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Summary of WP Student Team

Corporate Finance Field Lab on Dell Inc.'s Leveraged Buyout

Group constitution:

Student Name	Program	Individual Title
Jascha Leon Heck	Finance	Assessment of Dell Inc.'s Capital Structure: Analysing the Impact on Leveraged Buyout Suitability

Work project carried out under the supervision of:

Advisor: Rui Silva

Co-advisor: Margarida Soares

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Corporate Finance Field Lab on Dell Inc.'s Leveraged Buyout

Assessment of Dell Inc.'s Capital Structure: Analysing the Impact on Leveraged Buyout Suitability

Jascha Leon Heck

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Rui Silva
Margarida Soares

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Abstract

This case study analyses Dell's valuation, capital structure, and strategy in 2013 to assess its appropriateness for a leveraged buyout (LBO). We examined Dell's financials, including its EBITDA margin, liquidity, debt structure, and market position. The findings showed that Dell was undervalued, with strong liquidity and manageable debt, making it a strong LBO candidate. Dell's strategy of expanding into software and cloud solutions, combined with smart acquisitions, helped minimise the company's reliance on the decreasing PC market. These factors combined with its financial flexibility allowed Dell to successfully manage the LBO and foster long-term growth.

Keywords

Leveraged Buyout

Valuation

Liquidity

Debt Management

Capital Structure

Strategy

Diversification

Growth potential

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Group part

1.1 Introduction to Dell Inc. Case Study

In an attempt to reinvent itself in a technological landscape where computers are no longer the dominant business, Dell made a daring move by agreeing to a $24.4 billion deal to go private and escape the harsh scrutiny of Wall Street. However, the leveraged buyout, which was revealed on Tuesday 5th of February 2013 and would have been the largest since the recessionary days, was a significant risk. It added $15 billion to Dell's debt and accomplished nothing to stop the forces that were undermining the company's operations and changing the technological sector. In 2000s Dell made huge profits by selling costumers directly customised PCs. Six years before the LBO, it was the world's top producer of personal computers. In 2013, it was in third place, behind Hewlett-Packard and Lenovo, and failing in the meantime. Dell's percentage of the already declining PC market dropped from 16,6% in 2007 to just 1,7% in 2012. Chinese and Taiwanese competitors grind earnings to extremely thin margins: not Windows laptops and desktop computer, but Apple and Android smartphones are the most popular and profitable gadgets. Furthermore, even though the move to cloud computing increased demand for data centres and gave Dell the chance to sell serves, big clients as Google and Facebook were able to produce their own equipment at a lower cost. The proliferation of cloud services had also forced many businesses to abandon the purchase of new hardware in favour of renting time and use remote computer networks for their applications. On the 9.5 million serves sold in 2011, Dell's share of the server market decreased by roughly 1% to 22,2%. Michael S. Dell was placing a wager of about $700 million of his fortune, along with his stake in the company, on his ability to overcome these obstacles and restore the company he founded in his University of Texas dormitory room in 1984. With an estimated net worth of $16 billion, Mr. Dell was facing his greatest test with this deal. His strategy, which had involved multiple acquisitions totalling billions of dollars, had been to enter the data centre and corporate software services industries. Up until that point in time, this path produced few results. Dell's

stock closed at $13.42, below the $13.65 takeover offer on February 5th, after declining 31% over the previous five years. Over the first ten years of 21st Century, Dell remained silent in the public eye due to either intense takeover negotiations, a lack of interest in the spotlight, or both. Instead, his business had spoken for itself. In 2004, Dell, both the individual and the business, were written off by Wall Street and Silicon Valley as being on the same path to technological irrelevance as BlackBerry or Palm. Even so, Mr. Dell recognized an opportunity and brought in billionaire co-head Egon Durban of Silver Lake, a private equity firm. The rest is history.

1.2 Introduction to Leveraged Buyout

A leveraged buyout is a transaction through which a Special Purpose Vehicle is created with the aim of acquiring a target company using financing. The debt, along with its repayment, will be covered by the future profits of the acquired company or through the sale of part of its assets. Essentially, the debt shifts from the Special Purpose Vehicle to the acquired company. But let's break it down step by step. The leveraged buyout is a business acquisition where a larger amount of external financing is placed on the acquired company while a smaller portion of equity is owned by the original company. Within the larger context of mergers and acquisitions, this transaction is classified as a leveraged acquisition, which is a particular kind of extraordinary finance operation. It is particularly suitable for restructuring and reviving businesses. The primary players in this market are institutional private equity investors, whose goal is to sell their holdings through one two potential channels: private negotiation with another intermediary or company, or through public listing. Numerous variations of a basic model have been derived from corporate practices to define the general characteristics of the operation.

To enable the ownership transfer, the buyers create a holding company, a Special Purpose Vehicle (SPV), or a new company known as NewCo: the new business raises the required

capital to buy another company, or a division of it, known as target company, with a very small portion of equity. Most of the capital (around 70%) is provided by a group of banks and/or financial intermediaries as debt. The NewCo acquires the entire capital of the target company. By incorporating, the two businesses combine, forming a NewCo that is responsible for the obligations that were initially contracted. There are two possible scenarios for the merger: an indirect merger known as Reverse Merger, in which the target company merges with the shell company, or a direct merger, called Forward Merger, in which the target company is incorporated into the NewCo. The term “buyout” refers to the acquisition of companies and is used to mean “acquire” or “take over” in the financial context.

The inherent risk of this operation’s structure is significantly higher compared to typical extraordinary transactions: if the company subject to the LBO is publicly listed, it is delisted from the stock exchange for the length of the operation. The NewCo, expressly created for the transaction, is a kind of “empty shell”, depending on the target company’s ability to borrow money for the operation to succeed. This borrowing capacity is known as financial leveraged, measured by the ratio of the company’s total debt to company’s total assets. It is evident that the company’s debt load affects its profitability given market’s growth prospects and its volume of business. Therefore, the projected cash-flows of the acquired company serve as the main guiding principle for the bank in evaluating the company’s borrowing capacity. Real guarantees based on the target company’s assets or shares of the company are used to represent the guarantees given by the operation’s promoters to banks and financial institutions that supply the debt capital. As previously indicated, the target company’s ability to produce high enough cash-flows to pay off the debt and related interest is essential to the operation’s success. As a result, evaluating it is an essential step in the LBO process. An accurate analysis of the financial structure and the asset structure is fundamental. Regarding the financial structure, the company’s funding sources and uses are evaluated to assess company’s monetary balance, both

in terms of timing and size of the cash-flows, as the company must be capable of covering all the financial obligations resulting from the acquisition. A high level of capitalization is crucial for potential investors, enabling them to better plan the economic and financial flows. From the standpoint of assets, it is critical to assess the firm's stability and debt load and paying particular attention to the asset's liquidity as they may be used one day to partially repay the debt. Three key attributes define the perfect target company: strong cash-flows, low debt, solid capitalization.

The term "strong cash-flows" refers to high cash-flows: not highly susceptible to market fluctuations, generated by the sale of well-known products, supported by an up-to-date structure.

The promoter's desire to restrict their financial obligations to the small portion of equity capital they subscribe to, still having complete control over the decisions and financial policies made by the company, is the primary driver behind this operation rather than a standard acquisition. The fact that an LBO makes acquisitions possible that, in certain circumstances, might not even happen if this option was not available is equally significant. Promoters as management group, other businesses or even family owners who would not have sufficient resources to carry out the acquisition on their own are included in.

1.3 Company Description

Dell is an information technology company that operates worldwide with its headquarters in Round Rock, Texas. The company provided a variety of products and services, with a specialisation on end-to-end technology. Its clients were large companies, public customers, small and medium-sized institutions and companies, as well as consumers. The company had 111,300 employees, thereof 40,500 are working in the United States (Dell 2013b, 4-11).

1.3.1 Evolution of the Company

In 1984, Michael Dell founded a company called “PC’s Limited” as a student. Dell had his own idea how technology had to be created, manufactured and distributed. Already in 1985, the company launched a new computer system. Additionally, PC’s Limited was the first company on the market that offered free returns and product support at home (Dell Technologies Inc., n.d.).

Two years later in 1987, the company established its first international branch in the United Kingdom. 1988, after years of growing massively, Dell went public and changed its name to “Dell Computer Corporation”. Due to new capital raised, the firm was able to extend its product lines. A manufacturing line in Ireland helped to provide better service to clients in Europe, the Middle East and Africa. In the following years, the company expanded more all over the world and gained international reputation (Dell Inc. n.d.-c).

1995, the company went global and started operating in Europe, Asia, Japan and the Americas. In 1996, Dell launched an online platform to sell its products. In addition to that, Dell opened its first Asia-Pacific Customer Center in Malaysia. Besides that, it launched exclusive online pages for its corporate clients for purchases and assistance. Between 1997 and 1998, Dell launched a new manufacturing line in Texas and opened a new subsidiary in China. In order to enhance the service for clients from Latin America, the company launched another manufacturing centre in Brazil in 1999. Furthermore, the company created an eSupport, which made technical support available via the internet. By the end of 1999, Dell secured the first rank in the U.S. PC market and became the global leader for medium-sized businesses (Dell Inc. n.d.-d).

In the early 2000s, the firm was able to stay on top of all the computer manufacturers across the world and generated $40 million a day with online sales. This enabled Dell to become one of

the leading Ecommerce websites globally. In 2001, Dell improved its storage area network solutions by working with EMC, the current leader for storages at the time. In the same year, the company was able to be ranked first internationally as a computer system provider (Dell Technologies Inc. n.d.).

In the following years, the company expanded its product line with servers, projectors and printer for customers. 2004, Dell became the third largest distributor for computer systems and services in China. Moreover, the company started to collaborate with other players in the industry to work on code of conduct, social and environmental topics along the supply chain. In 2006, the company built their first research centre in China (Dell Inc. n.d.-b).

In 2009, Dell acquired Perot Systems. Moreover, the company launched new products including smartphones and laptops. In the subsequent years, the firm acquired companies that had competencies in storage, system management, cloud computing and software, as well as in enterprise solutions and services. Additionally, Dell expanded its core business by delivering end-to-end IT solutions for customers. The company invested $1 billion in new data, solution and R&D centres across the world (Dell Inc. n.d.-a).

In 2012, Dell continued to acquire new companies in order to enhance end-to-end IT solutions. At the same time, the company launched a new software group that concentrated on user computing, enterprise solutions, software and services (Dell Technologies Inc., n.d.).

1.3.2 Company description – Products

Dell provides a variety of products and services that are created, designed, assembled and sold directly by the company. With a wide range of client computing devices to meet clients' needs, nowadays Dell offers desktop PCs, laptops and cloud-based mobile computing software. Besides that, Dell sells tablets and convertible solutions, which are designed to increase productivity and reduce total ownership costs for business clients.

Furthermore, Dell also has a large selection of servers in its product lineup, ranging from high performance servers for big business clients to tower server for small business or offices. Newly developed servers provide high performance and improved energy efficiency for data environments. In addition, the company sells networking and storage solutions. The networking solutions assist business clients to enhance their IT landscapes while lowering the operating costs of data centres. Dell provides clients with many storage solutions such as storage area networks, network-attached storage, direct-attached storage or backup systems. These solutions enable clients to expand their capacities, improve performance and secure data in a cost-effective way.

Moreover, Dell launched new hardware platforms, enterprise-class storage blade arrays, synchronous replication for real time data protection and network-attached storage gateways. Besides that, the company sells third party software and peripherals like monitors, printers or projectors. Besides that, the firm also sell software for system management, security and information management.

Dell is also offering services such as IT and business services for infrastructure technology, consulting, application and assistance regarding products. The services are divided into three main services. The first main service is called support and development services, which is related to all services regarding sold hardware like warranties or installations. The second product line is infrastructure, cloud, and security services, which provides customers with managed solutions, consulting and creating infrastructure technology strategies for clients. The third main service is called applications and business process services. Application services cover development, maintenance, migration and management of software, as well as testing and quality assurance. Business processes services provide customers with client operations including contact centres, back-office administration, and other technological services.

The company also offers financial services. With Dell Financial Services, customers receive financing options for Dell products. Private label credit financing is offered to consumer and commercial client, which is allowing them to buy products on credit. Leases and fixed-term financing are mainly targeted to commercial clients. They can choose if they want to lease or to finance equipment over a given length of time (Dell Inc. 2013b, 5-7).

