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## An Analysis of Accounting Principles: A Case Study on 3D Systems Corporation

Kelsey Mayhan

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**An Analysis of Accounting Principles:  
A Case Study on 3D Systems Corporation**

by

**Kelsey Mayhan**

A thesis submitted to the faculty of The University of Mississippi in partial fulfillment of the requirements of the Sally McDonnell Barksdale Honors College.

**Oxford, MS**

**May 2024**

Approved by



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Advisor: Dr. Victoria Dickinson



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Reader: Dean W. Mark Wilder

## **DEDICATION**

To Marty Kelly for helping me find a home at the University of Mississippi.

**ABSTRACT**  
**An Analysis of Accounting Principles:**

**A Case Study on 3D Systems Corporation**

This anthology of cases was completed during my junior year at the University of Mississippi. Working both in a group and individually, I conducted research on various topics related to the accounting profession and how they relate to 3D Systems Corporation and its financials. I spoke through the findings with accounting professionals on a regular basis, and at the end of the semester defended those results to my classmates and professionals in a final presentation.

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**Case Study #1**

ESG and Cybersecurity Risk Assessment

28 September 2022

This week, students researched the topic of Environmental, Social, and Governance (otherwise known as ESG). ESG is a framework by which outside sources can evaluate a company by how well it is doing regarding positive environmental, social, and governance issues. These companies are assigned an ESG score. In simple terminology, this score allows outsiders to readily evaluate how good or bad a company is doing regarding the positive impacts the company has on the world. The company can use this score to see what things should be improved, changed, or cut entirely from the corporation.

The rise of ESG started with consumer demand for better, more conscious corporations. For example, although many want to invest their money in companies willing to give them the most profit, some might not want to invest in these companies if they exploit child labor or cut down the Amazon Rainforest. In addition, many consumers demand that companies be held to the same moral standards as everyday individuals, thus pushing companies to stop exploiting impoverished people and the environment. However, many companies will put profit over morality if not kept in check. This conflict is where ESG comes in. ESG can assign a numerical value to a corporation based on how well they do in these areas. This value allows investors and consumers to see and compare how well a company is doing easily. If a company receives a low ESG score, some investors and consumers might decide to take their money somewhere else that better aligns with their moral compass.

This assignment allowed students to heavily research the new ranking systems that ESG offers. Because many accounting firms are just starting to use ESG when evaluating companies, college students need to understand what it is before being introduced to the workforce. Students were encouraged to look in-depth at the pros and cons of using ESG; along with this, students

got to research ESG in the context of one corporation. This context could paint a larger picture for students to understand the intricacies of ESG as a whole.

With the rise of the media putting a spotlight on the moral ethics of corporations, many people have started to urge companies to do better. Of course, accounting firms did not take long to figure out a way to fill this demand. Using ESG, accounting firms offer services to calculate other corporations' scores. For example, all the Big Four accounting firms "have already started offering ESG assurance services" (Cohn, Michael). This proves that ESG is in demand enough for all of the top four international accounting firms to take notice of it. There has been so much demand for accounting companies to step in for ESG rating that one study by Ernst & Young found that "the proportion of investors who are dissatisfied with environmental risk disclosures has increased by 14% since 2018" (Cohn, Michael). By being a third party to investigate these issues, accounting firms can be bipartisan with published reports about a company's practices.

That being said, ESG might become a liability to a public accounting firm if it is not handled carefully. ESG does not have very concise standards. After all, many factors that ESG relies on are not easily quantifiable. If the factor is quantifiable, it might be hard or costly to get such numbers. Also, "current corporate sustainability disclosures are heavily skewed towards process and procedures and not towards actual performance" (Jamwal, Vivek). ESG scores might not be as fully transparent as most investors would expect them to be. It is estimated that "70% of ESG data points measure whether a company has a relevant policy in place, but having a policy in place does not measure the level of commitment towards implementing that policy" (Jamwal, Vivek). This is a huge percentage of data points measured on promises, not actions. After all, a company could state that it wanted to do better without much commitment to that promise. If ESG scores rely on these data points, then investors will start not to trust the scores.



Public accounting firms rely on their reputation to give good, accurate information to the public. If there is not a great way to measure this information, then gaps in the report might begin to show for investors. This can create a liability for said accounting company, as their reputation could be diminished if they give an inaccurate score based on inaccurate data.

Many companies and NGOs provide ESG scores for organizations. Sustainalytics, Bloomberg, and FTSE Russell are a few that assign these scores based on their criteria. For example, MSCI assigns some ESG ratings based on three pillars: environment, social, and governance. Within those pillars are different factors that they consider most important such as climate change, pollution, human capital, corporate governance, and many others. Sustainalytics assigns 3D Systems Corporation an ESG score of 25.8, indicating a medium risk rating; however, CSRHub reports a score of 33%, which is considered below average. There is a difference between the numbers of the score, but there is even a divergence in using a points system versus a percentage-based system. Without standardized criteria for assigning these scores, and multiple companies doing so, there is a large margin for inconsistency and confusion. For 3D systems, a score of 33% may scare off investors even if it does not reflect the true nature of the company's performance. The scores given might not be a good representation of what is happening. This means that companies can be financially punished for a score that was unrightfully scored too low; by the same token, a company could get more money from investors for receiving a score that is too high and is not representative of how the company is doing. Nationally, this opens the door for misled investing decisions. Investors may believe they are placing capital in a sustainable corporation when that is not the case.

Furthermore, global issues can heavily affect a company or even a country's ESG rating. In 2020 the United States scored extremely low on its COVID-19 response, decreasing the

overall ESG significantly. "The U.S. received the worst rating of 5 in this regard, which harmed its overall ESG rating and therefore its country risk rating, Manna Neghassi, Sustainalytics' manager of country risk rating, said in an interview with Barron's." (Barron's 2021) The impacts of something like a pandemic are felt throughout every aspect of the country, including its ESG score. Most importantly, ESG scores are currently difficult to understand and interpret. With so many different reporting methodologies and criteria, it is not easy to understand what an ESG score means and how it was created. Without a governing body to regulate these processes, ESG scores remain an easily manipulated investment tool that can affect corporations, sectors, and even countries.

Although there is no definite standard for measuring ESG scores, there is hope. Some groups have attempted to start providing guidelines for these scores. One of the most influential of these groups is the International Organization of Securities Commissions. This organization is an umbrella group for market regulators globally, thus making them very influential. They recently created a "set of recommendations to achieve a coherent and consistent approach to policing ESG ratings and data providers" (Powell, Robin). Although these recommendations are not a fix-all, it is a great step in the right direction.

The World Economic Forum's position is that to determine a company's success one must also consider the company's ESG. Once considered a non-financial concern, investors have realized that there are many risks and opportunities related to the environmental, societal, and governance practices that must be considered financial. There is growing evidence that companies with a better ESG have better long-term financial success than those that do not. (WEFORUM 2022) I support the position that the World Economic Forum takes on the importance of ESG. With the increasing consumption and production of goods every day it is

increasingly important to be responsible for the practices of a company. Having a good ESG can draw in individual and institutional investors because of the proven long-term success that sustainably-practicing companies are starting to exhibit.

