in particular, we expect this synergy to be around 15%. These synergies are expected to increase gradually over time, reaching 33%, 60%, 82%, 90%, and finally 100% in the first five years, in line with the findings of a McKinsey study on achievable targets. Conversely, we expect cost synergies to be approximately 3% of ARM's revenues, which is in line with the TMT industry average. McKinsey's research suggests that cost synergies will be realized more quickly than revenue synergies. As a result, we expect 65% of the cost synergies to be realized in the first year and 100% to be realized in the second year after the acquisition. (Kengelbach, et al. 2013) (Laamanen, et al. 2022) (Chartier, et al. 2018)

xiv. **General Assumptions:** The valuation is supposed to be calculated on a five-year forecast basis. Y1 should therefore be 2016 and Y5 2020.

In summary, the Discounted Cash Flow (DCF) analysis, considering various key assumptions, has provided a comprehensive valuation for ARM Holdings plc. The total discounted cash flows derived, excluding synergies and perpetuity, amount to £3.500,48 million. Including the

discounted terminal value, the calculated enterprise value is £19.646,24 million. Based on 1.420,3 outstanding shares, this equates to an estimated value per share of £13,82. In comparison, the prevailing share price prior to the announcement of the Offer on July 15th, 2016, was £11,89.

The proposed offer is £17 per share, representing a 23% premium to the estimated value per share and a significant 42,9% premium to the prevailing share price. Anticipated revenue synergies are expected to generate additional discounted cash flows of £3.470,91 million over the next five years, including terminal value. At the same time, expected cost synergies are estimated at £694,18 million.

Considering the standalone value of ARM Holdings plc and the revenue and cost synergies, and after deducting debt, the equity value is £24.270,12 million. This valuation indicates that Softbank's proposed offer of £17 per share slightly undervalues ARM Holdings plc based on our calculations. (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Chartier, et al. 2018) (Kengelbach, et al. 2013) (Laamanen, et al. 2022)

4.2.2 Comparable multiple valuation

In complement to the discounted cash flow (DCF) valuation, this analysis embarks on a multiple valuation approach, offering an insightful comparison against industry peers. Leveraging the Bloomberg Industry Classification Standard (BICS), a diverse set of companies was meticulously selected to conduct a comprehensive evaluation based on key financial metrics: price to earnings ratio (P/E), enterprise value to earnings before interest, taxes, depreciation, and amortization (EV/EBITDA), enterprise value to earnings before interest and taxes (EV/EBIT), and enterprise value to sales (EV/Sales).

Exhibit TN 6 presents a detailed overview of the selected peer companies, illuminating their respective market positions, operational landscapes, and financial standings. This information

serves as a critical backdrop to assess and benchmark our focal company against its industry counterparts. The calculated multiples will offer nuanced perspectives on relative valuations, shedding light on potential market misalignments and opportunities for the target company. Further, exhibit TN-15 will provide financial data needed to calculate the values below. The analysis yielded a diverse range of trading multiples, ranging from 14,89 to 51,86 for the Price-to-Earnings ratio, 5,04 to 17,92 for the EV/EBITDA, 11,57 to 50,16 for the EV/EBIT and 0,70 to 6,02 for the EV/Sales ratios. (Bloomberg L.P. n.d.):

These multiples above were used to estimate ARM Holdings plc. share price and enterprise value. Taking ARM Holdings financial results into consideration the multiple values produced the various result as seen in exhibit TN 6.

The results of the Comparable Company analysis show major differences in the valuation of ARM Holdings plc. Only maximum multiples of the peer group come close the DCF results. Differences between the Multiple Valuation and Discounted Cash Flow (DCF) valuation often arise due to the fundamental variances in their methodologies and underlying assumptions. Multiple valuations rely on market-based metrics derived from comparable companies, emphasizing relative performance within an industry. In contrast, DCF focuses on forecasting future cash flows, demanding detailed projections and discounting them to present value. (Bloomberg L.P. n.d.)

First and foremost, multiple valuations mirror prevailing market sentiment, often influenced by short-term fluctuations, market trends, or even investor behavior, thereby leading to nuanced variations. Second, the inherent assumptions and inputs in the DCF model, including growth rates, discount rates, and terminal values, might diverge significantly from market expectations, consequently impacting the final valuation outcome. The DCF model's sensitivity is noteworthy, given that even slight alterations in long-term growth rates or discount rates can lead to significant disparities in the valuations produced. Additionally, the divergence in the

nature of these valuation techniques is evident: multiple valuations amalgamate historical and existing performance, whereas DCF predominantly hinges on future forecasts.

However, integrating perspectives from both multiple valuation and DCF analyses can provide a more nuanced and comprehensive view of a company's true value, facilitating better-informed decisions for stakeholders. (Goedhart, Koller und Wessels 2005)

4.3 Strategic Decision Assessment and Integration Challenges

SoftBank's initial strategic decision assessment was to optimize diversification in its portfolio by adopting Arm's technology to leverage it in other portfolio businesses and create overall synergies in its ecosystem. SoftBank's Vision Fund already consisted mainly of fintech, health tech and logistics companies in 2016, all of which could benefit from its technology.

SoftBank is traditionally seen as a telecoms and internet services company that wanted to utilize Arm's expertise in the semiconductor industry to quickly gain a foothold in this market to address the growing IoT presence. SoftBank was able to take advantage of and adjust to the increasing demand for connected devices, the Internet of Things, and emerging technologies like artificial intelligence thanks to ARM's inventive technologies, especially in energy-efficient chip designs. SoftBank actively shaped the future technological landscape by focusing on this strategic area. (Arm Holdings plc n.d.).

SoftBank's current technology and financial resources could be combined to speed up future growth and development, increasing revenue for the combined business to reach a level of accelerated innovation.

Furthermore, at the time of the acquisition both companies had a shared vision, which included the growing presence of technology in the future. SoftBank took a bet with the acquisition of Arm on the rising presence of IoT, automotive, smart home and many other chip-based technology segments. If the bet paid off, SoftBank would be in a dominant position to leverage Arm's unrivaled capabilities for its own purposes. SoftBank also wanted to diversify its

portfolio by expanding into the semiconductor structure to reduce the potential risks of defaults or economic fluctuations. The company, which has a strong affinity for telecommunications and fintech, thus built up a completely new strand for risk management. Through the integration of ARM's semiconductor business into SoftBank's pre-existing infrastructure, the acquisition allowed the latter to realize economies of scale. Realizing cost reductions could be possible by pooling resources, coordinating R&D activities, and streamlining processes.

These strategic evaluations emphasized SoftBank's all-encompassing strategy to the acquisition, which included risk management, innovation, market positioning, and global reach. Synergies were created by both companies via strategic integration, sustainable resource utilization, and effective execution.

To achieve these goals, there were several integration hurdles that had to be overcome.

An essential aspect was the cultural integration of both companies. SoftBank, a Japanese conglomerate, and Arm, a British semiconductor architect, represented different corporate cultures. Effective collaboration was only possible if communication and tolerance prevailed on both sides. Son emphasized in several interviews that he holds enormous respect for the British culture and would embrace it to the best of his ability. Another hurdle was aligning the two technology spectrums. Integrating ARM's chip design capabilities into SoftBank's broader technology ecosystem was a challenge, and structured planning was required to create a seamless transition. SoftBank was faced with a new set of restrictions after acquiring a new portfolio sector. In addition to making sure that all applicable semiconductor industry rules were followed, SoftBank also had to take care of any antitrust issues that surfaced throughout the clearance process.

Talent retention and recruitment programs were also not expected to be affected by the integration process. The goal was to retain new talents at ARM to strengthen the newly created entity and retain the existing talent to the company. Son continued to pursue the plan to expand

the existing headquarters in the UK SoftBank needed to navigate these integration difficulties to be able to accomplish the desired synergies and strategic advantages of the ARM purchase. (SoftBank Group Corp. 2016)

5 Epilogue

The acquisition of ARM Holdings by SoftBank in 2016 set the stage for significant changes in the technology landscape. Following the acquisition, ARM continued to expand its presence and influence in the semiconductor sector. SoftBank's strategic support allowed ARM to focus on investing more in research and development, while increasing its efficiency and therefore reducing overall R&D head costs, accelerating its global expansion, and diversifying its technological offerings.

Post-acquisition, ARM's revenues witnessed steady growth, aligning with projections made during the valuation process. Additionally, the acquisition facilitated ARM's integration within SoftBank's expansive network. ARM's innovative chip technologies were leveraged across various industries, including consumer electronics, smartphones, IoT, augmented reality, and autonomous driving.

Nvidia, a prominent American technology company, announced plans to acquire ARM from SoftBank in 2020, aiming to combine Nvidia's capabilities in artificial intelligence (AI) with ARM's strength in chip design. However, this acquisition faced regulatory hurdles due to antitrust concerns in various countries. Finally, Softbank brought back a part of ARM to the publich as it announced plans for an IPO on the NASDAQ exchange in April 2023. (Sweney 2022) (CNBC 2023)

6 Suggested Assignment Questions

The following questions will address the predicted pedagogical objectives mentioned before:

- What were the key strategic motivations for SoftBank's acquisition of ARM, and how did they align with SoftBank's broader technology investment strategy?
- "SoftBank's acquisition of ARM Holdings involved purchasing ARM's shares at a 42% premium over its stock price. As a financial analyst, how would you assess the fairness of the premium offered by SoftBank for ARM's shares? Use a valuation method, such as a discounted cash flow (DCF) analysis or a comparable company analysis (multiple valuation), to determine whether the acquisition price was justified. Consider the financial and operational factors that should be considered in your analysis."
- Should Softbank proceed with this acquisition and what will it mean for them?
- Identify the challenges that SoftBank faced in integrating ARM into its portfolio. What were the potential pitfalls, and how did SoftBank mitigate them?

7 Teaching Plan

Based on the pedagogical objectives and the positioning a proposed teaching plan was created to give structure to professors and teaching assistants. The total time allotted for the completion of this case study should take no more than three hours (two classes). It is advisable to hold the classes back-to-back in order not to lose the students' attention and focus.