1.3.3 Company Policies

In Dell's board leadership structure, the Chairman and CEO is Mr. Dell. In addition, the firm has a Lead Director who is independent and elected on a yearly basis. Besides, there are independent directors, who are part of different committees. The Lead Director is in charge of coordinating executive sessions and their agendas, assisting the Chairman in meetings and serving as an intermediary between the Chairman and the independent directors, amongst others. The Lead Director also has the power to directly employ advisors for the Board or independent directors (Dell Inc. 2013c, 6).

Dell's Corporate Governance Policies aim to guarantee that the Board independently supervises the management. The policies enable private meetings of the directors without the management. These meetings are taking place regularly in combination with board meetings, whereby the topics discussed are chosen by the Lead Director. However, regular Board meetings with the Chairman Mr. Dell are taking place. The managing structure of having a CEO and Chairman combined, the Lead Director and the independent directors is seen as the best for Dell and its investors (Dell Inc. 2013c, 6-7).

Dell's board controls risk management through four committees, which are the Audit Committee, Finance Committee, Leadership Development and Compensation Committee, and Governance and Nominating Committee (Dell Inc. 2013c, 96). The Audit Committee helps the Board to ensure that Dell's financial statements and reports are accurate and follow the law.

They check internal controls, the audit process and plan, as well as supervise the independent and internal auditors. The Leadership Development and Compensation Committee determines how much the CEO and other executives should be paid. They also assess and accept the compensation for non-employee directors. Moreover, the committee is managing the stock-based compensation arrangements. The Governance and Nominating Committee manages corporate governance, develops policies, ensures ethics and compliance, and assesses and elects Board candidates. It also monitors the Board's performance and Dell's attempts to become more sustainable. The Finance Committee is in charge of Dell's corporate finance, including capital structure management, debt and equity financing, investment decisions and other finance related activities (Dell Inc. 2013c, 7-8).

Because of the global financial crisis and laws like the Dodd-Frank Act, investors' interests in accountability and transparency grew. In FY2012, Dell increased stakeholder engagement activities, so that investors can address concerns and knowledge can be shared. Moreover, the firm took part in the SRI (socially responsible investors) Roadshow and engaged in sustainability-focused conferences. This helped the company to gain insights in order to enhance transparency and improve corporate responsibility reporting (Dell Inc. 2012, 95).

1.4 The Industry Background

The technology sector constantly reminds both producers and consumers of one thing: it never remains static. The technology industry saw numerous notable changes in the first ten years of the new millennium. Personal computing underwent a dramatic upheaval in the early 2000s, with a notable move towards mobility. Because of their portability and flexibility, laptops and portable computers have come to define this era's technology. These gadgets removed the limitations that once restricted computing to desktop use, enabling people to work, communicate, and access information while on the go. The big news reports from 2008 and

2009 show that the PC is no longer the only device used by many people worldwide to access the internet. Data management and security concerns have arisen as a result of the billions of connected devices worldwide: there is no longer just a “PC market” but also a “post-PC market”.

Steve Jobs promote for the need for a device that would sit between a PC and a smartphone when he presents the iPad in January 2010. Following the advent of personal computers, the transformation of the music industry, and the radical shift in the smartphone market, Apple introduced a new product category that could be seen as a threat or an opportunity for the market, depending on one’s point of view. Samsung, Hewlett-Packard and Acer quickly started making tablets on their own. Apple does it again: the iPad sets a new direction for computing. Meanwhile, with Windows Phone 7, Microsoft is attempting to reclaim ground. The technology giant requires a mobile phone market breakthrough. By grouping apps, services, and online content into hubs and, most significantly, by integrating with Office, Windows Phone 7 sets itself apart from all other competing operating systems. As many of its allies, Microsoft was up against tough competition in the market due to the rising sales of iPhones, corporate users’ preference for RIM’s BlackBerry, and the proliferation of Android devices coming together. The market was oversaturated. The titans of the mobile phone industry were Nokia and BlackBerry. All business or “work phones” had to have BlackBerry’s physical Qwerty keyboards.

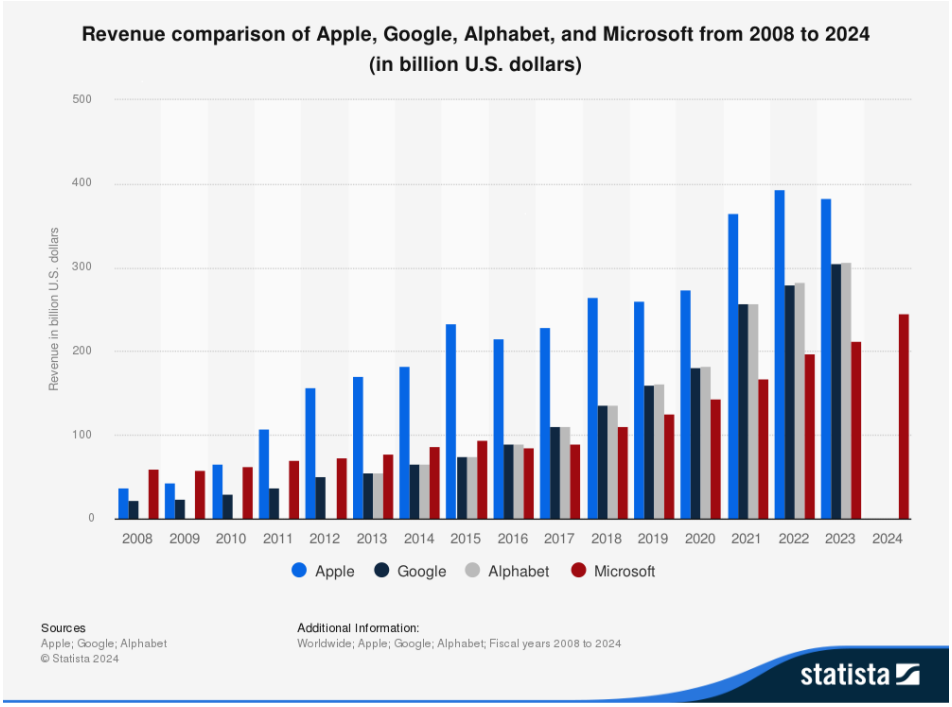

Figure 1: Revenue comparison of Apple, Google, Alphabet and Microsoft from 2008 to 2024

The next generation of wireless networks officially began in 2010 when Verizon Wireless launched its high-speed LTE (Long Term Evolution) network in 38 American cities. From there, it quickly spread throughout the globe. Verizon Wireless asserted its dominance in the American wireless network market. iPhone was the phone to beat, but Android was gaining ground. In 2010, newcomer Samsung made the leap to the Android platform by releasing the first four Galaxy S Models. One of these, the Galaxy Epic 4G, had a slide-out Qwerty keyboard and worked with Verizon Wireless's LTE rival, 4G WiMAX. It would take years for Samsung to start controlling the smartphone market and regularly taking on Apple.

Hewlett-Packard began the century as a main player in the personal computer and server market thanks to its merger with Compaq. However, it became harder for the American multinational to stay at the top, also because of Dell's market dominance. HP concentrated on creating accessible and user-friendly personal computers as a means of differentiating itself. The TouchSmart multimedia line, which included large touch screens intended for entertainment,

was introduced in 2007. The modern all-in-one PCs were inspired by these early all-in-one desktop computers. Hewlett-Packard did not, however, achieve all of intended outcomes. After purchasing Palm's webOS operating system in 2010, the company promptly ended the WebOS product line. HP was losing market share in the PC industry as it entered the IT services space, with Dell and Lenovo leading the way.

When Lenovo acquired IBM's well-known PC division in 2005, the market was initially sceptical. The company gained credibility with the T series in 2007, powered by Intel Core 2 Duo processors, and won consumers over as the greatest notebook series in 2008. The Chinese multinational continued to pursue bold yet dangerous designs even during the global financial crisis of 2009; the X301 model with its one-inch-thick frame, was compared to the venerable MacBook Air. Lenovo finally made a big splash in 2013 with the Yoga line, perfecting the tablet and keyboard combo.

One of the most revolutionary periods in the history of technology and personal computing occurred in the first ten years of the twenty-first century, with a trend towards convergence and integration of computing capabilities. It was the age of Ultrabook, the age of tablets. Simultaneously, cloud computing became increasingly prominent, fundamentally altering the data management and accessibility scene. Online data processing and storage were made possible by this essentially decentralised method, which also provided the convenience of file and application access from any location in the globe with an internet connection. It also highlighted the idea of interconnection, emphasizing how people and businesses now function within a network of exchanges.

1.5 The U.S. and Global Economic Landscape in 2013

In 2013, the global economy was in recovery mode following the financial crisis, though the pace varied by region and some lingering effects still remained. Although financial stability had

improved, as highlighted in the April 2013 Global Financial Stability Report (GFSR), businesses still struggled to manage volatile cash flows due to the not fully stabilized macroeconomic environment. Banks remained weak with low activity, but as housing prices rebounded and bank balance sheets improved, lending conditions began to ease. Previously, slow deposit growth, weakened public trust, and uncertainty had led to tighter lending. By 2013, lower market risk spreads and a growing financial conditions index in the U.S. indicated some easing, while Europe continued to experience tightening lending standards (World Economic outlook April 2013, international monetary fund). In 2012-2013, the Federal Reserve's quantitative easing program involved buying approximately $85 billion per month in Treasuries and mortgage-backed securities. This effort aimed to keep long-term interest rates low, encourage additional lending by banks, and stimulate economic activity. (Luck and Zimmermann 2019) As a result of quantitative easing, U.S. banks began offering lower interest rates than in the past, making debt financing more affordable for LBOs and other entities reliant on borrowing. For example, U.S. Treasury yields remained low, with the 10-year Treasury averaging 1.8% in 2012 and increasing slightly in 2013 (U.S. Department of the Treasury 2021). Additionally, the federal funds rate was maintained near zero during 2012-2013 to support economic recovery following the crisis (FRED 2024). This environment allowed companies to secure significant borrowing at lower costs without substantially raising repayment risks, creating favorable conditions for leveraged buyouts. However, currency volatility was a potential threat for businesses, potentially occurring as a side effect of quantitative easing.

Private demand in the U.S. showed resilience as the credit and housing markets rebounded, though fiscal adjustments were anticipated to limit GDP growth to around 2 percent in 2013, with a rise to 3 percent projected for 2014. This growth was driven by a strengthening in private domestic demand, spurred by continued recovery in the housing and labor markets, favorable financial conditions that boosted wealth through rising stock and housing prices, and supportive

monetary policy. Inflation eased, dropping from roughly 2 percent to 1.75 percent in the U.S. and from 2.25 percent to 1.5 percent in the Eurozone (United Nations 2013). Moreover, in addition to the housing markets rebound in US, consumer confidence was returning in 2013 due to political stability achieved with Barack Obama's win in elections (Brett 2013). Higher consumer confidence generally leads to increased consumer spending, which can boost revenues for potential LBO targets. Additionally, lower inflation increases the predictability of cash flows, reducing the uncertainty for businesses.

According to the International Labor Association, Global unemployment rose in 2012 and could further increase in 2013. The number of unemployed worldwide rose by 4.2 million in 2012 to over 197 million, a 5.9 % unemployment rate, according to Global Employment Trends 2013 (International Labour Organization 2013). Between 2012 and 2013, the U.S. unemployment rate steadily decreased, signaling a gradual economic recovery. By the end of 2012, the rate had dropped to 7.7%, and it declined further to 7.6% in 2013 (U.S. Bureau Of Labor Statistics 2013). While the global economy remained fragile during this period, the U.S. recovery stood out, supporting increased consumer spending as more individuals found employment. This improvement often aligns with favourable lending conditions, creating an advantageous environment for executing leveraged buyouts.

High unemployment, balance sheet corrections, and ongoing fiscal consolidation continued to hinder economic activity in the euro area throughout 2013. Japan, benefiting from stronger external demand, was forecasted to experience a sharp rise in GDP for 2013, followed by stabilization in 2014. In Asia, particularly China, growth returned to a solid level, reflecting strong consumer demand, although real GDP growth in China remained unchanged at 7.8 percent from the previous year, indicating a slow recovery (United Nations 2013). Overall, global growth reached 2.75 percent by the end of 2012 and was expected to keep accelerating.

While China and the Eurozone were recovering at a slower pace than the U.S., the overall macroeconomic environment appeared relatively positive, with promising forecasts. This favourable economic outlook was advantageous for Dell, as global economic recovery was crucial to driving its sales. Improved financial market conditions, stronger than anticipated, raised the possibility of an unexpected boost in confidence, potentially leading to increased investment and durable goods consumption, particularly in the U.S, which could translate to positive cash flows for companies like Dell.