Generally, I do not have any qualms with the World Economic Forum's leadership in ESG because they have effectively illustrated its importance. The content in the several articles I read was centered around the main focal point of having a good ESG rating being massively important to the long-term, sustainable success of the company. Many articles on the World Economic Forum website also explain how having a good ESG helps draw in investors because of the support for environmentally sustainable practices and because they are better for investing in the long term. "Sustainable and impact investing is actively growing at double-digit rates. In fact, according to the US SIF Foundation, total U.S.-domiciled investments using sustainable, responsible, and impact (SRI) strategies, reached \$8.72 trillion, an increase of 33 percent from 2014 and a 14-fold increase since 1995. That represents about one of every 6 dollars under management." (Atkins).

Vanguard filed with the SEC to introduce the Vanguard Baillie Gifford Global Positive Impact Stock Fund for those investors wishing for measurable environmental change while also receiving global equity returns. This is an example of impact investing, which is when investors invest in a company not only for equitable returns but also for positive environmental/societal change. For this, skilled managers must be able to determine how to drive the company to positive change and what portfolio to build that is capable of equitable returns while also being positively impactful. Being firm believers in the importance of ESG, Blackrock decided to make sustainability the center point of its operations back in 2020. Blackrock has integrated ESG into all of its investment teams. When speaking on the importance of ESG Blackrock CEO Larry

Finks said: "A company's ability to manage environmental, social, and governance matters demonstrates the leadership and good governance that is so essential to sustainable growth, which is why we are increasingly integrating these issues into our investment process."

(Vanguard 2022) This shows Blackrock's belief in the importance of ESG how it encourages sustainable growth and how it positively impacts management by making managers consider both the risks and opportunities with ESG.

According to MarketBeat. 3D Systems currently holds an overall positive ESG score with an average 14.1% positive sustainability impact (Marketbeat). The reason this score is not higher is that 3D Systems currently hurts the environment due to its greenhouse gas emissions. This will certainly impact them in the future because while they are mostly positive in every other aspect of ESG, they will have to figure out a way to combat their negative impact on the environment through their greenhouse gas emissions. With the growing importance of integrating ESG into management and the increasing issues regarding our atmosphere with greenhouse gasses, I would think that in the future 3D Systems will look to find solutions to decrease their greenhouse gas emissions. By decreasing greenhouse gas emissions, there will be a significant increase in the corporation's ESG which will in turn attract more investors in the future.

3D Systems Corporation claims to have adopted many policies regarding environmental and social responsibility. Their website lists several responsible and sustainable policies, such as waste management practices, air emissions, and water purity policies. However, under each of these policies, there is a lack of transparency regarding their actual data regarding each of these issues. What they do have, is a 2021 Environmental, Social, and Governance Results report. This report shows their safety rates, GHG emissions, energy use, waste, and recycling findings. According to their report, they recycle approximately 48.8% of their total waste. (3D Systems

2021) Their other findings are not as easily understood and lack the clarity that would benefit stockholders. On another note, they have a robust human rights and labor rights policy encompassing issues such as providing living wages, protecting freedom of expression, and maintaining a safe work environment. (3D Systems 2022) Regarding each of its policies, 3D Systems has an anonymous ethics tip line that individuals can utilize to report issues they notice within the company. Overall, 3D Systems is making an effort for environmental and social responsibility, but they need to edit their findings to be more accessible to those trying to understand the information.

ESG regulations will cause more guidelines and regulations that 3D Systems Corporations will have to follow, possibly causing the company to adapt and change its usual ways of operation. The way that managers, owners, presidents, and all of the people in positions of power within companies are headed, it is very likely that there will be more regulations regarding environmental, social, and corporate governance guidelines that will continue to grow in quantity in the power of their consequences. Regarding financial reporting, more regulations will cause a more universally accepted method to calculate and account for a company's ESG numbers, which will be very helpful for board members to compare how they are doing and for managers to plan for the future. Companies with a better ESG score, while they may have to spend more money to get to that position, will more than likely be able to raise more capital through the support of their customers and consumers and promotions. In addition, society will appreciate companies that follow through with their obligations to the environment around them and will be more appreciated by their communities as well as be thought of positively. 3D Systems Corporation involves a lot of technological and software-based development, which does, in theory, take up a lot of nonrenewable resources and could potentially hurt society.

However, if 3D systems corporations were to change their standard ways of doing things and follow potential new guidelines, they would ultimately see growth in their financial reporting and would positively impact the world around them and be thought of positively.

Cybersecurity failures are very prevalent within the manufacturing industry. According to a study by Deloitte titled Manufacturers Alliance for Productivity and Innovation (MAPI), "40 percent of manufacturing firms experienced a cyber-attack in the last year. Out of them, 38 percent of them suffered over \$1 million in damages" (Goud, Naveen). About 87% of manufacturing firms have a disaster recovery plan in response to these increasingly prevalent cyber threats, but only 37% of those firms have it documented and tested. Consequently, it is not staggering that the number of firms dealing with these issues is so high. Data continuity is an enormous problem for firms that have experienced losses from these attacks, so having a tried and tested plan in response is critical for a firm to maintain operations. The six key areas where attacks are most widespread are executive and board engagement, intellectual property, industrial controlled systems, connected products, industrial ecosystem, talent, and human capital.

3D Systems Corporation has many risks associated with using 3D printers and their manufacturing techniques. "Confidentiality and privacy concerns are the most direct consequence of a data breach involving a 3D printer. This breach could compromise confidential data such as schematics and product software code. For example, an individualized medical device may contain personally identifiable information, and a data breach may trigger security and privacy laws" (Segalla, Goldberg). These attacks can violate confidentiality but can also physically affect the product being manufactured. 3D printers are an internet-connected, open-source asset; consequently, cyber-attacks can cause physical defects within the products. The attacks can cause products to not operate as intended and therefore be unusable and expendable.

Furthermore, if a defective product is readily sold and used, "this failure could lead to injuries, property damage, litigation, or product recalls. Even worse, the defect in the product may not be immediately identifiable" (Segalla, Goldberg). Overall, cyber-attacks pose a vast threat to 3D Systems due to the immense use of computers and online services for 3D printing. These threats can range from stealing intellectual property, strategies, and personal information, and influencing the physical product itself.

Cybercriminals have become one of the fastest-growing forms of modern crime, with approximately 1 million potential cyber-attacks attempted per day. Identity thieves are one of the forms of cybercriminals, and their goal is to access personal information (name, address, phone number, place of employment, bank account, credit card information, and social security number) to benefit the identity thief in the form of monetary value (approximately \$112 billion has been stolen by identity thieves over the past six years). Internet stalkers are another form of a cybercriminal who monitors the online activity of the victim to terrorize or acquire personal information. Many internet stalkers can track their victims' internet activity with minimal detection. Internet stalkers look for information they can use for bribery or slander purposes, making stalkers a considerable threat to individuals, companies, and corporations. Phishing is another type of cybercrime in which a cybercriminal disguises themselves as a trustworthy source to gain personal information or sensitive data from the victim. Their ultimate goal is to receive information on bank accounts and other sensitive accounts that they can use for their plans. While cybersecurity crimes have become more familiar with advancements in technology and techniques of cyber-attacks, there has also been a rise in cybersecurity breaches.