Time Frame: 20 minutes	**Section 1: Introduction and Overview** - Briefly recap the case study and its significance in the context of M&A and technology - Summarize the key elements of the ARM Holdings acquisition by SoftBank. - Explain the learning objectives and the structure of the session
Time Frame: 30 minutes	**Section 2: Strategic Thinking and Decision Making** - Introduce motives to merge and acquire - Discuss the strategic motivations behind SoftBank's acquisition of ARM and its alignment with SoftBank's broader technology investment strategy - Analyze the implications, both strategic and financial, for SoftBank following the acquisition

	• Engage students in a group discussion to evaluate the strategic significance of the acquisition and its impact on the tech industry
Time Frame: 80 minutes	**Section 3: Financial Modeling and Valuation Techniques** • Dive into the financial modeling aspects of the case study, focusing on DCF and multiple valuation methodologies • Present the Discounted Cash Flow (DCF) analysis and guide students through the assumptions made for forecasting ARM's future performance and synergies expected from this transaction • Discuss the application of valuation methods like DCF and Comparable Company Analysis (CCA), and calculated expected synergies that could arise from this acquisition • Conduct an interactive session allowing students to work on valuation exercises based on the provided financial data and assumptions.
Time Frame: 20 minutes	**Section 4: Macro- and Microeconomic Implications and Integration Challenges** • Discuss the integration challenges faced by SoftBank while merging ARM into its portfolio • Engage students in a debate or case discussion on how SoftBank might have mitigated these challenges
Time Frame: 30 minutes	**Section 6: Conclusion and Q&A** • Recap the key points and takeaways from the case study, emphasizing strategic, financial, and geopolitical aspects • Open the floor for a Q&A session, encouraging students to ask questions and share insights

Figure 1: Proposed Teaching Plan

The outlined teaching plan is structured to ensure comprehensive coverage of the case study's essential aspects within the allocated timeframe. Adjustments in time allocation for each section can be made based on the engagement and pace of the class discussion.

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Appendix

Exhibit TN 1: DCF Valuation without Synergies

		Actual			Projection				
		2013A	2014A	2015A	2016P (Y1)	2017P (Y2)	2018P (Y3)	2019P (Y4)	2020P (Y5)
Sales		714,60	795,20	968,30	1.171,64	1.323,96	1.570,07	1.845,30	2.147,43
			11%	*22%*	*21%*	*13%*	*19%*	*18%*	*16%*
Cost of Goods Sold *(as a % of sales)*		-39,30	-37,80	-39,30	-55,89	-65,06	-79,46	-96,19	-115,30
		5,50%	4,75%	4,06%	4,77%	4,91%	5,06%	5,21%	5,37%
Gross Margin		**675,30**	**757,40**	**929,00**	**1.115,75**	**1.258,90**	**1.490,61**	**1.749,11**	**2.032,13**
Research and development	*28%*	-202,90	-224,20	-278,00	-292,91	-304,51	-314,01	-369,06	-429,49
		28%	28%	29%	25%	23%	20%	20%	20%
SGM&A		-217,60	-224,20	-244,90	-257,76	-251,55	-266,91	-258,34	-236,22
		30%	*28%*	*25%*	*22%*	19%	17%	14%	11%
Exceptional Items		-101,30	0,00	0,00	0,00	0,00	0,00	0,00	0,00
EBITDA		**154,09**	**309,56**	**406,64**	**565,55**	**703,26**	**910,05**	**1.122,04**	**1.366,74**
Depreciation & Amortization	*4,24%*	-28,00	-35,60	-42,00	49,73	56,19	66,64	78,32	91,14
Operating EBIT		**126,09**	**273,96**	**364,64**	**615,27**	**759,45**	**976,69**	**1.200,36**	**1.457,88**
Interest Expenses and similar expenses		-0,20	-0,30	-0,30	-0,30	-0,30	-0,30	-0,30	-0,30
Other Income		13,30	11,30	12,10	11,62	11,16	11,12	10,82	10,56
			-15%	*7%*	*-4%*	*-4%*	*0%*	*-3%*	*-2%*
Other Expenses		-4,00	-3,50	-3,10	-2,73	-2,41	-2,12	-1,87	-1,65
			-13%	*-11%*	*-12%*	*-12%*	*-12%*	*-12%*	*-12%*
EBT		**135,19**	**281,31**	**373,41**	**623,82**	**767,86**	**985,39**	**1.208,98**	**1.466,47**
Taxes *(as a % of EBT)*	*19%*	-57,80	-61,10	-75,10	-118,53	-145,89	-187,22	-229,71	-278,63
Net Operating Profit After Taxes		**77,39**	**220,21**	**298,31**	**505,30**	**621,96**	**798,16**	**979,27**	**1.187,84**
Net Working Capital	*73%*	499,80	610,60	685,80	849,64	960,10	1.138,57	1.338,16	1.557,26
Change in Net Working Capital				110,80	75,20	163,84	110,45	178,48	199,59
Operating Cash Flow		**105,39**	**366,61**	**415,51**	**619,41**	**676,23**	**910,00**	**1.100,54**	**1.315,79**
Capital Expenditures *(as a % of sales)*		-45,30	-30,40	-41,00	-45,00	-45,00	-45,00	-45,00	-45,00
Unlevered Free Cash Flow		**60,09**	**336,21**	**374,51**	**574,41**	**631,23**	**865,00**	**1.055,54**	**1.270,79**
Discount Rate (WACC)		*10,84%*							
Terminal Value Growth Rate		*5,86%*							
Time					1	2	3	4	5
Discounted Cash Flow				**374,51**	**518,22**	**513,77**	**635,18**	**699,27**	**759,52**

(Arm Holdings plc 2016) (Arm Holdings plc 2015) (Bloomberg L.P. n.d.)

Exhibit TN 2: DCF Enterprise Value Calculation

Enterprise value without perpetuity	3.500,48
Terminal value present value	16.145,76
Enterprise value with perpetuity	**19.646,24**

Exhibit TN 3: DCF Share Price Calculation

Enterprise Value	19.646,24
Debt	11,30
Equity Value	**19.634,94**
Outstanding Shares (mil, diluted	1.420,30
Value per Share	**13,82**
Price paid by Acquirer (per share)	17,00
Premium	**23%**

Exhibit TN 4: DCF Enterprise Value Calculation

	Discount Factor (WACC)							
Terminal Value Growth Rate	**19.646,24**	8,00%	9,00%	10,00%	10,84%	11,00%	12,00%	13,00%
	3,00%	21.591,50	17.852,88	15.188,78	13.475,43	13.196,01	11.650,57	10.418,08
	4,00%	26.261,86	20.853,75	17.255,38	15.044,17	14.690,85	12.772,26	11.284,08
	5,00%	34.045,79	25.355,06	20.148,61	17.149,91	16.683,98	14.214,42	12.366,58
	5,86%	46.614,80	31.544,58	23.768,69	**19.646,24**	19.027,11	15.836,33	13.544,28
	6,00%	49.613,65	32.857,25	24.488,45	20.125,30	19.474,35	16.137,31	13.758,37
	7,00%	96.317,22	47.861,62	31.721,53	24.649,28	23.659,90	18.829,35	15.614,09
	8,00%	#DIV/0!	92.874,75	46.187,69	32.356,13	30.635,83	22.867,41	18.212,09

Exhibit TN 5: DCF Valuation Synergy Calculation and Equity Value Calculation

Year	2013A	2014A	2015A	2016P (Y1)	2017P (Y2)	2018P (Y3)	2019P (Y4)	2020P (Y5)
Revenue	714,60	795,20	968,30	1171,64	1323,96	1570,07	1845,30	2147,43
Revenue synergies								
Achievement (in %)				33%	60%	82%	90%	100%
Incremental revenue synergies	15,00%			58,00	119,16	193,12	249,12	322,12
Taxes	19,00%			11,02	22,64	36,69	47,33	61,20
Revenue synergies after tax				46,98	96,52	156,43	201,78	260,91
Terminal value (g=1.3%)	5,86%							5.546,45
Discount rate (cost of equity)	10,84%							
Discounted revenue synergies				**42,38**	**78,56**	**114,87**	**133,68**	**3.470,91**
Cost synergies								
Achievement (in %)				65%	100%	100%	100%	100%
Incremental cost synergies (3% of Revenue)	3,00%			22,85	39,72	47,10	55,36	64,42
Taxes	19,00%			4,34	7,55	8,95	10,52	12,24
Cost synergies after tax				18,51	32,17	38,15	44,84	52,18
Terminal value (g=1.3%)	5,86%							1.109,29
Discount rate (cost of debt)	10,84%							
Discounted cost synergies				**16,70**	**26,19**	**28,02**	**29,71**	**694,18**
PV Free Cash Flows incl. PV Terminal Value			**374,51**	**518,22**	**513,77**	**635,18**	**699,27**	**16.905,28**
Discounted Cash Flows (with synergies)			**374,51**	**577,30**	**618,52**	**778,06**	**862,66**	**21.070,38**

Enterprise value with perpetuity	**19.646,24**
Total synergies with perpetuity	4.635,18
Enterprise value with synergies	**24.281,42**
Debt	11,30
Equity value	**24.270,12**
Outstanding shares (mil, diluted)	1.420,30
Value per share	**17,09**
Offer price by acquirer	17,00
Premium	**-0,515%**

Exhibit TN 6: Multiple Valuation

Trading Multiples 2015

	Price-to-Earnings	EV/EBITDA	EV/EBIT	EV/Sales
Mean	25,43x	12,05x	22,67x	3,29x
Median	18,24x	13,35x	18,76x	3,85x
Min	14,89x	5,04x	11,57x	0,79x
Max	51,86x	17,92x	50,16x	6,02x

Estimated Enterprise Value 2015

	Price-to-Earnings	EV/EBITDA	EV/EBIT	EV/Sales
Mean	8.718,45	5.507,15	9.408,26	3.188,06
Median	6.254,12	6.102,20	7.788,64	3.731,80
Min	5.104,61	2.305,04	4.801,69	767,61
Max	17.778,92	8.189,99	20.821,64	5.824,68

Estimated Share Price 2015

	Price-to-Earnings	EV/EBITDA	EV/EBIT	EV/Sales
Mean	6,14	3,88	6,62	2,24
Median	4,40	4,30	5,48	2,63
Min	3,59	1,62	3,38	0,54
Max	12,52	5,77	14,66	4,10

(Bloomberg L.P. n.d.)