In 2013, equity markets began to rebound, with U.S. stock markets experiencing the lowest stock volatility in seven years, creating a favourable environment for stocks and IPOs. In the first quarter of 2013, the return of the U.S. market was over 11% according to Russell 3000 Index and daily volatility according to VIX had declined. In contrast, emerging markets saw negative returns, and their recovery was less pronounced than in developed markets. The year also marked a significant surge in initial public offerings (IPOs) since the financial crisis, with a 59% increase in the number of U.S. IPOs and a 31% rise in capital raised compared to 2012 (Harris 2014). The increase in capital raised could be attributed to heightened investor confidence, the easing of lending conditions, and the broader economic recovery. While equity markets were recovering, most of them were not at their peaks and sectors that remained undervalued presented attractive LBO targets before fully recovering.

In 2013, the U.S. was undergoing fiscal consolidation efforts, particularly through sequestration (Smith 2013), which involved across-the-board cuts to government agencies. These funding limits were introduced to meet budget targets and impacted various sectors of the economy, including healthcare, defense, and education. Following the 2008 recession, U.S. national debt had risen sharply, reaching $16 trillion by February 2013. Sequestration was first discussed in 2011, with the Budget Control Act implementing caps on discretionary spending and

establishing a committee to draft legislation. In 2013, sequestration took effect, reducing government spending for that year.

Despite the generally positive economic outlook in 2013, some uncertainties and risks persisted. Fiscal tightening posed a potential threat to business and consumer confidence, possibly resulting in reduced consumer spending and lower company sales. Additionally, fiscal tightening could drive up interest rates, raising the cost of capital and making it more expensive to take companies private. Another concern was the lingering weakness in the banking system, leading to more risk-averse banks that were reluctant to issue loans for projects like leveraged buyouts (LBOs). Moreover, with slow and fragile recoveries in the Eurozone, China, and emerging markets, there was a risk of tighter lending policies, which could hurt global sales for companies like Dell, particularly those relying on customers' ability to purchase on credit. Beyond economics, geopolitical tensions in regions like Western Asia remained significant risks, potentially altering economic forecasts. Finally, the sequestration triggered in the US, had a potential to reduce the expected growth in GDP leading to reduced consumer spending, reduced investor and consumer confidence and making uncertainty regarding future cash flows and forecasts higher, which could make LBO deals even more challenging (United Nations 2013). Although 2013 marked the first year where the economy appeared stronger than ever following the crisis, it was still important to acknowledge risks and uncertainties beneath this prosperous economic picture.

1.6 Cast of characters in the LBO: the role of Silver Lake

From the moment Silver Lake was just an idea in the minds of the founders, it has emerged as one of the most prominent names in the private equity industry through its successful buyouts. At the time, the company was quite innovative in its initial mission, which was to exclusively focus on leveraged buyouts for tech companies. With funding from well-known figures like

Bill Gates, Larry Ellison and CalPERS, Silver Lake had $2 billion at its disposal just a few months after its funding in 1999. The fund sought to focus on the technology industry: Jim Davidson, Gleen Hutchins, Roger McNamee, and Dave Roux were four friends who swiftly rose to prominence as some of the most distinctive founders in the records of private equity.

LBOs in the technology industry were relatively rare in the early 2000s, due to a combination of factors that usually discourage private equity investments: inflated valuations, inconsistent earnings, a lack of profits. With more deals and a wave of competitors copying its strategies, Silver Lake quickly established itself as a major force in the private equity market. The company raised its second flagship fund in 2004, and its third fund in 2007, the same years in which the original founders left the company. Silver Lake primarily operates across four investment strategies: large-scale transactions, middle-market investments, growth-stage financing, and investments in the energy and resources sectors. The technology industry, in which the supported companies operate, is the common denominator of all these operations. The California-based company operates in a number of technology-related subsectors, such as e-commerce, semiconductors, cloud computing, mobile, and IT infrastructure. Considering the company’s founding purpose, it is not surprising that about 65% of Silver Lake’s investments have been concentrated in the IT sector, with the remaining percentage being distributed across the B2B and B2C sectors. The deal with Dell was among its largest buyouts, and the transaction overall was one of the biggest carried out in the United States between 2009 and 2013. One of the important players in the Dell transaction was Egon Durban. Having joined the company at the outset, he was instrumental in several high-profile transactions, including Silver Lake's acquisition of Dell and its takeover of Skype a few years prior.

Silver Lake rejects the term 'LBO shop,' which is often attributed to the firm by the market, even though it possesses the potential and all the tools to leverage technology companies. The fund uses deal structure to add incremental returns, though this is typically not part of the

fundamental thesis of the deals it makes. Jim Davidson, one of the firm's original founders, argues that Silver Lake has never truly taken the lead in the entire process of structuring deals. Part of this stems from the fact that the firm focuses exclusively on technology or on those aspects of the economy enabled by innovation, rather than any other element at play. If using debt enhances returns on equity, Silver Lake does not hesitate to do so, and even if it's not how they lead negotiations, it is certainly one of the factors that motivates investors to work with the fund. Leverage has never been central to a Silver Lake transaction, in part because the firm entered the market when technological advancements were 1.5 to 3 times faster than global economic growth overall. Silver Lake's portfolio has seen a wide range of leverage levels associated with its investments, ranging from zero net debt to investments with a debt-to-equity ratio of eight times. Before making its major move with Dell, the firm made headlines when it led the acquisition of a 65% stake in Skype from eBay in 2009, valued at $2.7 billion. Despite being leveraged three times, Skype's portfolio grew rapidly. The transaction was a prime example of Silver Lake's thematic approach to technology investing and emerged as one of the most significant buyouts in the market in 2009. The development of the deal followed the fund's typical modus operandi: sharing its vision with the selling party and inviting it to actively participate in the journey. "Equity people" are not the only thing that Silver Lake is. Jim Davidson stated that the fund examines companies in the tech sector and seeks to determine the true franchise value before securing the best possible capital structure, one that preserves all the operational flexibility desired. The goal is to invest in the company, expand it, and improve it.

Silver Lake Partners was the main player on the "other side of the table" in this operation. The structure of the deal included the integration of 15.7% of the common shares held by Michael Dell, valued at $3.7 billion. Silver Lake invested approximately $1 billion in equity (this operation represents Silver Lake's largest equity contribution ever). Microsoft later entered the deal, lending $2 billion; $700 million in cash and the remaining billions were provided by four

different banks: Bank of America, Barclays, Credit Suisse, and RBC. Lastly, the deal includes a penalty for Silver Lake: $450 million in favour of the fund if the deal did not go through and $180 million if Dell accepted another offer. The connection established between Silver Lake and Dell during the execution of the operation was key to its success. The American fund not only provided capital support but also offered the expertise and tools necessary to help Dell navigate the sea of evolution.

1.7 Sustainability at Dell

Sustainability is a topic of significant importance for Dell. As a key aspect of Dell's sustainability governance process, the company constantly engages in open discussions with stakeholders of the firm such as stockholders, customers, vendors to get feedback and address global challenges related to the environment and sustainability (Dell Inc. 2013b, 10).

In FY2013, Dell achieved its goal of reducing its greenhouse gas emissions by almost 30 million tons through enhanced product performance and energy-efficient settings. Additionally, Dell managed to reduce 5.3 million pounds of packing in 2012, increased the use of sustainable materials in cushioning packaging by 42% and made 75% of desktop and laptop packaging recyclable (Dell Inc. 2013a, 12-13).

Dell yearly conducts several environmental projects and focuses on product energy efficiency, minimising environmental harmful materials and offering responsible recycling options. The company offers a recycling programme that allows customers to recycle any computer or printer they purchase from Dell. The company was the first to launch such a program on a worldwide basis (Dell Inc. 2013b, 10). Dell extended its recycling services to 79 countries worldwide in 2012. Due to this, customers all across the world have easier access to recycling solutions. As evidence of Dell's dedication to reduce waste, the company recycled 170 million pounds of

electronics worldwide. Due to this, Dell reached its goal of collecting 1 billion pounds of electronic waste (Dell Inc. 2013a, 40).

Moreover, the firm optimises its transportation network to cut emissions and uses sustainable packaging to reduce waste. Additionally, Dell is using a preventative approach in the product development in which harmful substances are replaced by sustainable alternatives. The goal is to obtain eco-friendly solutions that are reliable and economically scalable (Dell Inc. 2013b, 10).

By demanding a signed declaration of conformity and conducting supplier audits, Dell ensures that the suppliers are aligned with Dell's environmental policy. The company is committed to produce energy efficient and sustainable products. For this reason, the company applies environmental design rules. Moreover, Dell has been working together with the Institute of Electrical and Electronic Engineers to create green rating printers. In addition, Dell cooperated with EPA' Energy Star program to set new energy-saving standards for tablets and servers. Due to this, customer can easily recognize and choose eco-friendly products (Dell Inc. 2013a, 14-16).

To further minimise the environmental impact, Dell provides customer tools to optimise their IT operations regarding costs and sustainability. The firm also started to use more green energy sources. Almost 23% of the energy purchased was green energy in FY2013. Moreover, Dell was able to power 16 facilities with renewable energy. With a 98% recycling and reuse rate for non-hazardous waste by 2012, the company has made substantial progress in its manufacturing operations and nearing its 99% target set in 2007 (Dell Inc. 2013, 10).

Since 2003, the business has provided the Carbon Disclosure Project (CDP) with emissions data. By joining CDP's Supply Chain Leadership Collaboration Project, Dell monitors not only its own emissions but also those of its supply chain (Dell Inc. 2013a, 26).

1.8 Financial Information

In the fiscal year 2013, Dell generated a total net revenue of $56.940bn. This is a decrease of 8% compared to the fiscal year of 2012, when a revenue of $62.071bn was generated. The gross margin dropped from $13.811bn to $12.186bn in 2013. The operating expenses decreased by 2% from $9.380bn to $9.174bn in fiscal year 2013. Furthermore, the operating income decreased from $4.431bn in the fiscal year 2012 to $3.012bn in 2013, which is a change of 32%. The net income shows a similar picture. It fell from $3.492bn in 2012 to $2.372bn in fiscal year 2013 (Table 1).

	February 1, 2013		February 3, 2012	
	Dollars	% Change	Dollars	% Change
Net revenue	$56,940	-8%	$62,071	1%
Product	$44,744	-10%	$49,906	-
Services, incl. Software related	$12,196	-	$12,165	6%
Gross margin	$12,186	-12%	$13,811	21%
Operating income	$3,012	-32%	$4,431	29%
Net income	$2,372	-32%	$3,492	33%

(in millions, except percentages)

Table 1 – Revenue and Income

The overall decreasing development is mostly due to a drop in revenue in the consumer segment. Revenue in the other segments (large enterprise, public and SME business) declined as well between 2012 and 2013, although less significantly (Table 2). Multiple factors contributed to this trend, including a weak global macroeconomic environment, competitive pricing and an increase in competitors in the tech sector (Dell Inc. 2013b, 30).

Group part

Segments	February 1, 2013		February 3, 2012	
	Dollars	% Change	Dollars	% Change
Large Enterprise				
Net revenue	$17,781	-5%	$18,786	4%
Public				
Net revenue	$14,828	-8%	$16,070	-2%
Small and Medium Business				
Net revenue	$13,413	-1%	$13,547	7%
Consumer				
Net revenue	$10,918	-20%	$13,668	-5%

(in millions, except percentages)

Table 2 – Revenue of segments

The net revenue can be split into product and services. While the product revenue decreased by 10% in 2013, the generated service revenue stayed at the same level as compared to the fiscal year 2012 (Table 1). In the U.S., the revenue decreased by 7% to $28.2bn. Revenues from international business dropped by 9% to $28.7bn (Dell Inc. 2013b, 31).

The product gross margin as percentage of revenue fell from 20.5% in 2012 to 18% in 2013. The service gross margin increased from 29.5% to 33.8% between 2012 and 2013. This can be explained by an increase in services and software-related offerings (Dell Inc. 2013b, 32).

The expenses can also be divided into selling, general and administrative (SG&A) expenses and R&D expenses. Absolute SG&A expenses decreased in fiscal year 2013 by 5% but slightly increased as a percentage of revenues. On the other hand, absolute R&D expenses increased in fiscal year 2013 by 25% and increased as a percentage of revenues from 1.5% to 1.9% between 2012 and 2013 (Table 3).