Cybersecurity breaches are when important information is accessed by someone who should not or does not have the right to view the information or use the information, and it has

become a very big problem for many companies. According to Tatsha Robertson's report on cybersecurity breaches, most cybersecurity breaches occur from a company's employees. One reason this is occurring more frequently is because of how many companies operate today. In the past, when someone left the office, they did not have access to business information outside of work. Now employees have access to more information and are never truly outside of the office. When an employee is let go or changes companies, they may still have important information that they could use as blackmail, slander, or as an advantage for their new company. This has been a growing problem, but some of the ways that companies are fighting this problem are through educating employees, limiting the number of users that have administrative access, backing up a company's database, and securing a company's hardware.

3D Systems Corporation has many potential risks, such as the leakage of plans, financial statements, personal information of the employees, and restricted information only to be seen by people with clearance. 3D Systems Corporation also has to account for the protection of its customers. Their customers provide personal information to the company when they place orders or connect with customer service, and it is the responsibility of 3D Systems Corporation to protect all of the information they receive from customers. With internal employees being one of the risks of people who breach a company, 3D Systems Corporation sets up many firewalls and password restrictions to help protect their customers. However, 3D printing as a whole is in danger of being affected by cyber-crimes. With almost all the information needed for a 3D printer being software-based, 3D Systems Corporation could have restricted information not only stolen but tampered with. This is a big problem, not only due to loss of work but also because many industries have started to use 3D printing to help with their line of work. Automobiles, aircraft, orthopedics, and bioprinting are just a few examples of the different types of companies



that have started to use 3D printing within their industries. It is vital to the success of multiple industries that nothing changes to the software. 3D Systems Corporation combats this threat by maintaining access to administrative, technical, and physical safeguards that protect information against accidental, unauthorized, or unlawful alterations.

3D Systems Corporation protects itself against cyber-attacks by placing passwords on restricted data, having multi-verification access codes, and firewalls that help monitor its systems. They have made a position called the Director of Cybersecurity, which has helped 3D Systems Corporation have a plan in place to protect themselves and their users. Additionally, 3D Systems Corporation should keep their software up to date, only use company-issued devices, keep personal information separate from organizational information, encourage staff to wear an ID or a security pass, and continuously change their verification codes and passwords. It is always possible for a cyber-attack to occur, but the main objective should be to make it very difficult for the cyber-criminal.

**Case Study #2**

Audit Risk and Planning

12 October 2022

This week we explored the potential for auditing risk within 3D Systems Corporation. The main goal was to determine which accounts were most likely to have fraud tied to them and be either over or under-stated. To do so, we assessed the company's 2021 10-K while paying close attention to the income statement and consolidated balance sheet. By looking at these statements, we were able to discuss which accounts might have risk attached to them in the context of the manufacturing industry and 3D Systems Corporation as an individual. We looked at which accounts might have had the largest change or the most dramatic shifts recently. One of those was the goodwill account, which rose a noticeable amount from 2020 to 2021. Upon closer examination, it did not seem to be a very risky change, especially when considering the number of acquisitions 3D Systems has recently had. Another account that was considered was depreciation. The main question concerning their depreciation practices was how it reflects on property, plant, and equipment. It was discovered that 3D Systems uses a straight-line depreciation model which is not unusual in their industry. Ultimately, it was decided that depreciation was of little risk.

After this careful analysis, three accounts were chosen to be further scrutinized. These accounts were inventory, intangible assets, and accounts receivable. It was determined that these accounts were all at the highest risk of being improperly reported and could potentially be a risk for an auditor. When analyzing the individual risk factor of each account, we considered its materiality, methodology, and industry factors. The greatest risk with inventory is its major effect on their normal operations and the risk of affecting many other accounts. Intangible assets show risk due to their large and sudden increase from the previous year and the ability to inflate net income. Finally, accounts receivable consist of a large portion of just one customer, putting

them in an unfavorable position should the customer ever default. These accounts deserve greater exploration and more in-depth analysis which is provided in this case.

3D Systems Corporation is a manufacturing company that creates parts that are used in automobiles, orthopedics, biotechnology, and many other industries. They have put themselves in the position that, instead of selling the equipment needed to manufacture these products for these industries, they are the ones producing the needed parts and distributing them to their customers. With 3D Systems being a manufacturer for many industries, our group decided it was necessary to take a closer look at their inventory account. 3D Systems determines its inventory costs by using the First-In, First-Out method. The 2021 10-K states that its inventory reserve "is a critical estimate as there is rapid technological change in our industry" ("Form 10-K"). Their inventory as of December 31, 2021, is valued at \$92,887.00, which is a decrease of \$23,780.00 from their inventory as of December 21, 2020. Raw materials are listed at \$23,530.00, work in process is listed at \$5,173.00, and finished goods and parts are listed at \$64,184.00. Their inventory reserve is \$16,509.00 ("Form 10-K"). For the year ended December 31, 2021, there was no material product line for life ended. Their inventory account makes up nine percent of their total current assets, and it accounts for only six percent of their total assets. While this is a low percentage of assets, it is one of the riskier accounts considering the contribution that it has to the success or failure of the company overall. 3D Systems' asset account increased by \$816,044.00, more than doubling in size from 2020 to 2021. Being a manufacturing company, this means they would have had to have the inventories to manufacture enough products to increase their asset account.

While 3D Systems has indulged in new industries and has begun manufacturing new and never-before-seen products (biotechnological parts), there is still a concern with how fast 3D

Systems Corporation has grown. If their accounts were miscalculated or tampered with, then the number of products they could produce would be in jeopardy. When analyzing their inventory and related accounts, it is important to look into what makes up the inventory account, how the company records and tracks the inflows and outflows of the account, what reserves they may have that could influence the number stated, and overall how it affects their financial statements in comparison to other accounts. However, after analyzing the inventory accounts and the associated accounts, their inventory account is correct based on their valuation of the materials and parts. Nevertheless, the inventory account of 3D Systems (or any manufacturing company for that matter) has a huge impact on their company and is one of their most important, yet risky, accounts.

The second risky account that shows a direct threat to 3D Systems is its intangible assets. Their account increased by one point sixty-three times the previous year's amount ("Form 10-K"). Intangible assets is a possible risky account due to this sudden large increase which adversely could inflate their net income and the company's value as a whole. This increase is alarming since they have not had an impairment to goodwill/intangible assets since the third quarter of 2020. However, such a large increase would initially be seen as a possible impairment this year due to a likely expense. This increase can be broken down into a significant reduction in accumulated amortization of acquired technology from 2020 to 2021. These estimates in accumulated depreciation are subjective and can be inflated or deflated for financial reporting purposes. Additionally, the "other" account in 2021 had a significant reduction in accumulated amortization which is not explained or analyzed within their 10-K. These reductions are raising the value of this account which could be incorrect. Also, 3D Systems Corporation estimates significant reductions in the next few years in annual amortization expense to intangible assets

which should be something to further analyze. Overall, the intangible assets account is subject to a lot of variation and estimates because these assets aren't truly physical in nature. This significant increase in the account is something to further keep note of as it can be extremely risky.