Exhibit TN 7: Yearly Market Returns (FTSE100, S&P500, Nikkei 225, Nasdaq Composite, FTSE TechMARK Index)

FTSE 100			**S&P 500**			**Nikkei 225**			**Nasdaq Composite**			**FTSE TechMARK Index**		
Date	Last Price	Yearly Return	Date	Last Price	Yearly Return	Date	Last Price	Yearly Return	Date	Last Price	Yearly Return	Date	Last Price	Yearly Return
12/31/1991	2.493,10		12/31/1991	417,09		12/31/1991	22.983,77		12/31/1991	330,86		12/31/1991		
12/31/1992	2.846,50	14%	12/31/1992	435,71	4%	12/31/1992	16.924,95	-26%	12/31/1992	360,18	9%	12/31/1992		
12/31/1993	3.418,40	20%	12/31/1993	466,45	7%	12/31/1993	17.417,24	3%	12/31/1993	398,28	11%	12/31/1993		
12/30/1994	3.065,50	-10%	12/30/1994	459,27	-2%	12/30/1994	19.723,06	13%	12/30/1994	404,27	2%	12/30/1994		
12/29/1995	3.689,30	20%	12/29/1995	615,93	34%	12/29/1995	19.868,15	1%	12/29/1995	576,23	43%	12/29/1995		
12/31/1996	4.118,50	12%	12/31/1996	740,74	20%	12/31/1996	19.361,35	-3%	12/31/1996	821,36	43%	12/31/1996	914,67	
12/31/1997	5.135,50	25%	12/31/1997	970,43	31%	12/31/1997	15.258,74	-21%	12/31/1997	990,80	21%	12/31/1997	954,02	4%
12/31/1998	5.882,60	15%	12/31/1998	1.229,23	27%	12/31/1998	13.842,17	-9%	12/31/1998	1.836,01	85%	12/31/1998	1.456,01	53%
12/31/1999	6.930,20	18%	12/31/1999	1.469,25	20%	12/31/1999	18.934,34	37%	12/31/1999	3.707,83	102%	12/31/1999	3.779,41	160%
12/29/2000	6.222,50	-10%	12/29/2000	1.320,28	-10%	12/29/2000	13.785,69	-27%	12/29/2000	2.341,70	-37%	12/29/2000	2.564,05	-32%
12/31/2001	5.217,40	-16%	12/31/2001	1.148,08	-13%	12/31/2001	10.542,62	-24%	12/31/2001	1.577,05	-33%	12/31/2001	1.472,73	-43%
12/31/2002	3.940,40	-24%	12/31/2002	879,82	-23%	12/31/2002	8.578,95	-19%	12/31/2002	984,36	-38%	12/31/2002	648,78	-56%
12/31/2003	4.476,90	14%	12/31/2003	1.111,92	26%	12/31/2003	10.676,64	24%	12/31/2003	1.467,92	49%	12/31/2003	1.015,01	56%
12/31/2004	4.814,30	8%	12/31/2004	1.211,92	9%	12/31/2004	11.488,76	8%	12/31/2004	1.621,12	10%	12/31/2004	1.196,43	18%
12/30/2005	5.618,80	17%	12/30/2005	1.248,29	3%	12/30/2005	16.111,43	40%	12/30/2005	1.645,20	1%	12/30/2005	1.431,72	20%
12/29/2006	6.220,80	11%	12/29/2006	1.418,30	14%	12/29/2006	17.225,83	7%	12/29/2006	1.756,90	7%	12/29/2006	1.512,38	6%
12/31/2007	6.456,90	4%	12/31/2007	1.468,36	4%	12/31/2007	15.307,78	-11%	12/31/2007	2.084,93	19%	12/31/2007	1.641,08	9%
12/31/2008	4.434,17	-31%	12/31/2008	903,25	-38%	12/31/2008	8.859,56	-42%	12/31/2008	1.211,65	-42%	12/31/2008	1.217,00	-26%
12/31/2009	5.412,88	22%	12/31/2009	1.115,10	23%	12/31/2009	10.546,44	19%	12/31/2009	1.860,31	54%	12/31/2009	1.704,82	40%
12/31/2010	5.899,94	9%	12/31/2010	1.257,64	13%	12/31/2010	10.228,92	-3%	12/31/2010	2.217,86	19%	12/31/2010	2.039,99	20%
12/30/2011	5.572,28	-6%	12/30/2011	1.257,61	0%	12/30/2011	8.455,35	-17%	12/30/2011	2.277,83	3%	12/30/2011	2.064,06	1%
12/31/2012	5.897,81	6%	12/31/2012	1.426,19	13%	12/31/2012	10.395,18	23%	12/31/2012	2.660,93	17%	12/31/2012	2.479,84	20%
12/31/2013	6.749,09	14%	12/31/2013	1.848,36	30%	12/31/2013	16.291,31	57%	12/31/2013	3.592,00	35%	12/31/2013	3.197,32	29%
12/31/2014	6.566,09	-3%	12/31/2014	2.058,90	11%	12/31/2014	17.450,77	7%	12/31/2014	4.236,28	18%	12/31/2014	3.522,00	10%
12/31/2015	6.242,32	-5%	12/31/2015	2.043,94	-1%	12/31/2015	19.033,71	9%	12/31/2015	4.593,27	8%	12/31/2015	4.027,41	14%
25-year-verage		**5,06%**			**8,41%**			**1,89%**			**16,88%**			**15,93%**
15-year-average		**1,24%**			**4,70%**			**5,22%**			**8,53%**			**7,89%**
10-year-average		**2,13%**			**6,86%**			**4,82%**			**13,72%**			**12,28%**
5-year-average		**1,42%**			**10,73%**			**15,70%**			**16,18%**			**14,95%**

(Bloomberg L.P. n.d.)

Exhibit TN 8: Global Semiconductor Growth 1988-2015

1988	36,400%
1989	8,900%
1990	4,100%
1991	7,800%
1992	9,100%
1993	28,300%
1994	32,500%
1995	41,200%
1996	-8,300%
1997	3,800%
1998	-8,000%
1999	18,300%
2000	36,900%
2001	-31,900%
2002	1,400%
2003	17,700%
2004	28,300%
2005	6,600%
2006	8,900%
2007	3,200%
2008	-2,800%
2009	-9,000%
2010	31,800%
2011	0,400%
2012	-2,700%
2013	4,800%
2014	9,900%
2015	-0,200%
Average	**9,91%**

(World Semiconductors Trade Statistics 2023)

Exhibit TN 9: Global Inflation Rate 2000-2015

2000	4,860%
2001	4,580%
2002	3,680%
2003	3,890%
2004	3,800%
2005	4,030%
2006	4,060%
2007	4,290%
2008	6,360%
2009	2,720%
2010	3,690%
2011	5,070%
2012	4,080%
2013	3,620%
2014	3,230%
2015	2,750%
Average	**4,04%**

(International Monetary Fund 2023)

Exhibit TN 10: Government Bond Yields 2015-2023

UK-10-Year Government Bond		**Japan-10-Year-Government Bond**		**US-3-month-Treasury Yield**	
Date	Yearly Return	Date	Yearly Return	Date	Yearly Return
11/22/2023	4,20%	11/22/2023	0,72%	11/22/2023	5,42%
12/30/2022	3,67%	12/30/2022	0,42%	12/30/2022	4,41%
12/31/2015	1,96%	12/31/2015	0,27%	12/31/2015	0,18%

(Bloomberg L.P. n.d.)

Exhibit TN 11: Beta Calculations ARM Holdings (FTSE100, S&P500, NASDAQ)

ARM Holdings plc X FTSE 100		**ARM Holdings plc X S&P 500**		**ARM Holdings plc X NASDAQ**	
Raw BETA	1,170	Raw BETA	1,032	Raw BETA	0,791
Adjusted BETA	1,113	Adjusted BETA	1,021	Adjusted BETA	0,861

(Bloomberg L.P. n.d.)

Exhibit TN 12: WACC Calculation and Components

Cost of Equity

	Value
Risk Free Rate as per 31st December 2015	0,27%
Market Rate of Return	13,72%
Raw BETA	79,10%
Cost of Equity	**10,91%**

Cost of Debt

	Value
Cost of Debt	0,19%

Capital Structure

	Amount	Weight
Equity	1.797,60	99,38%
Debt	11,30	0,62%

Tax Rate

	Value
Corporate Tax Rate	19,00%

Weighted Average Cost of Capital

	Value
Cost of Equity	10,91%
Equity Weight	99,38%
Cost of Debt	0,19%
Debt Weight	0,62%
Tax Rate	19,00%
WACC	**10,84%**

Terminal Growth Rate Estimation

	Value
Average Global Industry Growth	9,91%
Average Global Inflation	4,04%
Terminal Value Growth Rate	**5,86%**

(Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.)

Exhibit TN 13: Comparable Companies Description

Ams-OSRAM AG	AMS Osram AG is an Austrian electronics company that designs and manufactures sensors for small form factor, low power, highest sensitivity, and multi-sensor applications. It is a global leader in intelligent sensors and emitters, offering a unique product and technology portfolio for sensing, illumination, and visualization. (ams OSRAM AG n.d.)
u-blox Holding AG	U-blox Holding AG is a Swiss company that specializes in creating wireless semiconductors and modules for consumer, automotive, and industrial markets. The company is engaged in the development, manufacture, and marketing of products and solutions that enable precise positioning and wireless connectivity for people, vehicles, and machines. U-blox operates as a fabless IC (integrated circuit) and module supplier, and it is considered a global leader in its field with a vital local knowledge of key markets due to its worldwide presence. (u-blox AG n.d.)
Elmos Semiconductor SE	Elmos Semiconductor SE is a German manufacturer of semiconductor products, with its headquarters in Dortmund, Germany. The company specializes in developing, producing, and marketing semiconductors, primarily for use in the automotive industry since 1984. Elmos is known for creating innovative microelectronics-based solutions to enhance people's lives, shape future mobility, and contribute to a greener and safer world. It is considered a leading manufacturer of automotive mixed-signal semiconductors and has been a figurehead for the profound structural change in Dortmund. (Elmos Semiconductor SE n.d.)
Nordic Semiconductor ASA	Nordic Semiconductor ASA is a Norwegian fabless technology company founded in 1983, with its headquarters in Trondheim, Norway. The company specializes in wireless communication technology that powers the Internet of Things (IoT). Nordic Semiconductor is known for designing, marketing, and delivering integrated circuits (ICs) for wireless innovation. (Nordic Semiconductor ASA n.d.)
Melexis N.V.	Melexis N.V. is a global supplier of micro-electronic semiconductor solutions, specializing in the design, development, testing, and marketing of integrated circuits for automotive electronics systems. Melexis offers a wide range of semiconductor integrated circuits, covering various sensor technologies, drivers, and transceivers. Their products find applications in diverse industries, including automotive, industrial, and IoT sectors. The company focuses on enabling the best imaginable future through its innovative solutions and commitment to excellence. (Melexis N.V. n.d.)
STMicroelectronics N.V.	STMicroelectronics N.V. is a multinational corporation and technology company of French-Italian origin that is headquartered in Plan-les-Ouates near Geneva, Switzerland. It is a global semiconductor company that creates semiconductor technologies for a smarter, greener, and more sustainable future. The company develops and markets a wide range of products, including discrete and integrated circuits. Their products are to be found in products as diverse as electric cars and key fobs, giant factory machines and data centers, washing machines and hard disks, and smartphones and toothbrushes. (STMicroelectronics N.V. n.d.)
Infineon Technologies AG	Infineon Technologies AG is Germany's largest semiconductor manufacturer, (50,280 employees), making it one of the ten largest semiconductor manufacturers worldwide. The company is a global leader in power systems and IoT, enabling solutions for green and efficient energy, clean mobility. Infineon designs, develops, manufactures, and markets application-specific ICs, positioning itself as a semiconductor solutions provider for communi-cations, auto and memory markets. (Infineon Technologies AG 2002)
NXP Semiconductors N.V.	NXP Semiconductors N.V. is a Dutch semiconductor designer and manufacturer headquartered in Eindhoven, Netherlands. The company employs approximately 31,000 people in more than 30 countries. NXP focuses on designing purpose-built, rigorously tested technologies that enable devices to sense, think, connect, and act intelligently to improve people's daily lives. As a world leader in secure connectivity, NXP aims to enable a smarter, safer, and more sustainable world through innovation in sectors like

	automotive, communication, industrial, mobile, smart city and smart home. (NXP Semiconductors N.V. n.d.)

