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An Examination of Accounting Through Case Studies

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AN EXAMINATION OF ACCOUNTING THROUGH CASE STUDIES

by
Jacob Maschhoff

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
May 2023

Approved by



Advisor: Dr. Victoria Dickinson



Reader: Dean W. Mark Wilder

ABSTRACT

JACOB BRENT MASCHHOFF: An Examination of Accounting Through Case Studies
(Under the direction of Dr. Victoria Dickinson)

This thesis consists of ten case studies that are focused on the principles and standards of financial accounting. The case studies were assigned by Dr. Victoria Dickinson and completed under her guidance throughout the course of Honors Accountancy 420. During the first semester of the class, Dr. Dickinson provided five unique prompts that explored current events and relevant topics within the professional world of accounting. We were able to sharpen our accounting and research skills as well as gain knowledge about potential career paths and opportunities within accounting. Throughout the second semester, we completed five more case studies pertaining to Tyson Foods, Inc, and the work was done in groups. Our group devised tax, audit, and advisory plans for Tyson in order to increase savings, decrease risk, and promote growth. At the end of the semester, we presented our findings and our strategies to tax professionals from across the country. The professionals evaluated our research and provided valuable feedback to strengthen our plans. The research and case exhibition allowed us to become extremely knowledgeable about Tyson's business structure and operations; our work also simulated the services that professional accountants provide their clients on a daily basis. Because of this, I have gained valuable, real-world experience throughout the course of this thesis.

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University of Mississippi

Case One:

102 Minutes That Changed America

Jacob Maschhoff

ACCY 420: Honors Professional Research

Dr. Victoria Dickinson

15 Sept. 2021

Executive Summary

Most Americans, including myself, are very familiar with the devastating attacks that occurred on September 11, 2001, but it is not often that I have actually taken the time to reflect upon the events of that day and tried to explain how such an unexpected tragedy makes me feel. In the documentary, *102 Minutes That Changed America*, I watched as bystanders provided first-hand accounts and footage of that day. The purpose of this first case study is to describe the feelings I experienced as I witnessed the shock and terror of that morning from the perspective of everyday people on the streets of New York City. I will also highlight any occurrences from that terrible day that genuinely made me stop and think or caught me off guard.

Opportunities to Learn

Oftentimes, it is difficult to put your feelings into words, especially when dealing with a particularly intense or delicate subject. This statement is especially true for myself; I have never been one to open up about my feelings or show much emotion. With that in mind, I expect my biggest opportunity for growth throughout the course of this case study to be improving my ability to express my feelings on a deeper, more connected level. The subjects and feelings that I will be discussing in this paper are very heavy, and I realized, if I do not learn how to verbalize and unload thoughts such as these, they will only weigh me down. This particular case study and its free-flowing nature should benefit me tremendously in this area as it will encourage me to be more open about expressing myself and my feelings. Another source of learning will possibly come in the form of philosophical knowledge. As I think more deeply about the overwhelming loss of life from that day, I think I will learn to appreciate and place higher value on my time on a day-to-day basis. Ultimately, I should strive to make the most of every moment I am given in this world because I never know when my journey may come to an end.

102 Minutes That Changed America

Think of one word that describes what the world, what America, and what New York City was feeling after witnessing or experiencing the deadliest terror attack in world history. Can it be done? Is it even possible to capture such a myriad of tragedies with one cohesive feeling? September 11, 2001, is a date that changed America forever, and it is a date that Americans will certainly never forget. Being only eight months old at the time of the attack, I have no recollection of the devastation from that day. My only knowledge of what happened comes from what I have learned, whether that was from school, from my parents, or from the documentaries that flood the air every year on that date. Up until this point in my life, also the 20th anniversary of that somber day, I have never stopped to seriously consider the deep feelings that arise within me as I watch the events of September 11th unfold. Before now, the only emotion I chose to feel as I watched the towers collapse was anger: anger that someone would do that to innocent people, anger that the fight against these terrorists has essentially proved futile, and anger that we cannot change what happened on that dark day. However, as I watched the documentary, *102 Minutes That Changed America*, I focused on moving past that feeling of anger in an attempt to gain a deeper understanding of and connection to the misfortune of that seemingly normal morning in New York City.