Another risky account that shows a direct threat to 3D Systems is its account receivables. Account receivables show the money that is owed to the company by their customers that has not been paid yet. Typically, it is presumed that accounts receivable will be paid soon and, therefore, should not be worried about much. However, 3D Systems has some special circumstances surrounding its accounts receivable balance.

One of the most concerning risks that this account creates is the fact that they have one customer that represents "over 20% of our [3D Systems Corporation] consolidated revenue" ("Form 10-K"). This means that, if something were to happen to this specific customer which made them unable to pay the full amount of their debt, the accounts receivable for 3D Systems would suffer greatly. Ideally, this company would be able to diversify its customer base or ask for cash instead of charging products and services to accounts receivable. However, this is not a perfect, ideal world and compromises must be made to run a business. Although there is no direct way to solve this situation, it should be noted and kept under consideration with a watchful eye.

One of the most substantive tests that auditors use to test if the accounts receivables reported by a company are correct is going directly to the source. The auditor can send a written letter, thus providing written documentation, to the customer asking to confirm how much money they owe to the company. If the customers that are contacted reply with the same amount of money that has been allocated to accounts receivable, then the auditor will most likely know

that this account is correct. This process is fairly straightforward but can get tricky depending on how many customers have accounts open. Although this process can be used by an auditor to make sure the accounts receivable is correct, this cannot save the company from having too much of its revenue from one customer.

Data visualization, data query, and RPAs (robotic process automation) are examples of ways companies can improve the accuracy and efficiency of their audits. Not only do these things help improve the efficiency and accuracy of an audit, but they all help further the understanding of the audit currently being performed. Data visualization is an important tool for auditors because it helps them get a visual representation of the fluctuations of a company's numbers and helps create a timeline of said events. For example, data visualization helps further the understanding of a company and the audit being performed on that company by constructing a timeline of the company's numbers and the changes in these numbers over the years. This helps auditors verify the timing and amounts of the accounts that are entered during the correct period. Data queries are important to auditors because they contain very useful information all grouped. That being said, "creating queries for auditing data can also provide a detailed view of the data and help identify potential issues" ("Database Auditing: Four Modules Commonly Used by Consultants to Audit ..."). This quote from Omatic, a data management and data integration non-profit, shows just how useful a data query can be in identifying problems. In our opinion, the most important of the three ways a company can improve the accuracy and efficiency of its audit is through automated robotic processes. It has been fairly obvious in our society that more and more of the traditional processes are being replaced by automated robotic processes that are much more efficient, accurate, and inexpensive. Like most other processes in society today, the audit process can be improved using automated robotic systems.

While listening to the state auditor of Mississippi, Shad White, give a speech at the University of Mississippi, one statement in particular stood out to us. When asked what is one thing that can greatly improve the auditing process, he answered that it would be much more efficient if it was possible to easily access and search across a wide variety of financial documents instead of having to tirelessly search and dig for them. This is certainly one aspect of the audit process that we could see being dramatically improved by an automated robotic system. Collecting all of the information for an audit is one of the most time-consuming parts of the audit process that can contribute to the need for many auditors to work long hours on a single project. Integrating automated robotic processes into the audit process helps ensure more efficient data collection and data that is free from human error. This type of technology "not only saves time but also reduces the chances of errors" (Dhanashree). Using RPAs for this is a perfect example of when Shad White claimed it is a large portion of improving the auditing process his office uses. Data visualization and data queries are important to ensure accurate auditing, as they both present important data for the audit in a way that is easier to understand and analyze. It is important to note that an RPA can "automate data collection from various sources and consolidate it into a single system for further analysis" (Dhanashree). RPAs are especially important to accurate and efficient accounting because they can improve almost every aspect of the audit process, especially the data collection aspect. Although RPAs are important to the improvement of the audit process, they must be manually checked periodically to ensure no errors are being made within the system itself. This means that, although technology is a huge factor in the auditing process, one can never truly take the auditor out of it.



**Case Study #3**

Tax Planning

03 November 2022

This week, students were tasked with researching, evaluating, and analyzing taxes and tax planning for their respective companies. Taxes are different within every industry and change depending on the people who make tax rates and those who do their taxes. Tax rates also depend on the country. For this analysis, we will focus on the tax rates in the United States.

Tax planning is an essential aspect of any business in regard to how much they have to spend on taxes and which taxes are avoidable. With tax credits and deductions, companies can apply tax planning guidelines to save themselves money in the long run. 3D Systems Corporation is a manufacturing company that has many locations in various cities and countries. This creates many opportunities for the company to be taxed as well as multiple tax credits where they can save money.

With the midterm elections coming up, different outcomes can come about depending on which party has the victory. This will most likely cause changes in federal taxes that the company must abide by for future periods. By planning ahead on both outcomes, the corporation can implement plans on reducing their taxes no matter the election outcome.

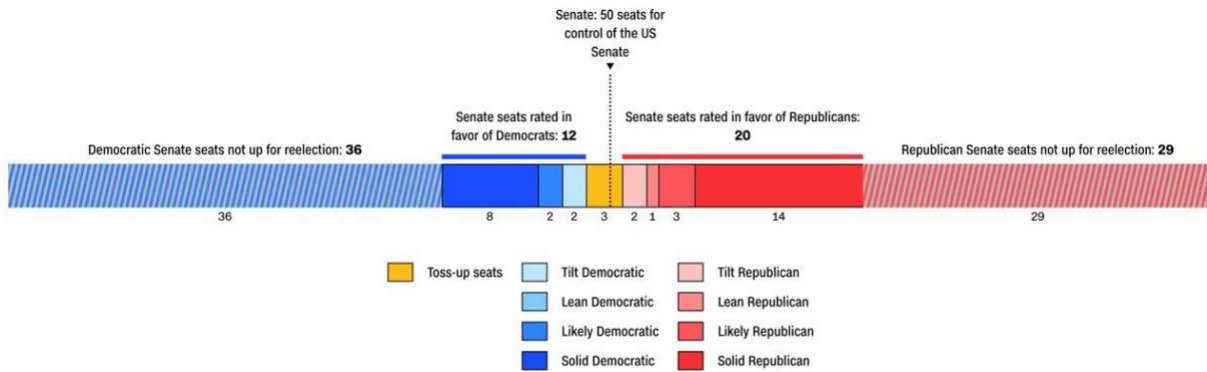
The best way for 3D Systems Corporation to utilize tax credits is to utilize the section 45Q carbon sequestration tax credit. Carbon sequestration is the process of capturing and storing carbon, thus reducing the amount of carbon in the air that directly leads to global warming. Companies are encouraged to capture the carbon that they emit into the atmosphere in order to make their manufacturing processes more ecologically friendly. This recent tax credit pushes companies to be more eco-friendly, thus saving their wallets while saving the earth.