(Melexis N.V. n.d.) (NXP Semiconductors N.V. n.d.) (Nordic Semiconductor ASA n.d.) (STMicroelectronics N.V. n.d.) (ams OSRAM AG n.d.) (u-blox AG n.d.) (Elmos Semiconductor SE n.d.) (Infineon Technologies AG 2002)

Exhibit TN 14: Comparable Companies Financial Performance

	ams-OSRAM AG	u-blox Holding AG	Elmos Semi-conductor SE	Nordic Semi-conductor ASA	Melexis N.V.	STMicro-electronics N.V.	Infineon Technologies AG	NXP Semiconductors N.V.
Revenue	691,65	351,73	243,79	193,07	444,15	6.897,00	6.657,53	6.101,00
EBITDA	214,73	78,96	56,63	43,41	144,76	845,00	1.510,73	2.532,00
EBIT	161,53	53,32	24,69	34,98	119,44	109,00	637,61	2.015,00
Current Assets	370,58	219,83	172,13	122,51	215,30	4.680,00	4.601,39	4.812,00
Cash/Cash Equivalents	112,55	112,42	54,33	29,29	80,23	1.771,00	752,55	1.614,00
Current Liabilities	266,87	55,42	50,22	45,34	58,68	1.560,00	1.772,35	2.548,00
Debt	299,39	59,30	40,01	10,00	16,50	1.612,00	2.004,93	9.212,00
Market Cap	2.477,47	1.443,10	342,97	797,12	2.183,96	5.900,50	12.559,17	28.813,75
Enterprise Value	2.620,78	1.378,32	285,55	777,82	2.120,24	5.467,50	12.314,28	36.699,75
Earnings-Per-Share	0,88	5,77	0,91	0,15	2,72	0,12	0,64	6,36
Shares Outstanding	200,28	6,73	19,73	162,44	40,05	878,54	1.123,27	342,00
Share Price	13,09	204,93	14,47	4,79	52,93	6,22	10,96	107,31
Price-to-Earnings	**14,89**	**35,52**	**15,90**	**31,92**	**19,45**	**51,86**	**17,04**	**16,87**
EV/EBITDA	**12,21**	**17,46**	**5,04**	**17,92**	**14,65**	**6,47**	**8,15**	**14,49**
EV/EBIT	**16,23**	**25,85**	**11,57**	**22,24**	**17,75**	**50,16**	**19,31**	**18,21**
EV/Sales	**3,79**	**3,92**	**1,17**	**4,03**	**4,77**	**0,79**	**1,85**	**6,02**

(Bloomberg L.P. n.d.)

Brexit's Currency Quandary and its Impact on the Arm Softbank Acquisition

Teaching Note Michael Hofreither (52946)

1 Introduction

The merger between ARM Holdings and SoftBank in 2016 was a significant event that reshaped the landscape of the technology industry. With SoftBank's acquisition of ARM for $32 billion, the deal marked a strategic move aligned with SoftBank's visionary approach to technology investment. The merger allowed ARM to invest heavily in the company and continue its drive for technology diversification across emerging markets. However, the geopolitical landscape at the time, particularly the aftermath of the Brexit referendum, added a layer of complexity to the merger. This part of the case study will focus on the geopolitical situation in the UK versus Japan at the time, predominantly on the Brexit referendum and its implications. It will also examine the currency implications of the merger, considering the fluctuating exchange rates between the British pound, the US dollar, and the Japanese yen. - Please write an introduction to that topic mentioned in the paragraph. Fort the historical context on the semiconductor industry as well as the respective company deep dives and the M&A landscape please refer to the group component.

2 Geopolitical Landscape in Japan and the United Kingdom in 2016 and the companies influence

In 2016, the geopolitical landscape of the UK and Japan was shaped by several significant events that had far-reaching implications. One of the most notable events was the 2016 Brexit referendum, in which the United Kingdom voted to leave the European Union. This decision led to a period of significant uncertainty and volatility, not only in the UK, but also in the global economy. The outcome of the referendum surprised global financial markets and implied the materialization of a significant downside risk to the global economy. ARM Holdings held a

pivotal position in the UK technology landscape, with significant economic and geopolitical influence and importance. ARM was known worldwide for its chip technology, which powers a wide range of devices from smartphones to IoT devices and automotive systems. Its innovative and energy-efficient designs had become integral to the core of the technology ecosystem, making it a cornerstone of the UK's technology industry.

From an economic perspective, ARM's success contributed significantly to the UK's technological prowess and competitiveness on the global stage. Its licensing model, which allowed other companies to use its architecture, fostered a thriving ecosystem of innovation in the UK and beyond. This, in turn, created jobs, stimulated research and development, and enhanced the country's reputation as a hub for cutting-edge technology.

Geopolitically, ARM's prominence gave the UK a certain technological prestige and soft power. Its innovations helped shape the future of computing worldwide, giving the UK a seat at the table in discussions about the direction of technological progress. However, the potential acquisition of ARM by SoftBank in the midst of the Brexit referendum raised concerns about the potential loss of control over a critical national asset. Uncertainty about the impact of this acquisition sparked debates about the protection of strategic technologies and intellectual property, prompting discussions about national interests in the context of global technological dominance.

In Japan, 2016 was marked by the continuation of established paths in domestic politics, foreign policy, economics, and society. The country continued to navigate its position in the Asia-Pacific region amid evolving geopolitical trends and events that would have lasting consequences. SoftBank, has exerted significant influence on the Japanese geopolitical landscape, particularly through its strategic acquisitions and investments around the world. Most notable is SoftBank's acquisition of ARM Holdings. This acquisition not only strengthened SoftBank's, and therefore Japan's, position in the global technology industry, but

also had implications for Japan's strategic interests, given ARM's critical role in the semiconductor sector. In addition, SoftBank's actions in the international arena have demonstrated the company's ability to navigate complex geopolitical dynamics and protect its interests in key global markets. The company's visionary approach to technology investment, as evidenced by its strategic play in the era of the Fourth Industrial Revolution, has further solidified its influence both domestically and internationally. In light of these developments, it is clear that SoftBank's actions and strategic initiatives have positioned the company as a key player with the ability to shape and respond to the evolving geopolitical landscape, not only in Japan but also on the global stage.

The second Japan-UK Foreign and Defense Ministerial Meeting in 2016 underscored the strategic alignment between Japan and the UK, with Japan welcoming the UK's 2015 Strategic Defense and Security Review, which set out its vision for a secure and prosperous UK with global reach.

These events, along with others, contributed to a complex geopolitical environment in 2016, with the Brexit referendum and its aftermath in particular having a significant impact on the global outlook and strategic considerations of both the UK and Japan. (International Monetary Fund 2016) (Pempel 2017) (Panda 2016)

3 The Brexit referendum

The Brexit referendum, a pivotal moment in modern British history, unfolded amidst fervent debates and intense public engagement. Initiated on June 23, 2016, the referendum posed a crucial question to the electorate: should the United Kingdom remain within or depart from the European Union (EU)? The unexpected outcome, with 51.9% of voters opting to leave and 48.1% choosing to remain, triggered a seismic shift in the UK's political landscape.

This breakpoint moment triggered immediate repercussions. Prime Minister David Cameron's resignation set the stage for a succession of leaders wrestling with the overwhelming task of

negotiating Britain's departure from the EU. Theresa May's tenure was marked by the struggles to forge a viable Brexit deal, ultimately leading to her resignation.

This transformative event reverberated across diplomatic corridors and financial markets, catalyzing a cascade of ramifications that redefined the nation's global positioning and economic foundations. Formerly a key member state within the EU, the nation embarked on a quest to redefine its international alliances and negotiate trade relations autonomously.

The UK's withdrawal from the EU's single market and customs union disrupted established trade routes and supply chains. Negotiating new trade agreements became imperative, influencing the contours of businesses operating within and beyond UK borders. (Oliver 2016) (The Electoral Commission 2016) (International Monetary Fund 2016)

3.1 Trade Disruptions and Market Impact Forecasts

Many analysts initially predicted a short-term economic slowdown. This was largely due to heightened uncertainty following the referendum result, which could lead to delayed investments, reduced consumer spending, and potential disruptions in trade. Longer-term forecasts varied but generally projected underlined the forecast fort the short-term. Predictions ranged from modest declines in growth rates to more pessimistic predictions of a significant economic downturn over the medium to long term. While some predictions aligned with post-Brexit realities, the actual outcomes were influenced by multifaceted factors. Bloomberg estimates however, showed no signs of material changes in their economic calendars and forecast regarding Gross Domestic Product, Government Spending, Personal Consumption and Imports/Exports. In fact, GDP actually rose in the quarter following the announcements. Imports/Exports and personal consumption showed similar developments. Government spending stayed relatively stable.

The market reaction was swift, reflecting investor concerns and uncertainties surrounding the UK's future economic prospects outside the EU. As seen in the trading volume of the FTSE100

which spiked 357% from the average trading volume of about £854 million maxing out at £3,9 billion. Conversely the FTSE 100 index dropped about 6%, following the referendum results announcement, closing £355 down on the June 27th from its closing price on the June 23rd. Throughout the subsequent negotiations and discussions surrounding Brexit, the GBP continued to exhibit heightened sensitivity to political developments, economic indicators, and shifts in sentiment. The pound's volatility persisted, responding to each new development in the negotiations and Brexit-related news, illustrating the referendum's enduring impact on currency markets and the ongoing concerns surrounding the UK's economic trajectory post-EU departure. (Uberoi 2016) (The Electoral Commission 2016) (Bloomberg L.P. 2016)

3.2 Pound Sterling Sensitivity to Referendum Developments

Further, the Brexit referendum triggered significant volatility in the GBP, marking a period of pronounced fluctuations and uncertainty for the pound sterling. Following the announcement of the referendum results in June 2016, the GBP experienced sharp and immediate declines against major currencies.