Operating expensens	February 1, 2013			February 3, 2012		
	Dollars	% of Revenue	% Change	Dollars	% of Revenue	% Change
Selling, general, and administrative	$8,102	14.2%	-5%	$8,524	13.7%	17%
Research, development, and engineering	$1,072	1.9%	25%	$856	1.5%	30%
Total	9,174	16.1%	-2%	9,380	15.2%	18%

(in millions, except percentages)

Table 3 – Operating expenses

1.9 Market Analysis

In the early 2000s, the PC industry was thriving, and Dell was one of the top-performing companies in this boom. As one of the older firms, Dell pioneered the Direct-to-Customer model in the 1990s, bypassing traditional retail channels to lower costs and speed up delivery times. Through this model, Dell engaged directly with current and prospective customers, gathering real-time feedback to refine its products and services, which became a powerful way to stay in sync with consumer needs. In 1996, Dell launched its online store, emphasizing its unique selling point: high-quality products at competitive prices. Dell's initial success was fueled by word-of-mouth marketing, which spread awareness of its innovations. Until PC demand began to slow, Dell primarily targeted individual consumers over businesses. By 2000, Dell had become the world's largest PC seller, enjoying widespread popularity and surging sales until 2012. However, by 2013, Dell had fallen to third place in global PC market share, behind HP and Acer (Alonso 2023).

In 2012, the PC market contracted as consumer preferences shifted, with many opting for tablets over replacing their PCs. This shift had a direct impact on Dell's market performance, as its market share fell from 12.2% in 2011 to 10.2% in 2012. Acer and other companies also saw declines in market share, while Lenovo, HP, and Asus were able to increase theirs. For example, Lenovo's growth outpaced regional growth rates in North America, EMEA, and Asia/Pacific. As the market evolved, with smartphones and tablets gaining popularity, Dell made attempts to adapt. In 2011, Dell launched the Venue, an Android smartphone featuring a 4.1-inch AMOLED touchscreen, aimed at improving web and media viewing. However, by March 2012, Dell announced it was discontinuing the Venue, because it never got any traction. Dell also introduced the Streak tablet, but it too was unsuccessful and even Android software was not suitable for it. Furthermore, Dell's collaboration with Windows 8 negatively impacted its PC

sales, as the unsuccessful launch of Windows 8 led to decreased consumer interest (Alonso 2023). In contrast, Dell's competitors moved ahead. Lenovo, for instance, launched Lenovo Yoga in 2012, a convertible laptop that could function as both a laptop and tablet. While Dell was often seen as a PC company rather than a broader technology company, it did take steps to expand into new areas like cloud infrastructure. However, its competitors were more aggressive in responding to market changes, leaving Dell struggling to transform enough to remain competitive.

The M&A activity in the tech sector during 2012-2013 reflected key trends. Deal volumes for technology sub-sectors rose by 3.6% in 2013 compared to 2012. Valuation multiples (EV/EBITDA) increased for IT services and software but declined for internet and hardware, with the highest valuations attributed to companies offering cloud-based solutions rather than traditional business models. These trends underscored Dell's challenge in managing its hardware-centric business and the growing need to pivot toward software and services. Despite year-over-year earnings growth in the tech sector, P/E multiples from 2010 to 2013 remained significantly below pre-recession levels, indicating an incomplete recovery. During the recession, tech companies prioritized cash conservation overgrowth, as evidenced by a drop in average cash spent on acquisitions from 18% pre-recession to 11% post-recession. This led to an unprecedented accumulation of cash reserves on tech companies' balance sheets. The inverse relationship between P/E multiples and cash levels highlighted the importance of deploying excess cash for internal development or external growth. The competitive landscape intensified as technological advancements accelerated and new trends emerged. By 2013, the global cloud computing market was projected to grow at a 30% CAGR, with end-user spending on public cloud services increasing by 18% to $131 billion. Large companies heavily invested in cloud solutions, and sales of mobile devices like smartphones and tablets were expected to grow by 20% that year (Deloitte 2014). Big data analytics also gained traction among major players.

These shifts emphasized the urgency for Dell and other tech companies to diversify and invest in growth areas such as cloud solutions, big data analytics, and IT services to remain competitive.

1.10 Dells' Public Market Struggles

The global economy in 2012-2013 was still in recovery, and stock prices were lagging behind. Dell's shareholders were frustrated with the company's stock performance, as Dell's stock, which had closed at $15.51 in early January 2012, fell to $10.88 by the end of the year. Additionally, Dell was planning to shift its focus from the PC market to software and services. While this presented a potentially attractive opportunity, the volatile post-crisis macroeconomic environment and low investor confidence, as reflected in the depressed stock prices, made the prospects for this strategy in the public market appear unpromising in the near future. So, by the end of 2012, with Dell's stock having declined over the past year, frustrated shareholders were putting increasing pressure on the company's management to take action (McGee 2024).

The PC market underwent a significant shift in 2012, with global PC shipments declining by 4.9 percent in the fourth quarter compared to the same period in 2011. This decline was primarily driven by changing consumer preferences, as demand shifted from PCs to more attractive devices like tablets, which were gaining popularity at the time. As a result, total PC shipments fell from 42,8 million in 2011 to 37,6 million units in 2012. The growing interest in smartphones and tablets posed a new challenge for PC companies, pushing them to innovate and diversify their product lines. Dell, in particular, needed to diversify its offerings to avoid being overly reliant on PCs (Gartner 2013).

Moreover, Dell struggled in comparison to its competitors. While Dell's market share dropped nearly 2 percent in the fourth quarter of 2012, HP held its leading position, and Lenovo posted year-on-year growth. Preliminary worldwide PC vendor shipment for 2012 indicated that Dell experienced a 12.3% decline in growth, while competitors like Lenovo achieved a 14% growth

rate. These factors—declining stock prices, shifts in the PC market, and lagging behind competitors who had already diversified—created significant challenges for publicly traded Dell

1.11 The Dilemma

Dell, once a leader in the PC market, now found itself at a critical point. With a shifting global landscape and an unstable economy, Dell struggled to keep pace, unlike its competitors who had already diversified. Although the economy was recovering, potential fiscal tightening added more uncertainty for Dell, creating another challenge for Michael Dell. Competitors like Lenovo and HP had surged ahead, making Dell's comeback even harder. The shrinking PC market has led to a significant decline in Dell's sales. Unfortunately, the company was slow to adapt in the public market. Nevertheless, facing an increasingly fragile market, Dell had to act to remain relevant. The big question was whether it could successfully transition and diversify, considering pressure from stakeholders, fierce competition, drastic market changes, and a negative market outlook. Any move to pull the company out of its current struggles would be seen as a bold risk. Yet, bold risks can lead to great rewards. The dilemma was clear: should Dell keep fighting as a public company, or step out of the spotlight to rebuild?

Assessment of Dell's Capital Structure: Analysing the Impact on Leveraged Buyout Suitability

The capital structure of a company is a crucial factor in management decision-making processes such as planning LBOs. This teaching note aims to explain Dell's capital structure before the LBO announcement and reveals insights about the suitability of its structure for pursuing an LBO. The case is designed for MSc and MBA students in finance and management. First, Dell's historical capital structure is analysed. Additionally, regression and correlation analysis are used to examine relationships between debt and important performance figures that could impact the decision of an LBO. Secondly, the trade-off theory and the pecking order theory are applied to Dell's case, and scientific findings are taken into consideration to evaluate Dell's capital structure for an LBO. Lastly, the capital structure and key drivers are compared to other LBO candidates and Dell's competitors. The teaching note answers following questions:

I. *How did Dell's capital structure change before the announcement of the LBO in 2013? What capital structure factors make Dell attractive and unattractive for an LBO?*
II. *Is Dell's capital structure optimal for an LBO from a scientific perspective?*
III. *How does Dell's capital structure compare to its competitors and other LBO candidates? What are the implications regarding an LBO?*

1. How did Dell's capital structure change before the announcement of the LBO in 2013? What capital structure factors make Dell attractive and unattractive for an LBO?

1.1 Capital structure of Dell Pre-LBO

Before the planned LBO in 2013, Dell's capital structure is focused on equity. According to Bloomberg, equity amounted to 72.28% of the total capital, with cost of equity of 11.32%. On the other hand, the weight of debt was 27.72% of the total capital and costs were 1.42%. Consequently, the weighted cost of capital was 8.57%. The total capital of $32,773bn consisted of $23,688bn in equity, $3,843bn in short term debt and $5,242bn in long term debt. In addition

to that, the ROIC was at 12.66% that was higher than the WACC, that indicated that Dell was generating higher returns than the WACC. Between 2001 and 2008, the weight of equity was around 99%. In 2009, Dell took on a significant amount of long term debt (Figure 2). This and a massive loss in market capitalization reduced Dell's equity weight to approximately 90% and its cost of debt from 3.09% to 2.72%. However, the WACC increased from 10.41% to 11.43% and the ROIC fell from 61.31% to 37.19%. Between 2010 and 2012, Dell continued increasing the weight of debt. The weight of debt rose from 13.91% in 2010 to 22.93% in 2012. The short term debt grew from $663mm to $2,867bn in 2012, while the long term debt increased from $3,417bn to $6,387bn. During that period, the cost of debt fluctuated between 2.96% in 2010 and 1.54% in 2012. However, the cost of equity grew from 9.96% to 12.42%, that increased the WACC from 8.98% to 9.92%. Nevertheless, the ROIC grew from 15.63% to 20.01% and the Economic Value Added (EVA) spread from 6.65% to 10.09%.

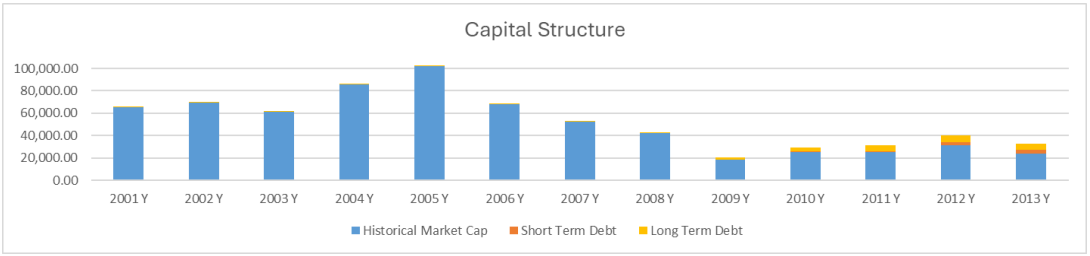

Figure 2 – Dell's historical capital structure

The shift towards a higher debt ratio shows that Dell took advantage of low cost of debt between 2010 to 2012. Even though the cost of equity increased, the WACC decreased because of low cost of debt. By taking on more debt, Dell was able to increase its profitability with a ROIC from 15.63% to 20.01%. An increase of the EVA spread in that time highlights that Dell was able to create value. In 2013, Dell relied on more debt and increased its debt weight to 27.72%, which lowered the cost of capital despite of higher cost of equity because cost of debt was significantly lower than the cost of equity. The increase of Dell's debt raised its financial risk. However, it also improved the capital structure and profitability.

1.2 Correlation and Regression Analysis of Dell's capital structure

When analysing the capital structure of Dell, it becomes obvious that the capital structure has many effects on the performance of the company. The analysis below is based on a 5 year quarterly dataset before the LBO announcement. In the conducted analysis, the debt-to-equity ratio and revenue growth rate show a slightly positive correlation with a correlation coefficient of 0.26. At the same time, the simple regression model with the D/E ratio as the independent variable only explains 6.69% of the variation. The coefficient for D/E ratio is 0.102 meaning that every increase of the D/E ratio by 1 unit leads to an increase in revenue by $0.102 (Figure 3). The p-value is 0.27, which indicates that the results of the model are insignificant at any confidence level. The relationship is insignificant because the p-value is bigger than 0.1 (Exhibit 15). This suggests that the D/E ratio's impact on revenue growth is limited, and not a key factor for assessing Dell's LBO appropriateness.

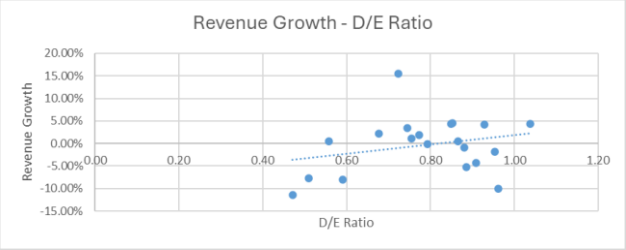

Figure 3 – Regression of Revenue Growth and D/E Ratio

Looking at the relationship between debt-to-equity ratio and the free cash flow, a positive but at the same time weak relationship can be identified with a correlation 0.37. Additionally, the D/E ratio only explains 13.88% of the variance of the FCF. Despite a positive coefficient of $1,443.5m per additional percentage increase in the D/E ratio (Figure 4), the p-value of 0.11 is insignificant at any significance level (Exhibit 16). Due to a weak relationship between Dell's capital structure and its FCF, the heavy debt financing of Dell would not be a major risk for the FCF.