This assignment allowed students to dive into the world of tax and opened their eyes to many opportunities they did not know about prior. Taxes change and are different within who is in charge of the government and what is going on in the economy, so there are many different

ways to go about tax planning. By looking into the political nature of this tax credit, we can see if it is worth it for 3D Systems Corporation to invest time and effort into carbon sequestration.

The results of the midterm elections will have a strong influence on 3D System's tax planning. Based on current polling and projections, the Republicans are expected to take back control within the House of Representatives. This projection is because America's primary concern within this current election cycle is the economy and the unrelenting increase in inflation. Current projections illustrate three "toss-up" seats within the house split between the Republicans and Democrats. As shown below, the Republicans can win two of those toss-up seats and effectively control the House of Representatives. With Republican control typically comes a more driven focus on the economy, which is the reasoning behind many voters' thoughts that voted Republican this midterm cycle. As shown by President Trump during his time in office, he put the economy at the forefront of his agenda by cutting taxes and incentivizing job creation. Aside from the current midterm elections and looking ahead toward the 2024 election, if Trump is re-elected, there should be serious consideration by 3D Systems into his effective tax rates and his views on his second term concerning corporate tax planning. Regarding carbon tax credits, Republican control generally comes, with less of a focus on climate change and carbon emissions. For example, in February 2020, Oregon had a bill being proposed called HB 2020 that "would have put a price tag on carbon emissions — long considered one of the simplest and most efficient ways to cut greenhouse gasses" (Osaka, Shannon). That morning for the Republican side, eleven out of the twelve Republican senators did not show up to vote, causing the meeting to be adjourned and the bill not voted on. This is a small example illustrating the focus of the Republican party and its viewpoints on climate change. A carbon tax credit may be something that the Republican side would not be against as it could potentially cut taxes for many

corporations. However, the focus of the Republican party is not specifically geared toward reducing the carbon footprint, especially during this midterm election cycle.



Ratings last updated October 21, 2022

(2022 Midterms | CNN Politics).

Entering the midterm elections, the Democrats slightly hold an edge over the Republicans in the House of Representatives. Also, the Democrats hold a minimal edge over Republicans in the Senate, where it is split fifty-fifty, and Vice President Harris has the tie-breaking vote in matters split down the middle. After the midterm elections, if the Democrats still retain control over the House and the Senate, we do not expect much to change. This is because President Biden already passed the Inflation Reduction Act into law which is a law that President Biden passed to combat the rising inflation in our country. The Inflation Reduction Act allows Medicare to negotiate the price of prescription drugs, invests eighty million dollars into the IRS, extends Affordable Care Act subsidies, and includes many investments to aid in energy security and climate change. The largest form of revenue raised by this bill is the fifteen percent corporate tax enforced on those corporations with income of over one billion dollars. This could potentially impact 3D Systems Corporation in the future, as their net income suddenly increased from -\$150 million in 2020 to \$322 million in 2021 ("3D Systems Net Income 2010-2022: DDD"). The company will have to be prepared to account for this significant change in taxation

if the corporation continues to grow at an increasing rate. The bill will also provide an estimated \$270 million in tax incentives for environmentally-friendly things like electric cars and energy-efficient home improvements ("Summary: The Inflation Reduction Act of 2022"). This will likely remain in place with the democrats controlling the house and the Senate. Therefore, it would be in 3D Systems' best interest to start gearing the company towards a more energy-efficient and environmentally friendly day-to-day method of operation to capitalize on some of these tax credits. If the Democrats retain control over the house and the Senate, the Inflation Reduction Act will proceed full steam ahead. However, if the Republicans gain control over the house, it is most likely that the \$80 million in funds allotted to be invested into the IRS will be blocked. This is because many, many Republicans have already vowed to reject it.

However, as of now, there are still tax credits for corporations that chose to go green. Because of this, the optimal tax strategy that 3D Systems can employ is to explain their production into developing and manufacturing carbon air scrubbers. Carbon dioxide scrubbers are machines that absorb carbon dioxide from the atmosphere and are often used in specific transportation industries as part of submersibles and airtight chambers. In recent years, with a higher focus on environmental, social, and corporate governance, more people have been looking toward this technology as the solution for carbon dioxide levels in the atmosphere. Initially enacted in 2008, Section 45Q under Income Tax Regulations places tax credits for companies to incentivize the production of carbon scrubbers.

This code allows companies to claim \$31.77 off per metric ton of CO<sub>2</sub> that is geologically sequestered from equipment created at or after 2018; similarly, equipment that was created before 2018 can get \$28.82 off per metric ton of CO<sub>2</sub> that is geologically sequestered (CRS 2021). 3D Systems has already been researching Direct Air Capture (DAC) technology

and the effects that it holds economically. Their principal solutions leader, Scott Green, explains, "Direct Air Capture is a technology that enables the separation of CO<sub>2</sub> from air to create the products the economy needs - such as agricultural products, building materials, fuels, plastics, chemicals, and also for sequestration... with DAC coupled to utilization and storage, atmospheric carbon moves from a threat to a major economic opportunity" (3D Systems 2022). This research places 3D Systems Corporation in a prime position to take advantage of this tax credit. However, it is essential to keep in mind that corporations can only claim this tax credit for 12 years after the equipment is in service, and the facility must have construction begin before January of 2026. 3D Systems Corporation currently fits these restrictions, so they can claim this tax credit if they sequester their carbon emissions.

Along with the United States giving tax credits to companies participating in carbon sequestration, other countries, such as Australia and the United Kingdom, also give out tax credits. 3D Systems Corporation is proud to have offices and factories in these countries, so they will most likely be able to take advantage of their tax credits too. However, we were only able to find a little information about the tax credits offered in these other countries. Because of this, we have primarily focused our findings on the United States tax credit.

The numbers listed above for the tax credit only mean a little with context. As stated previously, companies can get 23.82 dollars off per metric ton of CO<sub>2</sub> from items that were manufactured before 2018 and 31.77 dollars off on equipment manufactured at or after 2018. To put this into perspective, one must analyze how much CO<sub>2</sub> 3D Systems Corporation creates per year. Unfortunately, after hours of research, we could not find a definite number for 3D Systems Corporation's current carbon emissions. However, we found out that they announced in 2019 that they could reduce ten percent of their real estate assets, resulting in the reduction of 2.8 million

pounds of CO2 emissions ("3D Systems Announces Launch of Environmental, Social & Governance Initiative"). Of course, this is a bit older information, but it is all we have, so we will have to utilize it.

Using this number and basic mathematical skills, we discovered that that left 25.2 million pounds of carbon emissions. Now, this means little to the tax code if it is not in metric tons. So, we found that one million pounds is roughly equal to 453.59237 metric tones ("Pounds to Metric Tons Conversion"). That means that 3D Systems Corporation produced roughly 11430.527724 metric tons of CO2. Depending on the type of items used, this could lead to a 23.82 dollar deduction or a 31.77 dollar deduction per metric ton of CO2 reduced. Assuming all equipment was created before 2018, 3D Systems Corporation could save \$272,275.17 if they sequester all their carbon emissions (11430.527724 x 23.82). If all items are dated after 2018, then 3D Systems Corporation could save \$363,147.87 on taxes (11430.527724 x 31.77). If half the equipment was created before 2018 and the other half was created after 2018, then their tax savings would be \$317,711.52 [(272,275.17/2) + (363.147.87/2)]. These numbers are summed up in the table below.