Final polling results were announced on June 24th, 2016, at 7:20 am BST. This day the GBP closed down 1.3%-1.5% against the JYP and EUR/USD respectively. Throughout the weekend that followed the announcement uncertainty about future developments became widespread and the pound sterling plummeted to its lowest level in over three decades against the US dollar the following Monday. On June 27th, 2016, the decline was staggering, with the GBP falling by approximately 8% against the USD, 5% against the EUR and a massive 10% against the yen. The days after the announcement resulted in a low of 10,51%, 12,93% and 7,97% against the USD, JPY and EUR respectively compared to the closing price of June 23rd, 2016. (Bloomberg L.P. n.d.) (Uberoi 2016)

On the day of the SoftBank Acquisition announcement, July 18th, 2016, the GBP was still down against major global currencies. The foreign exchange against the JPY showed signs of slight

recovery being up 3,55% from the low on the June 28th, 2016. In general, compared to other major currencies like the Japanese Yen or the Euro, the Pound Sterling, cannot be characterized as more volatile. During the Worldwide financial crisis the GBP performed as volatile as the EUR, stand more stable than the JPY, against the USD. However towards the end of the graph's, it is apparent that the Brexit referendum triggered a massive currency shock against the USD. EUR and JPY on the other hand stood firm. (Bloomberg L.P. n.d.)

4 Conclusion

The geopolitical scenario in 2016 witnessed the monumental Brexit referendum, which profoundly shaped the landscape of the UK and Japan. The aftermath of Brexit created uncertainties that impacted the global economy and, in particular, ARM Holdings, a cornerstone of the UK's technological prowess. ARM's innovative chip technology marked the company's global prominence, embedding the UK in key technology discussions. Conversely, SoftBank's strategic acquisition of ARM increased Japan's technological clout and symbolized its influence in the semiconductor sector. Amidst geopolitical complexities, the Japan-UK formed a strategic alliance. In the aftermath of the referendum, economic forecasts varied; while GDP initially surged, market reactions showed immediate volatility, particularly in the GBP, highlighting the lasting currency impact of Brexit. The ripple effect of the referendum increased the GBP's sensitivity to political shifts and highlighted long-term economic uncertainties and thus the acquisition cost in foreign currency terms, affecting ARM's valuation in the eyes of SoftBank.

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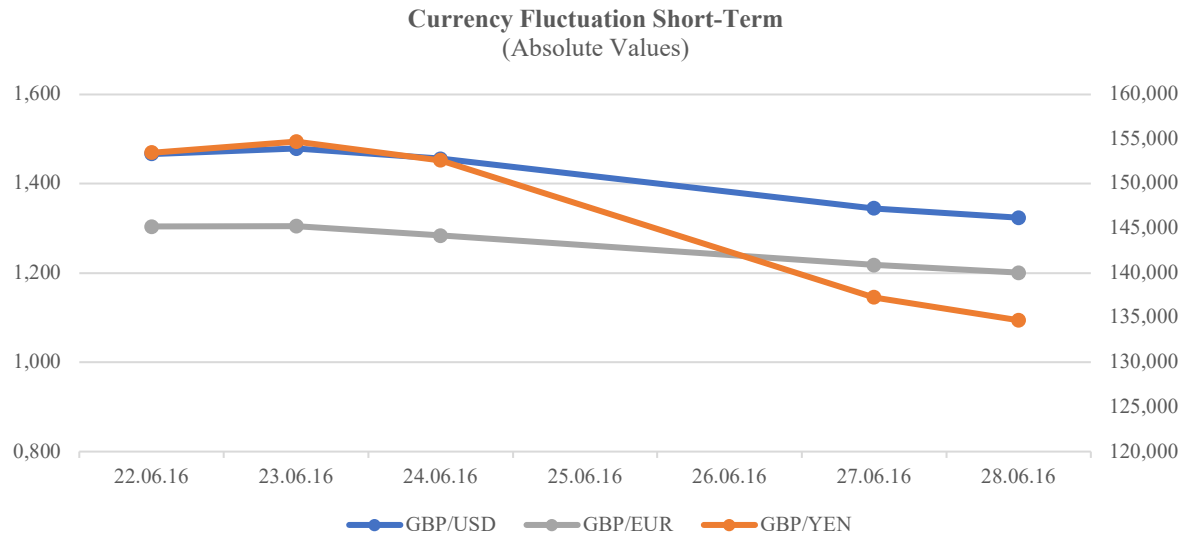
Appendix

Exhibit MHCS 1: Currency Exchange Rates GBP against USD/JPY/EUR

Event	Date	GBP/USD	% Change	GBP/JPY	% Change	GBP/EUR	% Change
	01.06.	1,448		160,271		1,300	
	02.06.	1,442	-0,435%	157,837	-1,519%	1,289	-0,904%
	03.06.	1,441	-0,096%	156,822	-0,643%	1,292	0,232%
	06.06.	1,438	-0,150%	153,460	-2,144%	1,267	-1,898%
	07.06.	1,446	0,523%	155,354	1,234%	1,272	0,405%
	08.06.	1,454	0,583%	155,950	0,384%	1,280	0,630%
	09.06.	1,452	-0,173%	154,970	-0,628%	1,273	-0,580%
	10.06.	1,446	-0,376%	154,840	-0,084%	1,278	0,424%
	13.06.	1,419	-1,901%	151,107	-2,411%	1,262	-1,252%
	14.06.	1,421	0,126%	150,882	-0,149%	1,258	-0,319%
	15.06.	1,412	-0,585%	149,811	-0,710%	1,259	0,105%
	16.06.	1,420	0,511%	150,230	0,280%	1,260	0,062%
	17.06.	1,430	0,703%	149,670	-0,373%	1,270	0,751%
	20.06.	1,459	2,030%	152,598	1,956%	1,285	1,191%
	21.06.	1,468	0,610%	152,335	-0,172%	1,296	0,853%
	22.06.	1,467	-0,032%	153,470	0,745%	1,304	0,612%
Voting Day	23.06.	1,479	0,812%	154,720	0,814%	1,305	0,117%
Brexit Results	24.06.	1,456	-1,565%	152,621	-1,357%	1,284	-1,591%
	27.06.	1,345	-7,604%	137,294	-10,043%	1,218	-5,181%
Low Close	28.06.	1,324	-1,605%	134,711	-1,881%	1,201	-1,369%
	29.06.	1,335	0,876%	137,071	1,752%	1,205	0,333%
	30.06.	1,347	0,860%	138,357	0,938%	1,210	0,406%
	01.07.	1,333	-1,018%	137,342	-0,734%	1,200	-0,876%
	04.07.	1,329	-0,291%	136,119	-0,890%	1,193	-0,525%
	05.07.	1,328	-0,076%	136,130	0,008%	1,191	-0,159%
	06.07.	1,296	-2,424%	131,004	-3,766%	1,171	-1,724%
	07.07.	1,293	-0,247%	130,704	-0,229%	1,164	-0,556%
	08.07.	1,292	-0,079%	130,158	-0,418%	1,167	0,220%
	11.07.	1,295	0,236%	130,324	0,128%	1,172	0,433%
	12.07.	1,298	0,270%	133,072	2,109%	1,174	0,147%
	13.07.	1,328	2,289%	139,084	4,518%	1,200	2,264%
	14.07.	1,312	-1,194%	136,513	-1,849%	1,182	-1,506%
	15.07.	1,336	1,815%	140,466	2,896%	1,202	1,698%
Acquisition News	18.07.	1,323	-0,960%	139,487	-0,697%	1,196	-0,478%
% Change (24.06)			-1,565%		-1,357%		-1,591%
% Change 23.06 - 28.06			-10,510%		-12,932%		-7,967%
% Change 23.06 - 18.07			-10,547%		-9,846%		-8,336%
% Change 28.06 - 18.07			-0,041%		3,545%		-0,400%

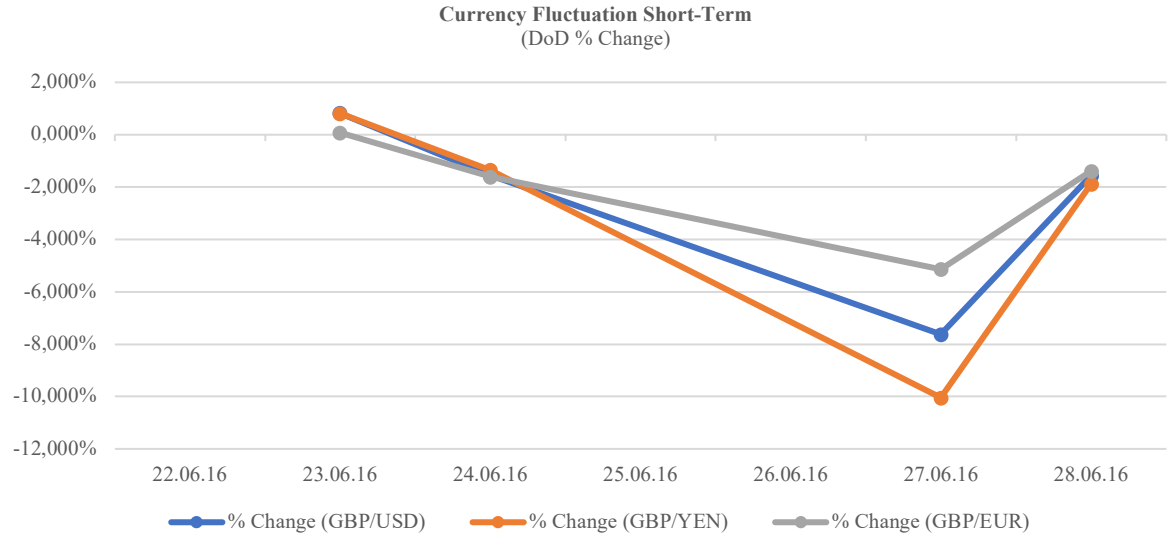
(Bloomberg L.P. n.d.)