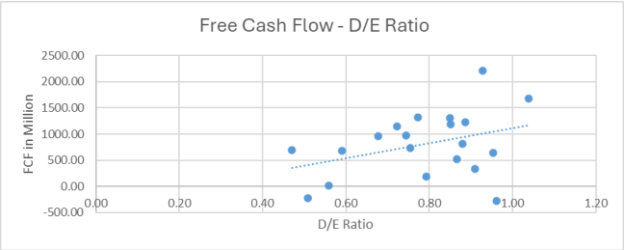

Figure 4 – Regression of FCF and D/E Ratio

The analysis of the relation between the D/E ratio and the ROIC shows a moderate negative correlation of -0.69. It indicates that if the D/E ratio increases, the ROIC will likely decrease. The regression analysis confirms the correlation analysis (Figure 5). The regression analysis shows that 46.99% of the variance from ROIC can be explained by the variance of D/E ratio. The coefficient for the D/E ratio is -0.51, indicating a reduction of 0.58ppt of the ROIC if the D/E ratio increases by one percentage point. The p-value is at 0.001. Due to this, the result is significant at a 95% but also at a 99% confidence level (Exhibit 17). The significant result could have a negative impact on the LBO. Higher debt ratios can lead to lower ROIC, which can have a negative impact on the value creation of Dell after the LBO.

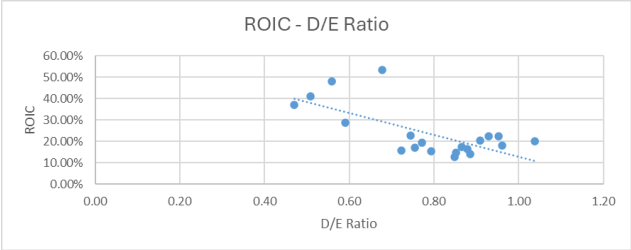

Figure 5 – Regression of ROIC and D/E Ratio

The relationship between the D/E ratio and the interest coverage ratio shows a moderate negative correlation with an correlation coefficient of -0.59. This negative relation can be seen in the regression as well. With an r-squared of 35.09%, the variance of the D/E ratio can explain the variance of the interest coverage by 35.09%. The regression also indicates a negative regression coefficient of -65.37. Due to this, the interest coverage will decrease by 65.37 points, if the D/E ratio increases by 1 unit (Figure 6). Moreover, the p-value is 0.0059, which indicates that the model is significant at any confidence level (Exhibit 18). The analysis shows Dell's

ability to cover interests payments decreases when the D/E ratio increases. This is negative for an LBO because it can make the privatisation with a heavy debt load less feasible. The concern can raise that Dell might not be able to meet its debt obligations in the future effectively.

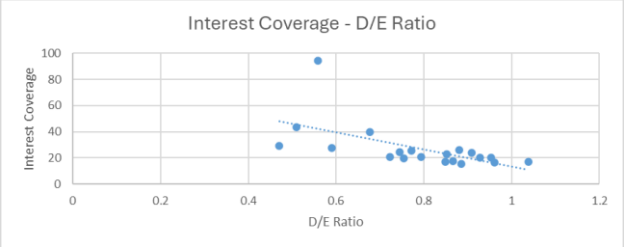

Figure 6 – Regression of Interest Coverage and D/E Ratio

Another analysis reveals a positive correlation between D/E ratio and the EBITDA margin. The correlation coefficient is 0.76, indicating a moderate positive correlation between D/E ratio and the EBITDA margin. The variance of the D/E ratio can explain 57.38% of the variance of the EBITDA margin because of an r-squared of 0.57. The regression reveals a positive impact from the D/E ratio with a regression coefficient of 0.047. The EBITDA margin increases by 0.047% when the D/E ratio increases by 1 unit (Figure 7). At the same time the model shows statistical significance at all levels with a p-value of 0.01 (Exhibit 19). Regarding an LBO, it shows that the operative profitability can improve with higher debt ratios, making an LBO more attractive.

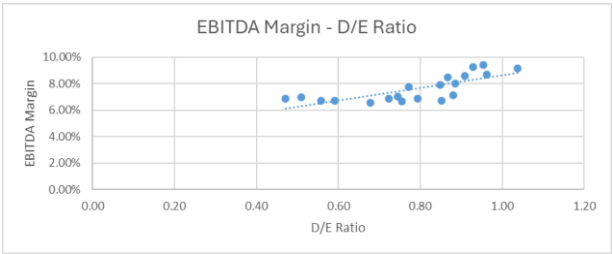

Figure 7 – Regression of EBITDA Margin and D/E Ratio

Analysing the relationship between total debt and cost of debt shows a strong negative correlation with a correlation coefficient of -0.85. The regression model show a r-squared at 0.72, indicating that the variance of total debt can explain 71.67% of the variance of the cost of debt. The negative relationship can be seen from the regression coefficient for total debt which amounts to -2.6633E-06. Every additional dollar of debt reduces the cost of debt by -

0.0000027% (Figure 8). The p-value is at 2.53E-06. Due to this, the model is highly statistically significant at any confidence level (Exhibit 20). The regression shows a reliable and strongly negative relationship between total debt and the cost of debt. Since with an LBO, debt levels increase significantly, this could be a benefit in case of an LBO with debt financing because Dell's cost of debt can decrease by higher debt ratios. This would decrease the cost of the LBO. However, the benefit depends on the ability to manage the risk of debt. Companies with solid and stable cash flows like Dell can often manage debt in a better way.

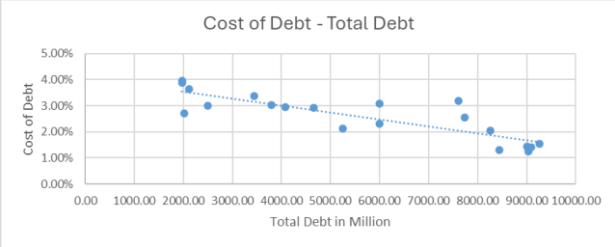

Figure 8 – Regression of Cost of Debt and Total Debt

The conducted analyses show the changes of Dell's financials when the debt is increasing. The relationship between the D/E ratio and the market cap as well as the ROIC reveal risks of debt heavy financing. Higher D/E ratios lead to an increased likelihood of the reduction of the ROIC and a decrease on the interest coverage rate. Nevertheless, there are positive effects of the increase of the D/E ratio on EBITDA margin and higher debt can decrease the cost of debt. Due to that Dell can benefit from an LBO if the risks are managed.

2. Is Dell's capital structure optimal for an LBO from a scientific perspective?

2.1 Trade-Off Theory and Dell

The trade-off theory (TOT) is based on Kraus and Litzenberger's paper from 1973. It shows an existing relationship/trade-off between the optimal capital structure and debt, taxes, bankruptcy costs, such as the firm's market value (Kraus & Litzenberger 1973, 918). Regarding the static TOT, a company tries to achieve its best debt ratio by balancing the advantages of the tax shields from borrowing money with the costs of bankruptcy. Finding the right balance is important

because the company tries to substitute debt for equity until they maximise their market value. Nevertheless, there are constraints that hinder companies to meet their optimal debt ratios. One of the constraints are the cost of adjustment. Due to the costs, companies with the same goals can have different debt ratios and can be far away from their actual optimal debt ratios (Myer 1984, 577-578). Another constraint can be taxes. Regarding Miller, taxes negatively affect the relationship between debt and a company's value. Miller's model shows that the benefits of borrowing money can be compensated by personal income taxes, which leads to different debt policies. The value of the tax shield can vary between companies. Larger companies can fully use the tax shield and benefit more from it than smaller companies. Miller suggests that smaller companies with low tax rates will therefore have less incentives for taking on debt. Moreover, costs of financial distress can influence debt ratios of firms. The costs include legal fees, administrative costs and agency costs that can have a negative effect on the company's value. Companies that have higher variances in their asset values, are considered risky. These companies should borrow less debt because there is an increased chance for default. On the other hand, safer firms can take on more debt because their financial distress costs are lower. Moreover, companies with intangible assets have higher financial distress costs than firms with tangible assets, which can limit borrowing money (Myers 1984, 579-581).

Regarding Dell´s LBO plan, the TOT can explain choosing debt financing before other kinds of financing. The theory balances the benefits, such as tax shields, against potential bankruptcy costs. Before the LBO announcement, Dell's capital structure is heavily equity focused. By applying the TOT on Dell's plan to execute the LBO, it is possible to see that Dell wants to benefit from the tax shield the debt offers. Even though debt is relatively cheap with 1.42% and the ROIC of 12.66% is higher than the WACC, which means the company is generating returns that exceed its capitals costs, heavy debt financing of $17bn increases the risk of bankruptcy. Therefore, it is important for Dell to find the right balance in order to avoid a loss in market

value. According to the theory, as a larger company, Dell can benefit more from the tax shield than a smaller company would do.

2.2 Pecking Order Theory and Dell

The pecking order theory (POT) suggests how companies are financed and how asymmetric information influences their financing choices. According to the theory, companies prefer internal funding. If internal financing is not possible, companies have to finance themselves with external financing. They typically try to finance themselves with the safest and lowest risk security first, which is debt. After that they might try to finance themselves with hybrid securities. According to the POT, companies will use equity financing only if internal and external financing is not possible (Myers 1984, 581-582). Investors perceive equity financing as bad news, which has an effect on the price of the issue. Investors are not interested in paying for the issue and demand lower prices. As a result, the amount of capital the company can raise through the issue may be reduced. This potential price reduction can affect the company's decision whether they want to issue the securities (Myers and Majluf 1984, 4). Companies with strong financial positions and little debt are using internal financing. On the other hand, companies with weak financial positions and high debt ratios are more likely to use external financing (Ghosh & Cai 1999, 32). The management opt for debt financing, if investors are undervaluing the company. In contrast, the management decides to issue shares if the company is overvalued by investors (Byoun & Rhim 2005, S. 1).

The financing structure of Dell's LBO aligns well with the POT and its hierarchy. Dell prioritises internal financing and debt over equity. The goal is to privatise the company, which makes raising money with public equity financing unnecessary. Instead, Dell's planning to use $3.7bn of Michael Dell's personal stake, which reflects the preference for internal financing. Additionally, the company is relying on debt by taking debt of $17bn from different banks and lenders. This approach is consistent with the POT, because debt is preferred when internal

financing is not possible. By not using equity financing, Dell reduces the influence of external stakeholders and follows the company's goal of privatisation.

2.3 Capital Structure and LBO's

Researchers provide additional relationships and determinants regarding capital structure and LBOs. Fukui et al. (2023) found out that the most important determinants that affect the capital structure of a company are equity issuance costs, driven by information asymmetry. Higher information asymmetry leads to higher debt ratios, while supply frictions like credit access or equity misvaluation have lower debt ratios. Due to Dells decreasing competitiveness in the computer market and a lot of uncertainty in the future, investors lack confidence in Dell. As a result, equity issuance becomes very costly and makes high debt financing through an LBO a cheaper and more attractive option. By using debt, the LBO allows Silver Lake to take advantage of Dell's future cash flow and earnings and benefits from the information asymmetry. The finding aligns with Dell's idea of debt financing in order to do the LBO for the privatisation. Further research shows that the asset structure, financial flexibility and earnings volatility affect manufacturing companies' capital structures. A more tangible asset structure leads to lower cost debt financing and minimises the risk of external financing. Stable earnings minimises risk and enhances financing conditions. Additionally, a strong financial flexibility improves the access to low cost financing (Istan 2024, 61). In 2012, Dell shifted from the computer market towards software and enterprise IT solutions. Due to this, Dell's asset structure changed and moved from a tangible to an intangible asset structure. A high share of intangible assets can cause challenges for debt financing because intangible assets are harder to collateralise and may increase financing costs. The shift also negatively impacted the Dell's earnings volatility. Despite the shift, Dell kept its financial flexibility with solid cash reserves but was not perfectly aligned with the optimal conditions for low cost financing. The shift towards an intangible asset

structure and negatively impacted earnings volatility increases risk for taking heavy debt for Dell but also for lenders in an LBO.