Items put in service before 2018	Half of the items used were made before 2018 and the other half were at or after 2018	All items used are after 2018
\$272,275.17	\$317,711.52	\$363,147.87

Of course, it is important to note that these are only estimates of the data we were able to obtain, and their carbon emissions are most likely higher now. These tax credits are not perfect,

and the current political sphere should be taken into consideration before making any decisions made off of these numbers.



**Case Study #4**

Norfolk Southern Train Derailment

08 March 2023

This week the students learned about the train derailments in East Palestine, Ohio, and how to audit a company in crisis. After the major train derailment caused toxic chemicals to leech into the land and water of a once-thriving mining community, Norfolk Southern, the company responsible, is facing a large amount of backlash for not better preventing this disaster. We looked at their Environmental, Social, and Governance Report from the year prior to see if they had taken any preventive measures to reduce the chances of this tragedy occurring. An ESG report shows how a company is trying to promote sustainability, energy efficiency, and biodiversity, among other things. As this disaster affects all three areas of ESG, we expected to find some hints for the future in the report.

Norfolk Southern is one of the nation's largest transportation companies in the United States and operates 19,300 miles of track in 22 different states. They are a major transporter of industrial products such as chemicals, agriculture, and metals. Norfolk also transports coal, automobiles, and auto parts. They have a net income of billions of dollars every year. Norfolk Southern had some permanent cost cuts in 2020 due to railroads facing major losses from the COVID-19 pandemic. They reduced costs in almost all areas, including maintenance of their trains and technology spending. Some of these cost cuts could have led to an accident like this occurring. Currently, Norfolk has paid millions of dollars, but it looks like that may not cover all the damages. Norfolk has paid billions in dividends and stock buybacks over the past few years, but they only paid the people affected by the train wreck a few million dollars.

Toxic chemicals are in the air, food, and water in this area. People are already getting sick and having serious health issues. Animals are dying due to all of the rivers and ponds being unsafe to drink, but the United States government continues to spend a considerable amount on

aid to Ukraine. Congress is not supporting its own people, but sending millions of dollars over to another country, and what kind of effect this can have on the spirits of the people of East Palestine, Ohio? We discussed how we could appropriately represent some of these losses on financial statements, and how this could impact their net income and revenues in future years. We analyzed what processes we would take to be able to perform an appropriate audit for this type of situation.

### **ESG and Technology**

First, we look to Norfolk Southern's Environmental, Social, and Governance Report to see what changes they made from the year before to improve safety, operations, and crash prevention. Norfolk says their vision is to be the safest and most successful transportation company in the world. They have comprehensive safety management systems in place and employees are a part of their Six Action Steps to safe service: Policy and Goals, Education, Communication, Recognition, Accountability, and Follow-up. Norfolk recently got approval for a risk reduction program and used this to reach their operational safety goals. Hazard reduction and elimination were one of their main focuses through this program.

Norfolk Southern is also working on many new digital rail developments. They already have a system of fully automated inspection corridors that can detect failures before they occur. They also have smart technology that uses real-time data to reduce fuel consumption. Ann A. Adams, Executive Vice President and Chief Transportation Officer, states, "Norfolk Southern is using technology to improve every aspect of our business. From operating trains safely and efficiently to added visibility for customers to building a more representative and inclusive workforce, technology is driving progress at our company." Norfolk Southern's board of directors and their new hire, Amy Miles have an enhanced oversight policy to navigate all the

risks faced by the company properly. Their incident reports are also helpful in seeing what kind of accidents are occurring and how frequently they are occurring. The ESG report is useful in improving the operations of the company. Norfolk Southern is finding new ways to reduce carbon emissions and save money while doing it. They are installing new electric cranes that can move 1000 additional units per year. They are also using data to eliminate over 2000 hours of idle work per day. This can save a lot of money and save money on gas by eliminating this problem. Norfolk Southern has lots of new ideas and plans to increase efficiency in operations and save money described in the ESG report.

### **Damages and Compensation**

Norfolk Southern's ESG report did not mention anything about the ECP brakes or the sensors that were mentioned in the article. The ECP brakes brought up in the article were found out to be way too costly for their potential benefits, but the sensors were very cheap for the benefits they would provide. The sensor apparatus would only cost around \$400 to \$900 dollars per railcar. Rail companies still did not want to spend the money to put these systems in. The sensor probably would have caught the wheel bearing overheating before the derailment occurred. Not implementing some of the safety features mentioned in the article might have cost Norfolk Southern a lot of money and lives.

The derailment in East Palestine has been severely detrimental to the surrounding ecosystems. At a minimum, 43,000 aquatic animals have died as a direct result of the toxic spill. Outdoors.com reports, "So far, no endangered species have been found dead, but all these smaller animals serve as critical food sources for birds, larger fish, and other wildlife, including the threatened hellbender salamander. Right now, some experts fear that it's not just one aquatic ecosystem that's at risk of collapse — it's the whole watershed." The local residents definitely

share this sentiment, as many are avoiding the well water and taking their kids out of school, if not leaving the area entirely. This flight is negatively impacting the home values of the area. A local news station reports at least one instance of a bank refusing a home loan for someone trying to buy in the area, as well as many people who are trying to leave the area struggling to sell. (WKBN 2023) With so many acute side effects as well as the potential for a slew of long-term consequences, the question of who is responsible to fix this issue is raised. How do you determine the financial compensation for the effect on the housing market? Or the medical effects that are felt in 20 years? The general consensus, and mandate from the Environmental Protection Agency, is that Norfolk Southern is solely responsible for paying to clean the contaminated soil and water, as well as paying the EPA for their cleanup costs. (Washington Post 2023) When it comes to the human effects; however, the answer may not be quite as clear. Currently, Norfolk is giving \$300,000 to the local school district, \$825,000 to the local fire department, and states its total responsibility is close to \$8 million. There is speculation about whether this is truly enough compensation. CNN reports, “The company revealed Wednesday during a conference call with investors that it has as much as \$1.1 billion worth of liability insurance coverage that it can draw upon to compensate third parties for losses caused by the accident. It also has about \$200 million worth of insurance coverage to cover damage to its own property, such as tracks or equipment.” When Norfolk has the capability to give East Palestine up to \$1.1 Billion, but they are choosing to commit only \$8 million, there is a huge lack of awareness on their part. The optics of this monetary gap will only further damage their reputation in the media. The easiest way to determine the compensation for the people of East Palestine is for those people to decide themselves. A class action lawsuit would effectively provide Norfolk with a concrete number to repay, other than their bill from the EPA. The lawsuit could stipulate

the creation of a payable to the city to be paid over a number of years, or provide a large lump sum amount to then be paid out to individuals by the city.