The time is 8:46 a.m. in New York, and the first hijacked plane had just struck the North Tower of the World Trade Center. Something that I did not realize until watching this documentary was that people in their homes and on the street did not realize what truly happened until a considerable amount of time had passed. Many people thought there was an explosion inside the tower, while others thought a small charter plane had accidentally crashed into the side of the tower. The uncertainty sparked a guessing game that only added to the chaos of that

morning, and in a moment of deeper thought, it stood out to me that some people perished never knowing what happened. Another small detail from the documentary that struck me deeply was the clip of a woman calling her parents to let them know she was safe. Although this may seem like an obvious and meaningless occurrence, I came to the realization that some children, parents, siblings, and spouses never got to answer that call, and some loved ones never got the closure they were seeking. I am very close with my family, and I think I was drawn to this minute aspect of the documentary because of the high value I place on family.

The time is now 9:03 a.m. in New York, and the second hijacked plane just crashed into the South Tower of the World Trade Center; everyone watching now comprehends that these tragedies are not accidents. Another theme that stuck out to me in this documentary was the idea that just as onlookers thought the situation could not get any worse, it would get much worse. The South Tower gets hit after the North Tower does; people are throwing themselves from the towers and falling debris is injuring bystanders on the street below. Shortly after all this, the South Tower collapses, followed by the North Tower. Not to mention, while this was going on in New York City, two more hijacked planes were crashed, one into the Pentagon and one into a field in Pennsylvania. This all illustrates a major recurring theme: the feeling of helplessness that people must have been feeling as they followed the events of that morning; the worst possible scenario only continued to get worse and worse.

The feeling of helplessness also applied to those caught in the higher floors of the towers, the dispatchers, and the first responders. I cannot imagine being trapped on one of the top floors of those towers knowing that there is no way out. Additionally, a critical job that I had overlooked until watching this documentary was the role of the dispatchers, who were fielding constant calls from individuals who were trapped in the towers and had no idea what was going

on. Imagine being in the shoes of these dispatchers as they spoke with those trapped in the towers moments before their deaths. Although they knew the situation was bleak, they remained calm, never gave up, and continued to help those left in the towers, knowing they had another call waiting for them after they hung up. Furthermore, think about the firefighters who rushed into the burning towers, knowing that the buildings were unstable and could collapse at any moment. Something else I did not realize is that these same first responders were also unsure of whether they could get water high enough in the towers to extinguish the fire. A scene such as this one demonstrates the ultimate definition of helplessness, and yet, this adversity did not stop them from performing their duties to the best of their abilities. I know this goes without saying, but these men and women exhibited the utmost courage and selflessness that morning, and their efforts were beyond admirable.

The last example of helplessness that I observed from the documentary refers back to those citizens of New York City who were unsure of what would happen next. Because the documentary is centered around first-hand footage from different areas of the city, I was able to grasp just how helpless residents were as they tried to decide whether evacuation was necessary. A large portion of the citizens' helplessness was caused by the chaos and spread of false information. For example, many individuals and families decided to leave their homes because they believed these attacks were coordinated to occur every half hour. Others stayed behind too long and were forced to outrun the impending cloud of dust and debris that quickly engulfed the city. In either case, families were displaced for weeks, as the dust and debris had made their homes uninhabitable, which is actually something I was not aware of until it was mentioned in class. It was in this aftermath that the outlook for the future seemed the bleakest, and it was at

this point that New York City and the country were at their lowest point. In spite of all the negativity, from the ashes of destruction, a stronger and more united America rose up.

While it may not seem true, the deadliest terrorist attack in world history could have been much worse. On the morning of the attacks, New York City was holding a mayoral primary, meaning many people who would have normally been at work in the World Trade Center were at the polls casting their ballots. This simple coincidence saved hundreds, if not thousands, of lives that day. Others were not at work simply by chance that day; for example, one man in the documentary tells his mother he is not at work because he stayed up late watching Monday Night Football, causing him to oversleep. It was little chance happenings such as these that saved countless lives that Tuesday morning. However, many of these people who were absent from work lost friends and co-workers, and they must now live with that “what if” feeling. What if I did not oversleep? What if I had not taken a vacation day today? What if I was not transferred to a new office last month? It was certainly a blessing to be saved by happenstance, but questions such as these do not go away easily, and the mental toll they have on a person should not be dismissed. I am aware that trying to find miniscule positives does not make what happened any better, but we do have to recognize these facts and be grateful that more lives were not lost.