In an LBO, the financial composition depends mainly on factors like growth prospects, earnings variability and liquidity characteristics, plans to sell assets and the opportunities of tax savings. Research shows that higher growth prospects and greater earnings variability can result in more equity. Additionally, more liquid companies use more cash for financing and companies that plan to sell assets after an LBO favour debt financing. The higher the target company's return on assets, the greater is the proportion of bank-debt in the financing because of the tax advantages. Moreover, the cash flow profile is an important indicator for the financing structure. Reduced-cash-flow securities are more common when the company has significant growth prospects. Additionally, it is used when the LBO relies heavily on debt financing. Therefore, it is important to align debt obligations with operating cash flows in the financing package to reduce the risk of default (Roden and Lewellen 1995, 83-86). Although Dell's market share in the computer market decreased, its shift to enterprise IT solutions offers growth potential. Due to the shift, the earnings variability is high and leads to more equity. However, Dell's strong cash reserves led to lower needed amounts of debt or equity for financing the deal. While Dell has no plans to sell assets in the future, the privatisation or restructuring of the company could lead to optimised operations.

The capital structure also depends on the credit conditions in the market. Debt availability and the price are additional key drivers for the capital structure of an LBO. Higher leveraged buyouts are related to cheaper debt. Furthermore, better availability of debt increases the transaction price. At the same time private equity companies try to maximise the debt usage. However, they are effected and limited by market conditions. Higher debt in favourable credit conditions are related with lower returns for private equity funds (Axelson et al. 2013, 2264). In February 2013, the credit market is attractive for taking on debt. Low interest rates of 0.15%

in the U.S. and good access to debt markets make Dell's idea of pursuing an LBO well-timed, reducing its default risk and making the LBO more affordable.

Companies with high financial distress cost are less likely to perform an LBO because taking on too much debt would mean a disproportionate increase in their insolvency risk. Research shows that companies with lower R&D, lower financial distress costs and higher diversification are more likely to do an LBO, which can affect capital structure decisions. At the same time, LBO companies rely on heavy debt financing to address problems that are rather related to free cash flow than for tax benefits (Olper and Titman 1993, 1996-1998). Dell's distress costs can be considered moderate as its products are not as dependent on future services as other products. However, the company's reliance on intellectual property and software solutions can decrease the collateralise ability of assets and increase its higher financial distress cost. Moderate growth opportunities from entering new markets reduces Dell's financial distress risks, making it an interesting LBO candidate.

Taking the theory into account, Dell's capital structure is not perfectly optimised for an LBO regarding the TOT. However, the capital structure aligns with the POT and Dell could benefit from market conditions.

3. How does Dell's capital structure compare to its competitors and other LBO candidates? What are the implications regarding an LBO?

3.1 Comparative Benchmarking of Dell vs. other LBO candidates Capital Structures

When benchmarking Dell's financial position in the last quarter before the announcement of the LBO with previous LBO candidates, it is noticeable that Dell has a strong financial foundation for an LBO (Table 4). The comparison is made with the biggest LBOs before Dell's idea of an LBO in 2013 and focuses on TXU, First Data, Alltel, Hilton and Kinder Morgan, whereby TXU, Hilton and Kinder Morgan also used an LBO to privatise the companies. The D/E of Dell in the quarter before the announcement is 0.85, which is moderate compared to the

other LBO candidates. Regarding TXU, Kinder Morgan and Hilton the D/E ratio is significantly lower with 5.66, 1.71 and 1.50 respectively. This shows that Dell has a higher financial flexibility if it relies on debt. Moreover, Dell has the highest interest rate coverage with 16.98 in the selected group, which means that Dell has a strong ability to cover its interest expenses. Alltel has the second highest interest coverage ratio with 15.21. TXU, Hilton and Kinder Morgan have significantly lower interest coverage ratio with 5.70, 5.09 and 3.84 respectively. This allows Dell to meet its debt obligations in a better way than previously executed LBOs from other companies. Besides that, Dell has the significantly highest FCF among the peer group with $1.31bn, compared to Hilton with $62.00m and Kinder Morgan with $2.30m. This shows that Dell would be able to comfortably manage more debt even after an LBO. Another interesting factor is that Dell is the only company that has negative net debt before the LBO announcement. Therefore, Dell has more liquid cash and liquid assets than debt and can immediately use the liquidity to reduce the debt of the LBO. Regarding the D/EBITDA ratio, Dell's ratio of 8.36 is moderately high compared to the other companies. First Data and Alltel have the lowest ratios with 5.6 and 3.85 respectively. However, Dell has the smallest ratio compared to the companies that did an LBO for their privatisation. The highest ratio has Hilton with 13.98. Dell has a relatively high ratio which indicates that Dell has some leverage risk, although the risk is smaller than for TXU, Hilton and Kinder Morgan.

Company	D/E	EBITDA	Interest Coverage	FCF	Net Debt	D/EBITDA
Dell Inc.	0.85	$ 1,087.00	16.98	$ 1,311.00	$ (3,692.00)	8.36
TXU Corp.	5.66	$ 1,083.00	5.70	$ 158.00	$ 12,266.00	11.19
First Data Corp.	0.23	$ 424.80	12.31	$ 373.70	$ 1,373.80	5.60
Alltel Corp.	0.23	$ 710.10	15.21	$ 398.80	$ 2,159.80	3.85
Hilton Hotels Corp.	1.50	$ 442.00	3.84	$ 62.00	$ 6,007.00	13.98
Kinder Morgan Inc.	1.71	$ 427.60	5.09	$ 2.30	$ 5,714.50	13.44

$ in million

Table 4 – Benchmarking between Dell and former LBO candidates

In summary, Dell shows moderate leverage, high liquidity, high interest coverage and a strong FCF. Because of this, Dell seems a better LBO candidate with lower risk, especially compared to the LBO candidates with the idea of privatising the company through an LBO.

When benchmarking the financial position of Dell with its competitors in the computer market and enterprise IT solutions at the time of Dell's announcement, Dell´s competitiveness regarding its capital structure becomes apparent (Table 5). Dell's D/E ratio of 0.85 compared to its competitors is moderate, whereas HP and IBM have D/E ratios of 1.21 and 1.59 respectively. Therefore, Dell could take more debt in the event of an LBO. The interest coverage ratio of 16.98 and the FCF of $1.31bn are the smallest ones in comparison to Dell's competitors. Despite being weaker than its competitors, Dell´s financial performance seems to be sufficient for an LBO. With a net debt of -$3.69bn, Dell has higher liquidity than HP and IBM with debt levels at $15.64bn and $19.11bn. The D/EBITDA ratio of 8.36 is high compared to its competitors. Only HP has a higher ratio. Overall, due to Dells's moderate leverage, good liquidity and ability to manage debt, Dell is a good LBO candidate that has a solid financial position regarding its capital structure.

Company	D/E	EBITDA	Interest Coverage	FCF	Net Debt	D/EBITDA
Dell Inc.	0.85	$ 1,087.00	16.98	$ 1,311.00	$ (3,692.00)	8.36
Apple Inc.	0.00	$ 18,798.00	-	$ 21,109.00	$ (137,112.00)	0.00
Cisco Systems Inc.	0.29	$ 3,472.00	23.62	$ 3,062.00	$ (30,085.00)	4.69
HP Inc.	1.21	$ 3,049.00	-	$ 1,929.00	$ 15,638.00	9.26
IBM Corp.	1.59	$ 8,927.00	82.66	$ 5,346.00	$ 19,105.00	3.39
Lenovo Group Ltd.	0.12	$ 273.50	59.46	-	$ (4,158.70)	1.18

$ in millions

Table 5 – Benchmarking between Dell and its competitors

3.2 Regression and Correlation Analysis of Dell's Capital Structure vs. Competitors

Comparing Dell's regressions analysis with the regression of its competitors shows Dell's strengths and weaknesses regarding an LBO. For comparison, the regressions are also based on the aggregated 5 year quarterly data and includes available data from the previous competitors group except for Apple because it has no debt during the analysis period (Exhibit 21-26). The regression analysis of the competitors between revenue growth and the D/E ratio shows a negative weak correlation with -0.13. In Dell's case, the correlation is positive but also weak with 0.26. However, both results are insignificant and show that higher debt will probably not have a significant influence on the revenue after an LBO. The competitors show a moderate,

positive and significant relationship between the D/E ratio and the FCF with a correlation coefficient of 0.387 and a p-value of 0.002. Although Dell shows a slightly weaker and insignificant positive relationship, this suggests that competitors might be better positioned to improve their FCFs in a debt-heavy LBO than Dell. Regarding ROIC and debt, Dell's competitors show almost no correlation with a coefficient of -0.05. On the other hand, Dell shows a significant negative correlation of -0.64 and a p-value of 0.001. This shows that competitors are less vulnerable regarding an increase of leverage on the ROIC and that Dell is more likely to be exposed to this risk in an LBO. Moreover, the regression with Dell reveals a significant negative relationship between D/E ratio and the interest coverage, which suggest that Dell could have more problems to handle interest payments after an LBO. On the other hand, the competitors show a weak positive but insignificant relationship. Due to this, they would not be that exposed to that risk as Dell. Regarding the EBITDA margin and debt, Dell shows a positive significant relationship. Additionally, the competitors also show a positive relationship but weaker than Dell's. This suggests that it is more likely to be profitable with a higher debt ratio after an LBO. Finally, Dell shows a stronger negative correlation between leverage and cost of debt at -0.85 compared to its competitors at -0.69, indicating that Dell may benefit more from lower borrowing costs as it increases leverage.

Dell shows moderate leverage, high liquidity and a solid FCF compared to its competitors and other LBO candidates, making an LBO less risky than for TXU, Hilton or Kinder Morgan. However, Dell shows more sensibility to ROIC and interest when debt increases compared to its competitors, which could be a problem for debt-heavy financing.

4. Conclusion

The analysis of Dell's capital structure in 2013 gives insights about the suitability of an LBO and the strengths and risks of Dell's capital structure at that time. From 2009 onwards, Dell increased its debt. Over the time, Dell's cost of debt decreased and the WACC was below the

ROIC, which was favourable for an LBO. The regression and correlation analyses shows an increasing EBITDA margin and decreasing cost of debt with increasing leverage. However, they also highlight the negative effects on ROIC and interest coverage, which are crucial for managing debt obligations after an LBO. From a theoretical standpoint, Dell's capital structure decisions aligns with the POT when preferring debt over equity. The TOT shows that the capital structure is not completely optimised, emphasising increased bankruptcy risk even with tax shields. Additionally, Dell's plan for an LBO aligns with further research and shows that Dell's timing for an LBO is right due to low interest rates. However, risks increase with higher earnings volatility. In comparison with Dell's competitors and prior LBO candidates, Dell has a relatively strong capital structure, especially compared to LBO candidates with the idea of going private. Although, Dell has a high D/EBITDA ratio, it generates high liquidity and a solid FCF that allows to manage debt obligations more easily.

In practice, Dell went private with the LBO in 2013. The company acquired EMC in 2016 before it went public again in 2017. This shows that Dell was able to successfully manage its debt and financial flexibility. All in all, Dell's capital structure is suitable for an LBO with high financial flexibility and profitability. Nevertheless, it is important to manage the risk of debt to succeed with the LBO.

In a next step, expanding research which include other LBOs in different time periods and across a larger group of companies would help to validate the results. Moreover, it would be interesting to analyse how the capital structures differ between LBOs in the technology sector and other industries and how these affect the success of LBOs. Additionally, an investigation on how Dell's capital structure evolved to support its acquisition of EMC would provide deeper insights of the long-term impact of large acquisitions. Finally, an examination of strategies for optimising capital structures to maximise tax shields while minimising bankruptcy risks would contribute to a better understanding of how firms can strategically manage debt in LBOs.