Exhibit MHCS 2: Currency Fluctuation Graph Short Term Absolute Value



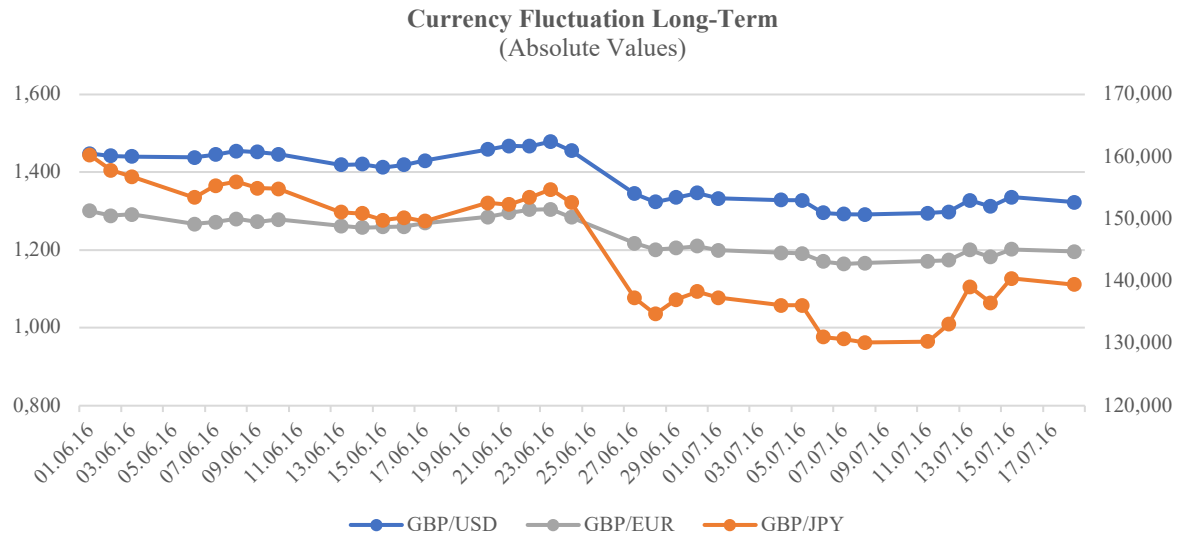
(Bloomberg L.P. n.d.)

Exhibit MHCS 3: Currency Fluctuation Graph Short Term Day over Day % Change



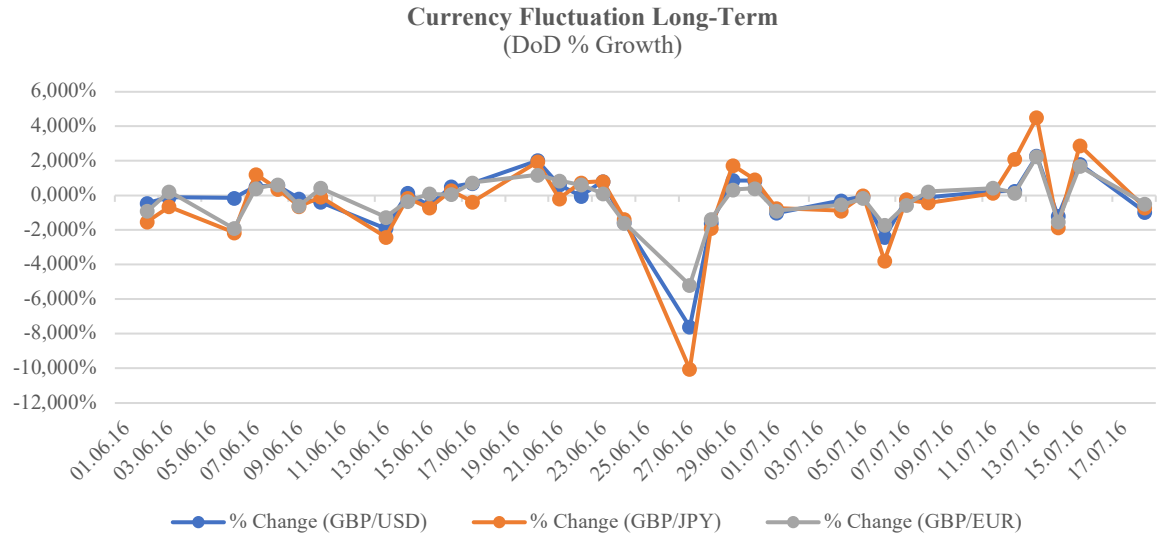
(Bloomberg L.P. n.d.)

Exhibit MHCS 4: Currency Fluctuation Graph Long Term Absolute Value



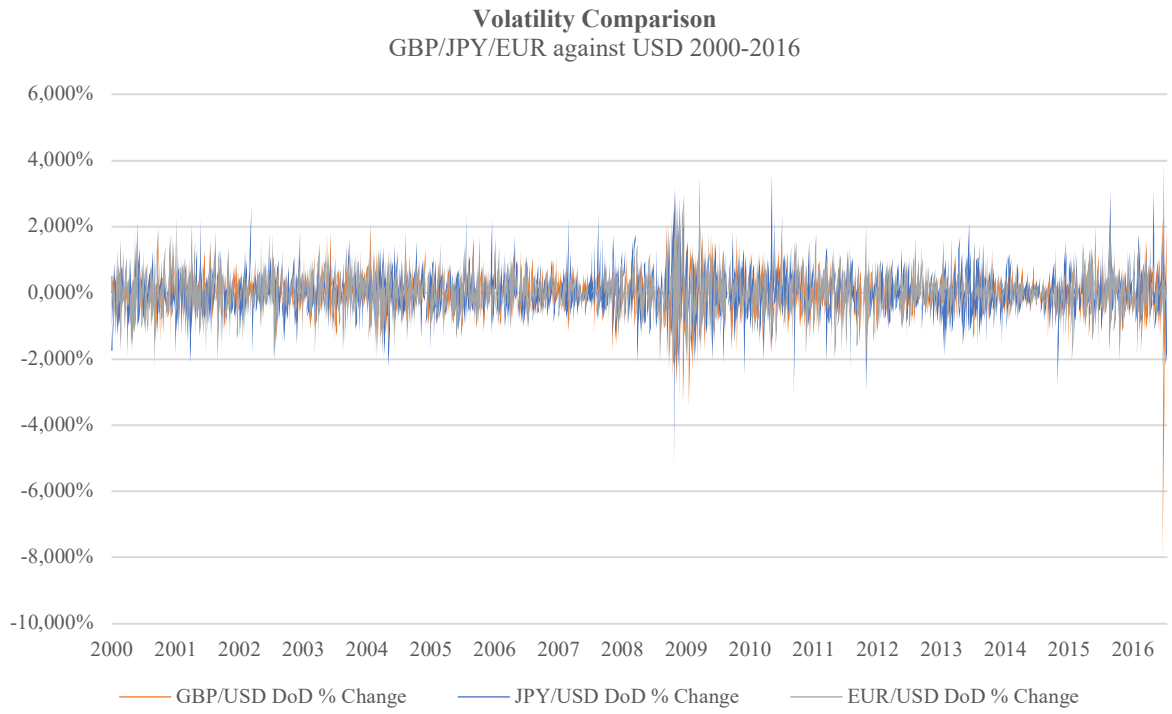
(Bloomberg L.P. n.d.)

Exhibit MHCS 5: Currency Fluctuation Graph Long Term Day over Day % Change



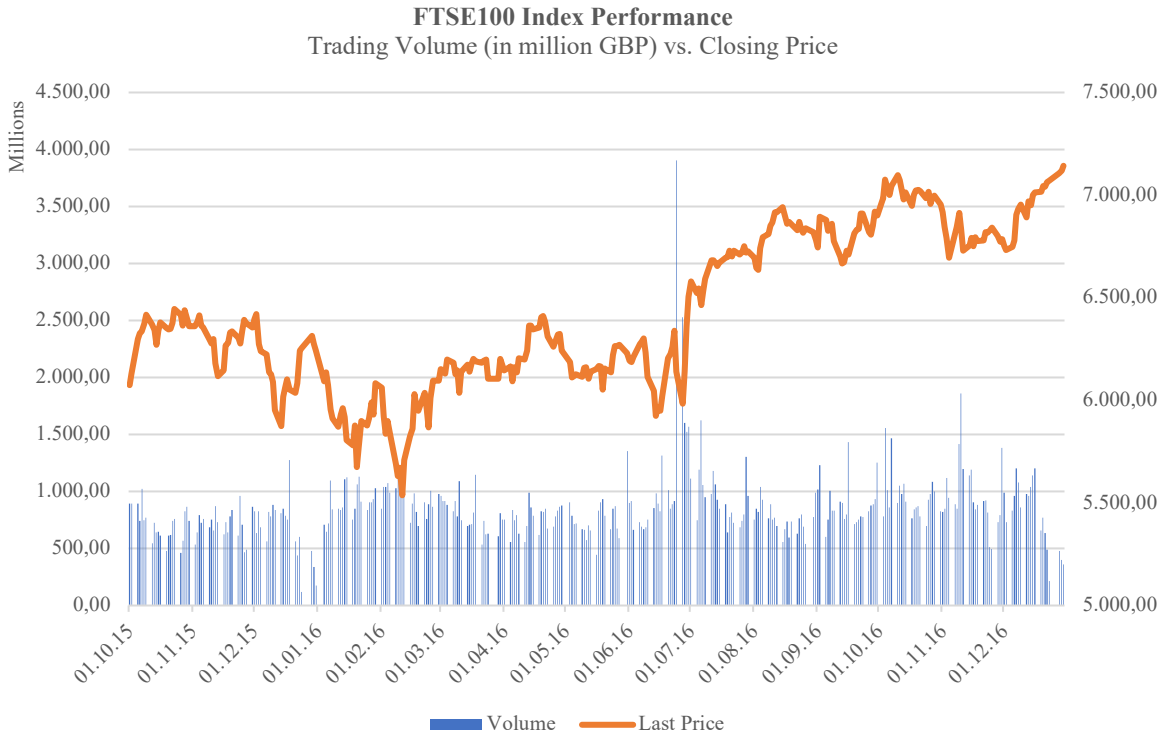
(Bloomberg L.P. n.d.)

Exhibit MHCS 6: Volatility Comparison - GBP, JPY and EUR against USD from 2000-2016



(Bloomberg L.P. n.d.)

Exhibit MHCS 7: FTSE100 Index Performance Trading Volume and Closing Price Evolution



(Bloomberg L.P. n.d.)