Another facet of the compensation issue is the great profits their shareholders are projected to receive this year. In March, Norfolk announced their plan to repurchase \$10 billion worth of their shares. When a company repurchases its own shares, it decreases the number of total shares in the market, subsequently increasing the price of the remaining shares. Currently, they still have \$7.5 billion left to repurchase under that plan. Furthermore, they paid out dividends totaling \$4.6 billion to their shareholders in 2022. (CNN 2023) If they continue on their share repurchase plan, they will pay out even more dividends to their shareholders in 2023, despite paying out to East Palestine. The ethics of that decision become unclear; it seems morally incorrect that their shareholders would reap such a large profit, thousands of times what they have given to the city that they destroyed. Of course, as a business, Norfolk cannot afford to disregard profits despite this tragedy as they have to continue to be able to function. They definitely will not be reaching their repurchase profit goals regardless of the timeline, as their stock prices have steadily dropped since the train derailment on February third. (MarketWatch 2023) Their second train derailment as of March 4th, also in Ohio, will only further this issue and the scrutiny they will be under. Considering their stock prices will most likely continue to plummet, they should consider repurchasing even more shares than previously projected, in an attempt to mitigate some of these losses.

### **Reparations, Dividends, and the Need to Reconsider**

Seeing as though the estimated total amount of compensation that Norfolk Southern needs to pay tends to exceed the estimated \$8 million of damages determined by Norfolk Southern, Norfolk Southern must do more to pay its reparations, especially since it has only

contributed approximately \$7 million. The reasoning behind this is that the contributions made towards East Palestine are still short of what damages were done. While Norfolk Southern deems the number of damages to what it believes the value should be, it fails to consider the value of the damages to the citizens, which shows a lack of empathy and compassion, especially since Norfolk Southern is repurchasing stock and giving out hefty dividends to shareholders. So, when asked the question should shareholders of Norfolk Southern be rewarded in light of recent events the answer is simply yes. Merriam-Webster defines a shareholder as “one that holds or owns a share in property.” To put it in simpler terms, a shareholder is nothing but a stockholder of a company who invests his or her money into stocks to gain a return. Choosing to be a stockholder of a company makes one responsible for conducting great research such as examining past financial statements, computing ratios such as price-to-earnings ratios, and determining the overall value of a company in order to reap benefits later on. However, what a stockholder is directly not responsible for is the moral corruption of executive officers who choose to not give money to those in need despite the company having an abundant amount of money. With that being said, shareholders should not be punished for something they had no direct control over. In addition to this, seeing as though Norfolk Southern is currently repurchasing a significant amount of its shares as treasury stock, this overall reduces the voting power of shareholders in certain decisions affecting the company. While one may argue that shareholders are eligible for a higher return during this process, one must also realize that this results in shareholders’ opinions and voices being heard less because of voting power in situations such as the previous derailment. This proves evident as an article(Investor.gov) revolving around the topic of shareholder voting states “Shareholder voting rights give you the power to elect directors at annual or special meetings and make your views known to company management and directors

on significant issues that may affect the value of your shares.” Since Norfolk is still in the process of acquiring more treasury stock, shareholders will have a difficult time in sharing their inputs and thoughts about previous decisions such as those related to spending that could have prevented the recent derailment. Because of this, shareholders should still be rewarded as they had nothing to do with this and because they have no final input in what happens in business operations.

In order to prevent situations such as the previous derailment in the future, Norfolk Southern must take into account many factors. A certain type of factor, in this case, would be a financial reporting risk related to this event. One financial reporting risk from this event would be simply not reporting the train derailment in East Palestine. Shareholders not seeing this in the annual report and having to find out about it on their own can prove to be quite detrimental. This can result in the stock price of the company plummeting, a decrease in the number of shareholders, a feeling of untrustworthiness towards the company by the general public, and even the company paying a fine to the U.S. Securities and Exchange Commission for the lack of information. In addition, another financial reporting risk in this situation would be not reporting the actual damages at a value determined by a third party or citizens of East Palestine instead of a value solely determined by Norfolk Southern. This could result in an overstatement of net income, an understatement of expenses, and a decrease in earnings-per-share in the next annual report. "The railroads are quick to point out their lack of funds to provide adequate staffing, paid sick leave and improved safety, yet they have billions of dollars to spend on stock repurchases," is a statement said by Eddie Hall, national president of the Brotherhood of Locomotive Engineers, the industry's second-largest union behind the one that represents conductors.(CNN Business). In light of this statement, audit procedures that should be performed should include



establishing a baseline with the safety benchmark in the previous annual report to see what can be improved in response to current times, calculating the change in staffing and benefits, and even calculating the change in the number of treasury stock from the previous year. With the derailment in mind, it should be reported in the company's income statement as an unusual loss as the event resulted in compensation that needs to be paid out to those affected in the tragedy. While this will also be placed in the footnotes of the annual report, certain financial statement line items that should be used to account for the current and future ramifications of this event should be compensation and benefits, materials and others, and the amount of common stock net of treasury shares. This is evident because of the recent examination of Norfolk Southern's previous 10-K.

**Case Study #5**

Bank Failures

05 April 2023

This week, students were tasked with analyzing many forms of media to learn and be able to form an opinion about the recent bank failures that have occurred. In class, students read articles and watched videos that summarized the Silicon Valley Bank failure and discussed their findings with their peers. Then, I analyzed the role that the United States Government played in the situation and found three key parts. First, the Federal Reserve's monetary policy and increasing interest rates have placed a large stressor on the banking system. Secondly, the president's and Congress's fiscal policies encourage spending far beyond what they currently possess. Lastly, President Biden's bailout of SVP when the same cannot occur for other banks should they also fail.

Next, I looked at the accounting practice as a whole and tried to determine the ramifications this audit failure would have on the field. KPMG was SVP's auditor and they either entirely missed or entirely ignored many factors that were pointing toward a potential failure. Either way, their relationship to the issue is causing auditors across the country to be placed under scrutiny. There have even been discussions about new standards and practices being created specifically for the handling of held-to-maturity investments.

Finally, I reflected on my own opinions of how the bank failures occurring might affect my career as an accountant. Regardless of practice, new standards would have an impact on my learning and work, but as I plan to go into tax I am not as worried as someone who might be going into audit would be. One consideration I have is that I hope to enter the sphere of banking one day and any new accounting standards may fully change that industry.