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Appendix

Exhibit 15: Dell Regression Output Revenue Growth – D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.258713269
R Square	0.066932555
Adjusted R Square	0.015095475
Standard Error	0.062080156
Observations	20

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.004976253	0.004976253	1.29120998	0.27072794
Residual	18	0.069371025	0.003853946		
Total	19	0.074347278			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.083989965	0.072040929	-1.165864543	0.258885734	-0.23534234	0.067362411	-0.23534234	0.067362411
D/E Ratio	0.102215231	0.089953316	1.136314208	0.27072794	-0.086769673	0.291200135	-0.086769673	0.291200135

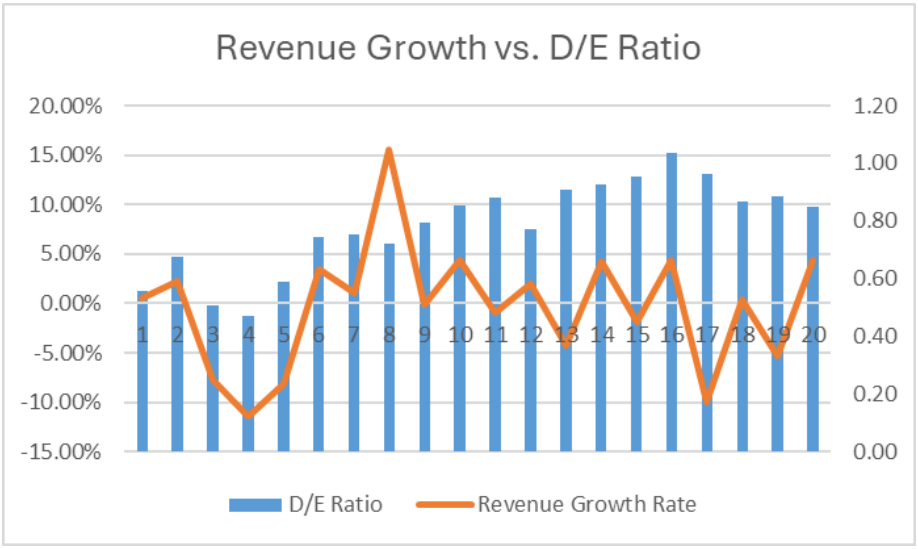

Exhibit 16: Dell Regression Output FCF – D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.367258517
R Square	0.134878818
Adjusted R Square	0.08681653
Standard Error	594.6842282
Observations	20

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	992458.0376	992458.0376	2.806333704	0.111177346
Residual	18	6365687.962	353649.3312		
Total	19	7358146			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-327.4008954	690.1014238	-0.474424315	0.640901995	-1777.250187	1122.448396	-1777.250187	1122.448396
D/E Ratio	1443.51218	861.6894916	1.67521154	0.111177346	-366.8302645	3253.854625	-366.8302645	3253.854625

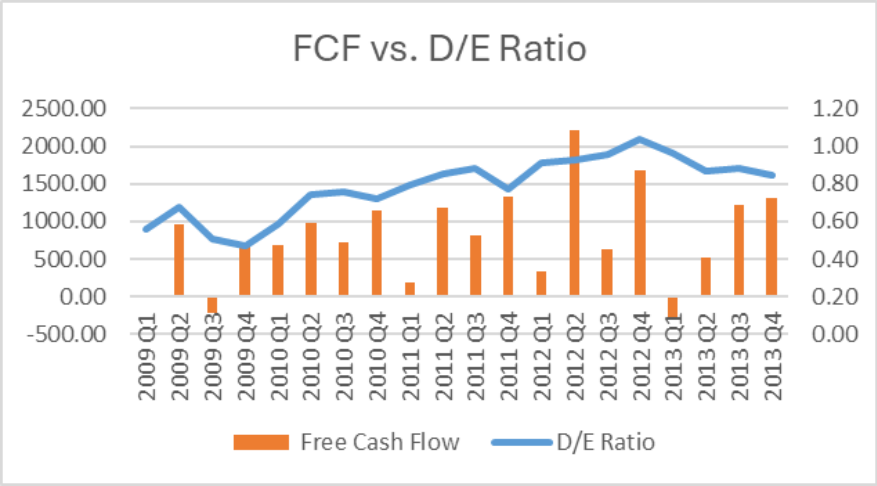

Exhibit 17: Dell Regression Output ROIC - D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.685493422
R Square	0.469901232
Adjusted R Square	0.4404513
Standard Error	0.087911145
Observations	20

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.123313369	0.123313369	15.95593629	0.000850203
Residual	18	0.139110648	0.007728369		
Total	19	0.262424018			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.638942001	0.102016504	6.263123852	6.60464E-06	0.424613279	0.853270723	0.424613279	0.853270723
D/E Ratio	-0.508826191	0.127382073	-3.994488239	0.000850203	-0.776445995	-0.241206387	-0.776445995	-0.241206387

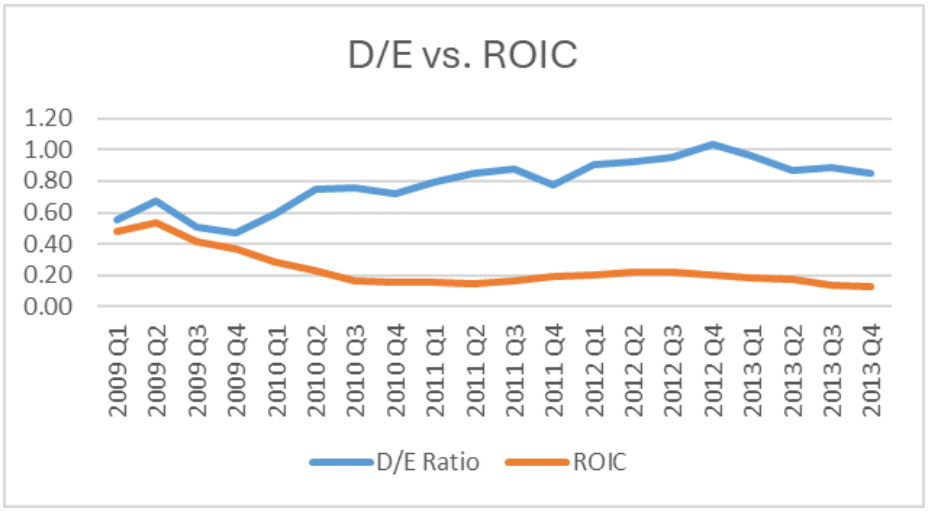

Exhibit 18: Dell Regression Output Interest Coverage -D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.592403474
R Square	0.350941876
Adjusted R Square	0.314883092
Standard Error	14.46181208
Observations	20

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2035.492641	2035.492641	9.732493196	0.005918635
Residual	18	3764.592155	209.1440086		
Total	19	5800.084796			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	78.5912051	16.78221253	4.683006185	0.000185222	43.3330849	113.8493253	43.3330849	113.8493253
D/E Ratio	-65.37310973	20.95497225	-3.119694407	0.005918635	-109.3978728	-21.34834668	-109.3978728	-21.34834668

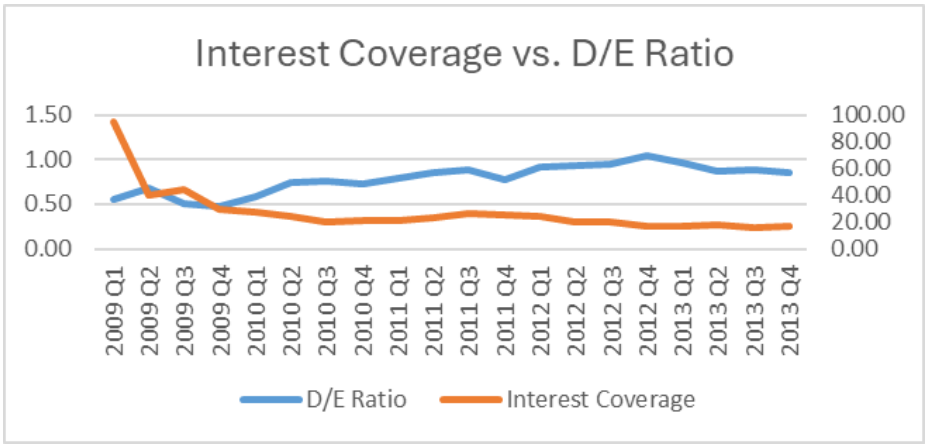

Exhibit 19: Dell Regression Output EBITDA Margin – D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.757477437
R Square	0.573772068
Adjusted R Square	0.550092739
Standard Error	0.006625564
Observations	20

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.001063692	0.001063692	24.23092542	0.000109829
Residual	18	0.000790166	4.38981E-05		
Total	19	0.001853858			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.038987013	0.007688637	5.070731157	7.96833E-05	0.022833785	0.055140241	0.022833785	0.055140241
D/E Ratio	0.047257664	0.009600354	4.922491789	0.000109829	0.027088069	0.06742726	0.027088069	0.06742726

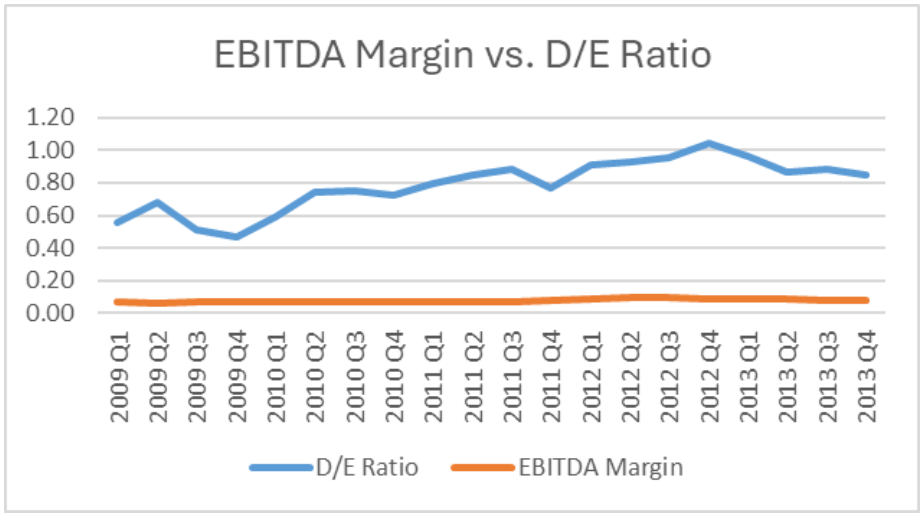

Exhibit 20: Dell Regression Output Cost of Debt – Total Debt

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.846578254
R Square	0.71669474
Adjusted R Square	0.700955559
Standard Error	0.004754182
Observations	20

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.001029209	0.001029209	45.53570711	2.52736E-06
Residual	18	0.00040684	2.26022E-05		
Total	19	0.00143605			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.040788347	0.002456427	16.60474334	2.3264E-12	0.035627585	0.04594911	0.035627585	0.04594911
Total debt	-2.66334E-06	3.94685E-07	-6.74801505	2.52736E-06	-3.49255E-06	-1.83414E-06	-3.49255E-06	-1.83414E-06

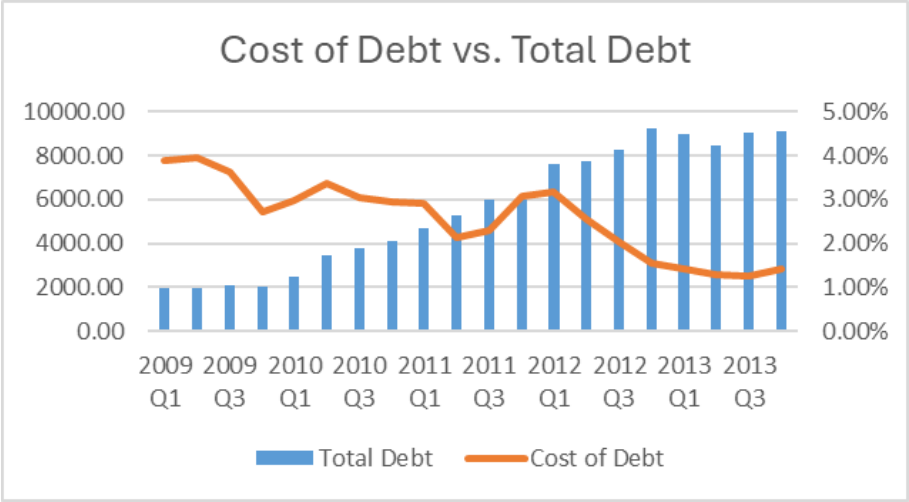

Exhibit 21: Dell's competitors Regre ssion Output Revenue Growth – D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.137025
R Square	0.018776
Adjusted R Squ	0.006196
Standard Error	0.112745
Observations	80

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	0.018972	0.018972	1.492533	0.225503
Residual	78	0.991489	0.012711		
Total	79	1.010461			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Upper 95.0%*
Intercept	0.036769	0.019885	1.8491	0.068232	-0.00282	0.076357	-0.00282	0.076357
D/E	-0.02957	0.024201	-1.22169	0.225503	-0.07775	0.018615	-0.07775	0.018615