Exhibit MHCS 8: Bloomberg Economic Calendar (Forecast and Actuals GDP Quarter over Quarter and Year over Year Changes 2015-2016)

	GDP QoQ					GDP YoY				
Date Time	Estimate	Actual	Prior	Change[1]	Change[2]	Estimate	Actual	Prior	Change[1]	Change[2]
01/27/2015	0,60%	0,50%	0,70%			2,80%	2,70%	2,60%		
02/26/2015	0,50%	0,50%	0,50%	0,00%	0,00%	2,70%	2,70%	2,70%	0,00%	0,00%
03/31/2015	0,50%	0,60%	0,50%	0,00%	0,10%	2,70%	3,00%	2,70%	0,00%	0,30%
04/28/2015	0,50%	0,30%	0,60%	-0,10%	-0,30%	2,60%	2,40%	3,00%	-0,40%	-0,60%
05/28/2015	0,40%	0,30%	0,30%	0,10%	0,00%	2,50%	2,40%	2,40%	0,10%	0,00%
06/30/2015	0,40%	0,40%	0,30%	0,10%	0,10%	2,50%	2,90%	2,40%	0,10%	0,50%
07/28/2015	0,70%	0,70%	0,40%	0,30%	0,30%	2,60%	2,60%	2,90%	-0,30%	-0,30%
08/28/2015	0,70%	0,70%	0,70%	0,00%	0,00%	2,60%	2,60%	2,60%	0,00%	0,00%
09/30/2015	0,70%	0,70%	0,70%	0,00%	0,00%	2,60%	2,40%	2,60%	0,00%	-0,20%
10/27/2015	0,60%	0,50%	0,70%	-0,10%	-0,20%	2,40%	2,30%	2,40%	0,00%	-0,10%
11/27/2015	0,50%	0,50%	0,50%	0,00%	0,00%	2,30%	2,30%	2,30%	0,00%	0,00%
12/23/2015	0,50%	0,40%	0,50%	0,00%	-0,10%	2,30%	2,10%	2,30%	0,00%	-0,20%
01/28/2016	0,50%	0,50%	0,40%	0,10%	0,10%	1,90%	1,90%	2,10%	-0,20%	-0,20%
02/25/2016	0,50%	0,50%	0,50%	0,00%	0,00%	1,90%	1,90%	1,90%	0,00%	0,00%
03/31/2016	0,50%	0,60%	0,50%	0,00%	0,10%	1,90%	2,10%	1,90%	0,00%	0,20%
04/27/2016	0,40%	0,40%	0,60%	-0,20%	-0,20%	2,00%	2,10%	2,10%	-0,10%	0,00%
05/26/2016	0,40%	0,40%	0,40%	0,00%	0,00%	2,10%	2,00%	2,10%	0,00%	-0,10%
06/30/2016	0,40%	0,40%	0,40%	0,00%	0,00%	2,00%	2,00%	2,00%	0,00%	0,00%
07/27/2016	0,50%	0,60%	0,40%	0,10%	0,20%	2,10%	2,20%	2,00%	0,10%	0,20%
08/26/2016	0,60%	0,60%	0,60%	0,00%	0,00%	2,20%	2,20%	2,20%	0,00%	0,00%
09/30/2016	0,60%	0,70%	0,60%	0,00%	0,10%	2,20%	2,10%	2,20%	0,00%	-0,10%
10/27/2016	0,30%	0,50%	0,70%	-0,40%	-0,20%	2,10%	2,30%	2,10%	0,00%	0,20%
11/25/2016	0,50%	0,50%	0,50%	0,00%	0,00%	2,30%	2,30%	2,30%	0,00%	0,00%
12/23/2016	0,50%	0,60%	0,50%	0,00%	0,10%	2,30%	2,20%	2,30%	0,00%	-0,10%

[1]Change Estimate to Actual
[2]Change Prior to Actual

(Bloomberg L.P. 2016)

Exhibit MHCS 8: Bloomberg Economic Calendar (Forecast and Actuals Private Consumption, Government Spending, Exports and Imports Quarter over Quarter 2015-2016)

	Private Consumption QoQ					Government Spending QoQ				
Date Time	Estimate	Actual	Prior	Change[1]	Change [2]	Expectation	Actual	Prior	Change[1]	Change[2]
02/26/2015	0,80%	0,50%	0,90%			0,20%	0,00%	0,30%		
05/28/2015	0,70%	0,50%	0,60%	0,20%	0,00%	0,30%	0,60%	-0,20%	0,30%	0,60%
08/28/2015	0,70%	0,70%	0,90%	0,20%	0,20%	0,00%	0,90%	0,90%	-0,60%	0,30%
11/27/2015	0,70%	0,80%	0,70%	0,00%	0,10%	0,10%	1,30%	0,90%	-0,80%	0,40%
02/25/2016	0,80%	0,70%	0,90%	0,00%	-0,10%	0,20%	0,50%	0,60%	-1,10%	-0,80%
05/26/2016	0,50%	0,70%	0,60%	-0,20%	0,00%	0,40%	0,40%	0,30%	-0,10%	-0,10%
08/26/2016	0,80%	0,90%	0,70%	0,10%	0,20%	0,30%	-0,20%	0,50%	-0,10%	-0,60%
11/25/2016	0,80%	0,70%	0,90%	-0,10%	-0,20%	0,30%	0,40%	0,00%	0,50%	0,60%

	Exports QoQ					Imports QoQ				
Date Time	Estimate	Actual	Prior	Change[1]	Change[2]	Expectation	Actual	Prior	Change[1]	Change[2]
02/26/2015	1,10%	3,50%	0,60%			1,50%	1,30%	1,30%		
05/28/2015	-0,20%	-0,30%	4,60%	-3,70%	-3,80%	1,20%	2,30%	1,60%	-0,10%	1,00%
08/28/2015	2,00%	3,90%	0,40%	2,30%	4,20%	0,60%	0,60%	2,30%	-1,70%	-1,70%
11/27/2015	0,90%	0,90%	3,90%	-3,00%	-3,00%	3,50%	5,50%	0,60%	2,90%	4,90%
02/25/2016	0,40%	-0,10%	-0,30%	-0,50%	-1,00%	1,30%	1,20%	2,70%	-4,20%	-4,30%
05/26/2016	0,10%	-0,30%	0,10%	0,20%	-0,20%	1,00%	0,80%	0,90%	-0,20%	-0,40%
08/26/2016	0,70%	0,10%	-0,40%	1,00%	0,40%	0,80%	1,00%	0,10%	0,00%	0,20%
11/25/2016	1,00%	0,70%	-1,00%	0,90%	0,60%	-0,10%	-1,50%	1,30%	-1,10%	-2,50%

[1]Change Estimate to Actual
[2]Change Prior to Actual
(Bloomberg L.P. 2016)

Brexit's Currency Quandary and its Impact on the Arm Softbank Acquisition

Teaching Note Michael Hofreither (52946)

1 Synopsis

The ARM Holdings and SoftBank merger in 2016 encapsulated a pivotal moment in the tech industry. The $32 billion acquisition was a strategic leap for SoftBank, aligning with its visionary investment approach. However, this event unfolded against the backdrop of the Brexit referendum, adding complexity. The geopolitical situation between the UK and Japan during this time was crucial. The Brexit vote introduced uncertainty, impacting global markets and raising concerns about the merger's implications. ARM's significance in the UK's tech prowess and SoftBank's strategic global moves amplified the merger's geopolitical implications. Japan's stable geopolitical landscape contrasted with the UK's post-Brexit uncertainties, underlining the merger's significance amid evolving global dynamics. The Brexit referendum's aftermath, with the UK navigating new alliances and trade deals, heightened market volatility, particularly in GBP's value against major currencies. The GBP experienced sharp declines post-referendum, impacting the financial landscape. Even during the SoftBank acquisition announcement, the GBP showed signs of recovery against the JPY but remained volatile overall, reflecting the referendum's enduring impact on currency markets.

2 Positioning

The ARM Holdings and SoftBank acquisition case study provides a multifaceted exploration of Mergers, Acquisitions, and Restructuring (M&A) in the technology sector, highlighting the impact of geopolitical factors. Amidst the $32 billion merger, students will delve into the complexities of strategic decision-making against the backdrop of geopolitical uncertainties, notably the aftermath of the Brexit referendum. Within this particular part of the case students will engage in a qualitative analysis on how the geopolitical environment in the UK and Japan

has influenced acquisition negotiations and how the acquirer and the target have responded to those challenges imposed on them. However, the task extends beyond qualitative analysis—it involves analyzing fluctuations in the foreign exchange rate and the effects it had on the purchase price, amid the geopolitical nuances arising from the Brexit referendum. Combined this requires not just an improved understanding of globally currency dynamics but also a deep understanding of the geopolitical landscape and interplay.

3 Pedagogical Objectives

In addition to the pedagogical objectives the core case study addresses, students engaging in this additional part will delve deeper into the following topics:

- **Assessing Geopolitical Impact:** Examine how geopolitical events, like the Brexit referendum, can affect economies and diplomatic relationships and assess the effects on critical decision making for acquirer and target by evaluating the potential consequences of major political decisions on the deal
- **Impact of Currency Fluctuations:** Examine how currency fluctuations, particularly the GBP, USD, and JPY, fostered by the Brexit referendum, can affect the financial aspects of cross-border acquisitions like the ARM-SoftBank deal.
- **National Interest vs. Global Business:** Discuss the impact of the ARM Holdings acquisition by SoftBank on UK's tech industry and national interests, evaluating concerns surrounding intellectual property, strategic assets, and the implications of losing a technological crown jewel.

4 Analysis

4.1 Geopolitical Impact on cross-border M&A

Geopolitical events such as military alliances, rising inflation rates, interest rates, regulatory controls and political and economic union can have a significant impact on cross-border

mergers and acquisitions (M&A). Companies often engage in cross-border mergers and acquisitions to diversify geographically and reduce their exposure to volatile economic and geopolitical events. This strategy allows them to reduce the risks associated with events such as geopolitical tensions, inflation and currency fluctuations. The formation of military alliances between countries is associated with greater cross-border M&A activity, suggesting that geopolitical factors can influence the level of cross-border M&A activity. Despite geopolitical tensions and other factors, cross-border mergers and acquisitions have remained largely stable. However, a number of factors such as national security concerns, supply chain vulnerabilities and increased regulatory scrutiny have made it more difficult to complete transactions. Brexit, as a geopolitical event, has had significant implications for cross-border merger and acquisition (M&A) activity. The UK's exit from the European Union has created uncertainty and volatility in the global economy, leading to potential risks and opportunities for companies engaging in cross-border M&A. The quality of national governance can moderate the deterring effect of geopolitical risk. The European Union has lost numerous military powers and its second-largest economy, which weakened the whole community. The geopolitical divides in and around the European Union have created challenges for cross-border M&A activity (Oliver 2016) (Rao, et al. 2023) (Cao, Li und Liu 2023)

4.2 Brexit Referendum Impact on ARM-SoftBank Acquisition

4.2.1 Qualitative Impact

The sharp decline in the value of the British pound post-Brexit referendum significantly affected the financial dynamics of the acquisition. However, the economic uncertainty raised questions about the UK's investment landscape and the stability of ARM's operations post-acquisition. Investor confidence in the UK tech sector wavered due to uncertainties created by Brexit negotiations, impacting SoftBank's strategic considerations regarding ARM's future within its portfolio. The regulatory ambiguity resulting from Brexit negotiations prompted

concerns about market access, talent retention, and the overall operational environment for ARM under SoftBank's ownership. Addressing political and regulatory interests of preserving ARM's British identity and protecting national technological assets became crucial during the acquisition discussions. Despite the uncertainties, both SoftBank and ARM shared a long-term vision for technological innovation. SoftBank's investment signaled commitment, although the Brexit context introduced elements of caution and strategic reassessment. The preservation of ARM's operational independence within SoftBank was pivotal amid Brexit uncertainties, emphasizing the need to maintain ARM's distinct culture and brand identity within the larger SoftBank Group. (Olsen 2016) (Temperton und Burgess 2016) (Holton und Faulconbridge 2016) (Farrell 2016)

4.2.2 Financial Impact

While Brexit negotiations had a qualitative impact on the deal, the quantitative bearing, with currency and share price fluctuations stemming from the uncertainty of the situation, left even greater marks.