The failure of Silicon Valley Bank in California and, shortly after, Signature Bank in New York, are two of the largest bank failures since the 2008 market crash. Not only has this

raised several financial questions, but also has shaken general confidence in the U.S. banking system. With many people projecting since even 2020 that a recession would soon affect the country, these bank failures seem to be a major warning sign that it is not far out. With inflation on the rise, the real estate market being inflated, and now highly powerful banks falling apart, how can the average American have any confidence in our economic state? The U.S. government has had a major role in these economic woes, and they do not seem to have any answers for us soon. The Federal Reserve has been consistently raising interest rates for a year now and is still raising them more even in the wake of bank failures. (NPR 2023) The Fed is hoping to combat inflation with these raises but is simply placing further pressure on an already strained banking system. They should pause their raising of rates to try and allow banks time to catch up with demands. Raising rates higher will do the average person no good if they lose their money in a bank failure. Furthermore, the Executive Office as well as Congress need to take a hard look at their current fiscal policies. I am a strong supporter of funding items such as education, affordable housing, and social security, but when the President's salary is \$400,000 and members of Congress's are \$174,000 with majority-minority leaders making \$193,400. (US SENATE) Before cutting programs that help the underprivileged, politicians should cut their pay and budgets. Being a politician has become too fun of a job, causing some members of our government to forget they are public servants. When I was an intern for a senator, I made \$7.50 an hour, even though I was the one speaking to constituents. Furthermore, as fewer and fewer Americans have faith in our government, cutting their salaries would do wonders for PR and optics. It would show the public that our leaders do care about us and recognize our economic struggles. Furthermore, President Joe Biden pledged to make the customers of SVP whole again,

something that he cannot afford to do for every bank. (Politico 2023) This undue cost will further impact the budget and decrease trust in the government.

Truthfully, the field of accounting will never be the same after the SVP bank failure. KPMG's inability to find the red flags, or report them, causes its reputation to hurt incredibly. In a Beta Alpha Psi meeting, the CEO of FORVIS Tom Watson spoke on how one audit mistake in one firm then causes clients to lose trust in all firms. This is true with the bank failure. Unfortunately for KPMG, they have been in the news more than they probably want to recently. In February, they laid off 700 people from their advisory practice, one of the first firms to acknowledge the effect of the economy on their bottom line by doing so. In response to the bank failure, many firms are reviewing their processes and considerations as they relate to the banking industry, mainly those regarding held-to-maturity investments which were a key issue for SVP. For example, Deloitte published on their website a comprehensive insight into the factors they consider when issuing an audit opinion and provided a timeline of events that explains SVP's demise. (Deloitte 2023)

Personally, this situation does not change my viewpoint on my career very much. I plan to be a tax professional and have considered going into banking one day but not any time soon. However, my roommate works at a bank, so I am very concerned about her job security as more banks are projected to fail. The main difference that concerns me with the accounting field is the likelihood of new standards and practices being put into place. New standards need to be issued. If one of the world's largest auditing firms can have a mistake this big, something needs to change. I believe there needs to be a greater liability for firms passing clients through on an audit when there is a likelihood they will fail.

**Case Study #6**

Financial Crisis

12 April 2023

This week, we were asked to watch the movie "Inside Job" (2010) and read an article from Rolling Stone titled "The Great American Bubble Machine". The movie was one I have been wanting to watch for quite some time, so I was very excited for this assignment. "Inside Job" (2010) is a documentary that thoroughly details the different factors and people that contributed to the 2008 financial collapse. I remember the market crash very vividly. I was only seven years old, but I remember hearing my parents talk about our financial situation every single night. I watched my father sigh every time he went to buy gas. My family had to move out of state for years so that my father could keep his job. His company even bought our house when we moved because everyone knew we would not be able to sell it on our own. This assignment is the first time that I learned in depth about what caused the crash. Previously, all I had ever been told was that it was due to mortgage lenders inflating the market. The number of different factors is impressive and even more amazing is how far so many issues got before any higher-up determined it was a problem.

What the material we consumed this week solidified for me, is my total skepticism of this country's current economic situation. The fact that everyone in Washington, D.C. can be bought and paid for, despite how much they tell you otherwise, is enough to tell me that I cannot trust the government to have my best interests in mind. Furthermore, the material also gave me little faith in the financial institutions to do the same, something to keep in mind as I enter the field of accounting. Ultimately, learning all of the factors that led to the eventual market crash reminded me greatly of what I see happening in our country today. One can only hope that the government will step in before too many Americans are hurt.

The movie and the article did not change my beliefs about financial institutions and the government, but in fact, solidified them. I have always been wary of politicians and

governmental institutions due to believing that we have a "pay to play" system in America. The materials simply confirmed that belief. I found "Inside Job" (2010) interesting because of the interviews they were able to include in the documentary. I appreciated the decision to include which people declined to be interviewed because I feel that it is very telling of how they feel about their actions with the 2008 market crash. I do not fully understand the stock market or any of those more abstract financial institutions, but I do understand that defrauding your clients is morally reprehensible. Goldman Sachs's actions were simply egregious and unforgivable. The article states, "It fucked the investors who bought their horseshit CDOs by betting against its own crappy product, then it turned around and fucked the taxpayer by making him pay off those same bets." (Rolling Stone) A very strongly worded statement, but the situation warrants the language. For Goldman Sachs to commit fraud to the extent that it did, and then face very minimal consequences is insane. It makes you lose all hope in the government and any regulation they ever promise. Letting Goldman Sachs off as easily as they did tells every single taxpayer and constituent that their well-being does not mean a thing to the government. At the end of the day, I just wish I could know how much they are paid out by the companies and countries they take from. My curiosity just wants to know what the price tag is on selling out your nation and its people.

Personally, the material was very disheartening for me. It shows just how much influence wealthy corporations have over our political landscape. I know I could never even dream to see a wealth of that capacity, meaning I will always be the influence, not the influencer.

Professionally, it makes me nervous. So many accountants, auditors, and bookkeepers had to have known about the fraud and the risk, yet, they did not say anything until it was too late.

Situations such as this, and the recent Silicon Valley Bank collapse, highlight how important it is



for accountants to speak up when they see something wrong or concerning. What scares me, is how frequent it seems to be for that to be necessary. I hope to never be placed in a situation where I risk my job by speaking up for what is right. Of course, I always will. That does not make it any easier to do though.

Our current landscape is looking eerily similar to that of 2006-2008, just in a different genre. Recessions are similar to biblical plagues in that there are a few hallmark signs that the economic situation will soon be bleak. First, the housing market was out of control in 2021 and into 2022. While things have settled down some now, the current average price of a home in the U.S. is \$535,800, leaving many people completely unable to buy a home. (FRED) Next, we saw a dramatic upswing in gas prices in 2021 and 2022. In June of 2022, the national average gas price was \$5.032 per gallon. (EIA) That too has settled, but it was a major problem for many people across the country for a long time. Right now, the average person is feeling the effects of intense inflation. Everything you could hope to buy is now much more expensive than it was just a year or two ago. Personally, my grocery bill went up by 30% despite my efforts to buy cheaper goods. The final, and most important, harbinger of destruction is the bank failures being seen across the country. Silicon Valley Bank's failure was a major nail in the coffin for our economic system, especially with President Joe Biden using taxpayer dollars to bail them out. Many financial experts and economists have been reporting the likelihood of an oncoming recession, confirming what many Americans feel in their pocketbooks. Hopefully, this time around the government will use the 2008 crash as a blueprint on how to better respond. As of right now, they are not doing a great job of that as the Federal Reserve hikes interest rates regularly. Hopefully, before the country hurts too much, they will have a more meaningful intervention and lower interest rates.

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