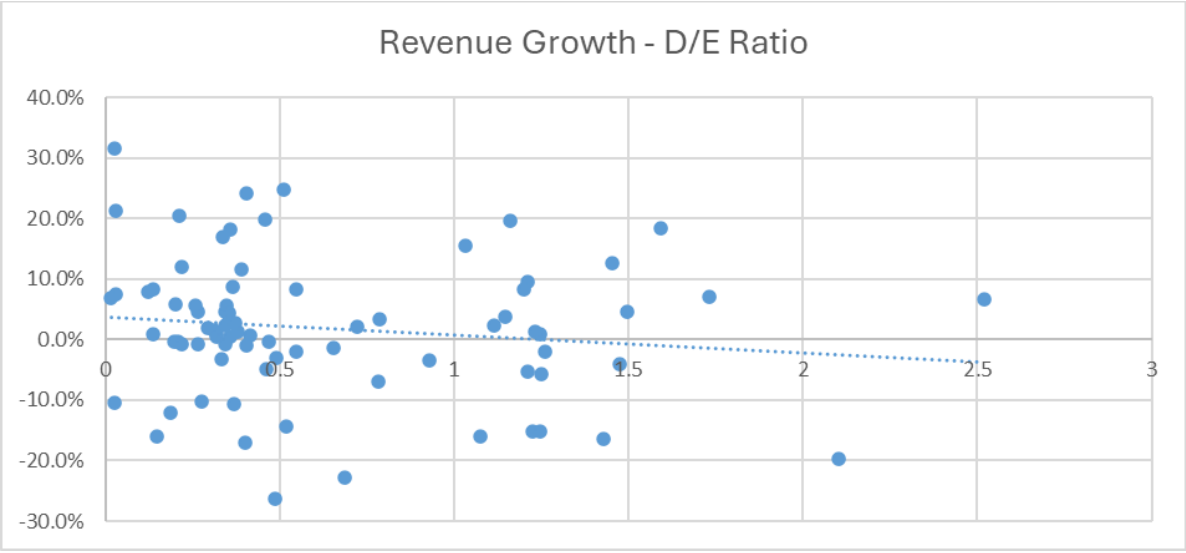

Exhibit 22: Dell's competitors Regression Output FCF – D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.387292858
R Square	0.149995758
Adjusted R	0.135340513
Standard E	1326.959964
Observatio	60

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	18021939.09	18021939.09	10.23495359	0.0022347
Residual	58	102127719.2	1760822.746		
Total	59	120149658.3			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Upper 95.0%*
Intercept	2166.067661	299.2826886	7.237530747	1.16925E-09	1566.9883	2765.147	1566.988	2765.147
D/E	1028.166012	321.3810791	3.199211402	0.002234721	384.85189	1671.48	384.8519	1671.48

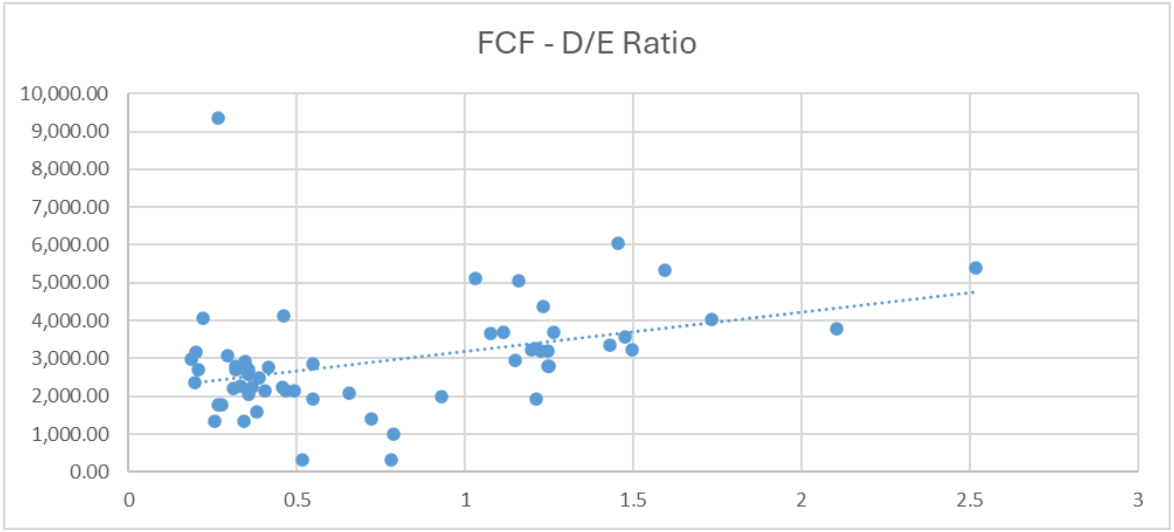

Exhibit 23: Dell's competitors Regression Output ROIC – D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.049713
R Square	0.002471
Adjusted R	-0.01032
Standard E	10.55876
Observatio	80

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	21.54454	21.54454	0.193246272	0.661444
Residual	78	8696.025	111.4875		
Total	79	8717.57			

	Coefficients	*andard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Jpper 95.0%*
Intercept	13.25565	1.862263	7.118032	4.69274E-10	9.548167	16.96313	9.548167	16.96313
D/E	-0.99635	2.266498	-0.4396	0.661443967	-5.5086	3.515903	-5.5086	3.515903

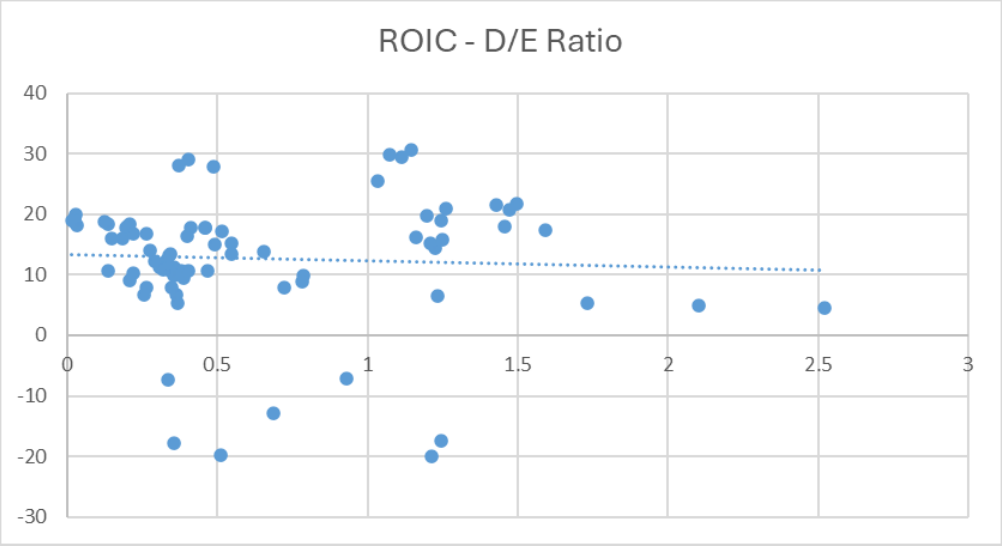

Exhibit 24: Dell's competitors Regression Output Interest Coverage – D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.19298
R Square	0.037241
Adjusted R	0.021458
Standard E	26.08027
Observatio	63

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	1604.955	1604.955064	2.359601644	0.129685
Residual	61	41491.01	680.180516		
Total	62	43095.97			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	34.10594	4.907768	6.949377943	2.83084E-09	24.29225	43.91962	24.29225	43.91962
D/E	8.843581	5.757167	1.53609949	0.129685057	-2.66859	20.35575	-2.66859	20.35575

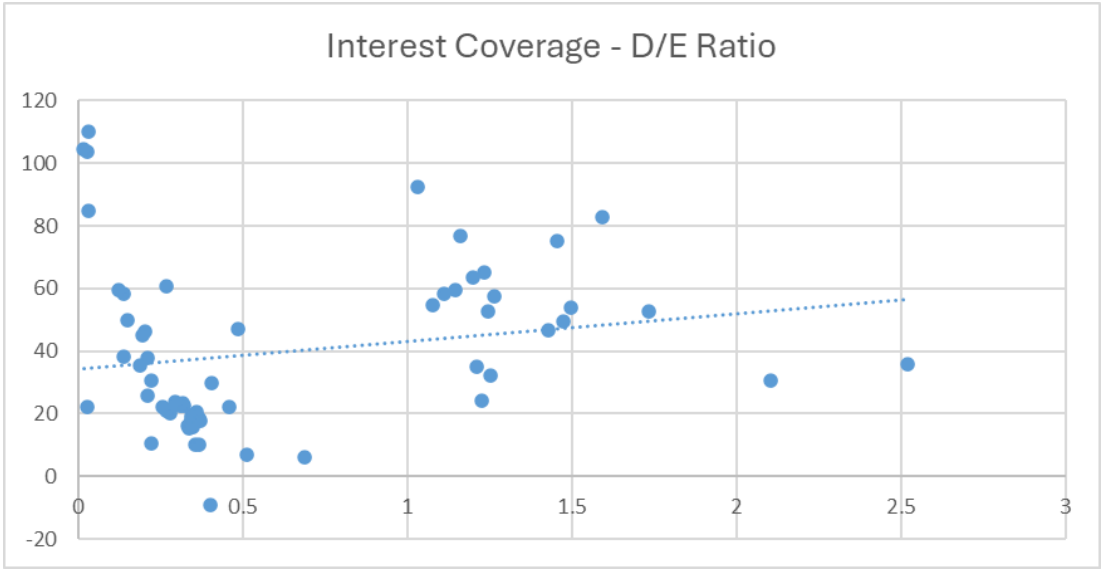

Exhibit 25: Dell's competitors Regression Output EBITDA Margin – D/E Ratio

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.314746
R Square	0.099065
Adjusted R	0.087515
Standard E	9.227955
Observatio	80

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	730.3525	730.3525188	8.576726929	0.004462
Residual	78	6642.102	85.15515591		
Total	79	7372.455			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Upper 95.0%*
Intercept	12.9106	1.627546	7.932553846	1.27115E-11	9.670404	16.1508	9.670404	16.1508
D/E	5.801075	1.980832	2.928604946	0.004461853	1.857541	9.744609	1.857541	9.744609

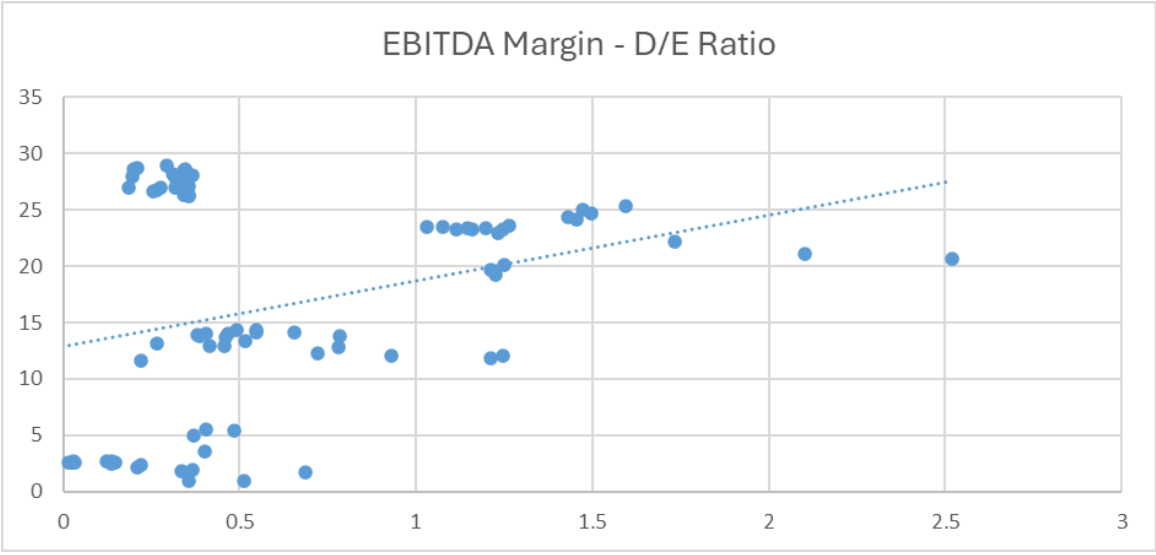

Exhibit 26: Dell's competitors Regression Output Cost of Debt – Total Debt

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.693819336
R Square	0.481385271
Adjusted R S	0.474736365
Standard Er	0.639133687
Observatio	80

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	29.57508294	29.57508294	72.40066489	9.69471E-13
Residual	78	31.86236581	0.408491869		
Total	79	61.43744875			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.550309342	0.123581997	28.72837013	3.07241E-43	3.304276486	3.796342197	3.304276486	3.796342197
Debt	-5.35056E-05	6.28822E-06	-8.50885802	9.69471E-13	-6.60244E-05	-4.09867E-05	-6.60244E-05	-4.09867E-05