The Pound Sterling, historically stable against the USD compared to other major currencies like the EUR and JPY, experienced a substantial decline following the Brexit referendum on June 23rd, 2016. Specifically, from June 24th until June 27th, 2016, the GBP dropped around 13% against the JPY, settling at ¥134,7 JPY compared to the previous day's closing price. SoftBank's offered purchase price of £23,57 GBP billion (£17 GBP a share) translated to ¥3.288.869,12 JPY million (¥2.371,28 a share), proving beneficial in light of this decline. About a month earlier, at the announcement of the referendum results, the same purchase price would have amounted to ¥309.677,77 JPY million more, marking a decrease of approximately 9% for SoftBank. However, had SoftBank offered 17 GBP a share on June 24th I would not only have been more expensive seen from the JPY side, as the share price would have translated

into ¥2.594,56 JPY a share, it would have also represented a 57% premium over the closing price on June 24th £10,80.

ARM experienced a share price rally in the month post-Brexit referendum, climbing about 17% from the day of the referendum to the day before the acquisition announcement. This shift in share price dynamics added complexity. Even though the GBP lost strongly against the JPY in the weeks following the Brexit referendum until the acquisition announcement (9%) the spike in share price has actually resulted in a slightly higher purchase price, considering the same 43% premium offered to shareholders on July 18th, 2016. On June 24th the offer price would have had to be £15,44 GBP a share, translating into ¥2.356,70 JPY, while on the July 18th the offer price of £17 GBP translated into ¥2.371,28 JPY an increase of about ¥15 JPY a share, about 10¢ GBP at the time. (Bloomberg L.P. n.d.) (Bloomberg L.P. n.d.)

4.3 How ARM and SoftBank reacted to Brexit negotiations

While there are differing perspectives on the extent to which the weakened pound influenced the acquisition, SoftBank's CEO, Masayoshi Son, stated that the deal was not driven by the currency's decline. He emphasized that the acquisition discussions began two weeks before the Brexit vote and that the decision was not made in response to Brexit or the pound's decline. However, market analysts and industry experts have highlighted the impact of the weakened pound on making ARM a more attractive acquisition target for SoftBank, leading to discussions about the broader economic uncertainty and strategic considerations arising from the Brexit context.

There is a clear link between concerns about the potential loss of valuable or strategic UK tech companies, often dubbed as the "crown jewels" of the industry, and the Brexit referendum. The referendum's outcome created economic uncertainty, leading to discussions about the nation's ability to retain such strategic assets amidst changing economic landscapes and global

investment patterns. The fear of losing these prized tech assets has prompted discussions about interventions or measures to safeguard and retain them within the UK. (Karagiannis 2016)

The broader context of the Brexit referendum has sparked debates on the implications of potential departures of these significant tech entities for the UK's tech sector. There have been efforts to persuade these companies to remain in the UK or list on the London Stock Exchange. This heightened focus reflects concerns about the country's technological innovation and its ability to maintain its position as a leading tech hub, particularly in a post-Brexit scenario.

Masayoshi Son, Founder and CEO of SoftBank, expressed his confidence in the UK's tech industry, stating that he was a "strong believer in the UK". He had meetings with the UK's new prime minister, Theresa May, and the chancellor of the Exchequer, Philip Hammond, to discuss the deal, who both supported the deal and stated that SoftBank's decision confirmed that Britain remained an attractive destination for global investors. Further, SoftBank acknowledged the importance of preserving ARM's British identity and protecting national technological assets during the acquisition discussions and therefore also committed to investment and job creation. SoftBank signaled its commitment to the UK by announcing plans to double the number of employees at ARM in the next five years, making that pledge legally binding and enforceable by Britain's takeover. (Picker, Scott und Soble 2016)

5 Suggested Assignment Question

The following questions will address the pedagogical objectives mentioned:

- How did the Brexit referendum impact the ARM-SoftBank acquisition in terms of financial and qualitative aspects, and how did both companies respond to the uncertainties posed by Brexit?
- What measures did SoftBank take to affirm its commitment to the UK's tech industry following the ARM acquisition, and what broader discussions and efforts emerged to

retain strategic tech assets within the UK amid concerns about potential departures post-Brexit?

6 Teaching Plan

Time Frame: 5 minutes	**Section 1: Geopolitical Impact on Cross-Border M&A:** - Linking Geopolitical Factors to Cross-Border M&A: Diversification, risk reduction strategies, and their importance in volatile environments. (High-Level)
Time Frame: 30 minutes	**Section 2: Impact of Brexit Referendum on the Acquisition** - Qualitative Impact: Impact on the investment landscape, regulatory ambiguity, and ARM's stability post-acquisition. - Financial Impact: Currency and share price fluctuations, impact on SoftBank's acquisition strategy, and ARM's share price dynamics post-referendum.
Time Frame: 10 minutes	**Section 3: Reaction to this Impact** - SoftBank's Stance and Response: Masayoshi Son's statement on the currency decline, strategic reassessment, and commitment to ARM's independence, British heritage and UK tech industry growth - ARM's Reaction: Share price rally, discussions on operational independence, and response to SoftBank's acquisition strategy.

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Appendix

Exhibit MHTN 1: ARM's Share Price Evolution, Currency Exchange Rate and Company Value Changes for Different Scenarios

Predetermined Purchase Price	17,00	GBP (ps[1])
Targeted shares (98,55%)	1.386,96	Shares (mil)
Total Value	23.578,32	GBP (mil)

	Date	**Share Price in GBP**	**GBP/JPY**	**Total value** (mil, JPY)	**Absolute Change** DoD (mil, JPY)	**Relative Change** DoD (in %)
	01.06.16	9,78	160,27	3.778.920,83		
	02.06.16	9,84	157,84	3.721.531,44	-57.389,40	-1,52%
	03.06.16	9,92	156,82	3.697.599,44	-23.931,99	-0,64%
	06.06.16	10,04	153,46	3.618.329,15	-79.270,29	-2,14%
	07.06.16	10,11	155,35	3.662.986,42	44.657,27	1,23%
	08.06.16	10,00	155,95	3.677.038,93	14.052,51	0,38%
	09.06.16	9,95	154,97	3.653.932,27	-23.106,66	-0,63%
	10.06.16	9,66	154,84	3.650.866,97	-3.065,30	-0,08%
	13.06.16	9,60	151,11	3.562.849,08	-88.017,89	-2,41%
	14.06.16	9,59	150,88	3.557.544,17	-5.304,91	-0,15%
	15.06.16	9,75	149,81	3.532.291,82	-25.252,36	-0,71%
	16.06.16	9,74	150,23	3.542.170,92	9.879,10	0,28%
	17.06.16	9,71	149,67	3.528.967,11	-13.203,81	-0,37%
	20.06.16	10,09	152,60	3.598.004,64	69.037,53	1,96%
	21.06.16	10,13	152,34	3.591.803,54	-6.201,10	-0,17%
	22.06.16	10,21	153,47	3.618.564,79	26.761,25	0,75%
	23.06.16	10,19	154,72	3.648.037,69	29.472,90	0,81%
Referendum Results Announcement	**24.06.16**	**10,80**	**152,62**	**3.598.546,82**	**-49.490,87**	**-1,36%**
	27.06.16	10,28	137,29	3.237.162,01	-361.384,82	-10,04%
	28.06.16	10,50	134,71	3.176.259,04	-60.902,97	-1,88%
	29.06.16	10,88	137,07	3.231.903,88	55.644,84	1,75%
	30.06.16	11,31	138,36	3.262.225,50	30.321,63	0,94%
	01.07.16	11,31	137,34	3.238.293,51	-23.931,99	-0,73%
	04.07.16	11,15	136,12	3.209.457,41	-28.836,10	-0,89%
	05.07.16	11,39	136,13	3.209.716,82	259,41	0,01%
	06.07.16	11,25	131,00	3.088.854,19	-120.862,63	-3,77%
	07.07.16	11,29	130,70	3.081.780,62	-7.073,57	-0,23%
	08.07.16	11,67	130,16	3.068.907,09	-12.873,53	-0,42%

	11.07.16	11,89	130,32	3.072.821,09	3.914,00	0,13%
	12.07.16	11,76	133,07	3.137.614,34	64.793,25	2,11%
	13.07.16	11,88	139,08	3.279.367,06	141.752,72	4,52%
	14.07.16	11,85	136,51	3.218.747,20	-60.619,86	-1,85%
	15.07.16	11,89	140,47	3.311.952,37	93.205,17	2,90%
Merger Announcement	**18.07.16**	**16,75**	**139,49**	**3.288.869,12**	**-23.083,25**	**-0,70%**

	Offer (ps[1], GBP)	Offer (ps[1], JPY)	Targeted Shares (mil)	Anticipated Premium	Total offer (mil, GBP)	Total offer (mil, JPY)
Base Scenario						
Merger Offer (18.07)	17,00	2.371,28	1.386,96	42,98%	23.578,32	3.288.869,12
Scenario 1 (adapted premium)						
Merger offer (if placed on 23.06)	17,00	2.594,56	1.386,96	57,41%	23.578,32	3.598.546,82
Change in value	0,00	223,28	0,00	14,43%	0,00	309.677,70
Scenario 2 (original premium)						
Merger offer (if placed on 23.06)	15,44	2.356,70	1.386,96	42,98%	21.416,81	3.268.654,81
Change in value		**-14,57**			**-2.161,51**	**-20.214,31**

[1]per Share
(Bloomberg L.P. n.d.)