The tragedies of September 11, 2001, undoubtedly had a lasting impact on our country that changed the identity of America in a few different ways. The most positive change was the fact that, for the first time in some time, America was very noticeably reunited. The perseverance and resilience of our country was heavily tested in the weeks following the attack, but ultimately, we rose out of the ashes stronger than before. Also, another positive is the heightened airport security that ensures an attack like this does not happen again. On the other

hand, the aftermath of the attack is still affecting our country in more negative ways, as well. The documentary features a heavy amount of raw emotion as people on the street react to what they are seeing and finding out. For example, there was a clip of an older gentleman telling the camera that he believes we should just bomb the Middle East until there is nothing and no one left. Unfortunately, these snap reactions and raw emotions have evolved and possibly caused some stereotyping, especially against those of Middle Eastern descent. Likewise, many of the decisions that were made to combat terrorism after September 11th still affect our foreign policy and relations in the Middle East to this day. Whether it be positive or negative, it is evident that the current trajectory of America was heavily influenced by the events that took place on September 11, 2001.

A more thorough and focused reflection upon the events of September 11, 2001, has provided me a better understanding of my feelings towards what happened that day. As someone who has never been especially interested in or adept at sharing their feelings, I was pleasantly surprised with my ability to express myself and with how free-flowing my thoughts became. Throughout the course of this first case study, I came to the realization that I was better able to accept and understand new feelings when I allowed myself to think about something other than my anger towards the terrorists who carried out the attack. Of course, this anger is still present in some capacity, but I was able to put it aside and open my mind to these other feelings. Opening my mind in this way allowed me to pick up on more subtle details surrounding September 11th, and because of this, my cognizance of the events of that day have been heightened. All in all, it is impossible to summarize my feelings about the attack into one cohesive word or thought. We cannot change what happened on that Tuesday morning in New York City, and this kind of thinking may resemble the helplessness that I previously discussed at length. However, we can

continue to honor the innocent lives lost that fateful day for future generations to come so that this tragedy is never forgotten.

University of Mississippi

Case Two:

Design Your Life – St. Louis

Jacob Maschhoff

ACCY 420: Honors Professional Research

Dr. Victoria Dickinson

6 Oct. 2021

Executive Summary

I have always told myself that finding a job and finding a city to live in after college were decisions for the distant future, but in reality, these are weighty decisions that I will have to make before this school year is over. Because of my hometown's close proximity to St. Louis, Missouri, and my familiarity with this city, it is a destination in which I have always seen myself working after college. However, I have never taken much time to sit down and extensively research the pros and cons of working or living in this city. The purpose of this second case study is to explore specific details of St. Louis in order to get a feel for the city and decide if I can see myself accepting a job there. I will also map out a plan and model what my life would look like if I were to work in this city after college. Whether I work in St. Louis for a few years or a few decades, this is a commitment with major bearing upon the rest of my career and the rest of my life, so it is absolutely crucial that I make an informed and educated decision.

What I Learned

A more thorough examination of St. Louis and the specific facets of everyday life within it has eased my mind more than it has raised concerns. If anything, I am now more optimistic and more excited about working in St. Louis after college. Besides being less than an hour away from my family, for its size, St. Louis is home to a substantial number of large corporations in a wide variety of industries. Furthermore, commuting to and from work would be convenient, and it would allow me to find cheaper housing on the Illinois side of the Mississippi River, as well as keep my car. However, the high rate of crime in certain areas of the city is the biggest downfall and is certainly cause for concern moving forward. All in all, I have come to the conclusion that the positive aspects of working in St. Louis more than outweigh the negative aspects, and more importantly, the city seems to align very well with the kind of lifestyle that is suitable for me.

St. Louis

Logan Moll and Jacob Maschhoff



Photo Credit: [pexels.com/featured](https://www.pexels.com/featured)

Scenery and Geography

- Located next to the Mississippi River
- Mostly low hills and floodplains



Photo Credit: [wikiarquitectura.com](https://www.wikiarquitectura.com)



Photo Credit: [stlmag.com](https://www.stlmag.com)

- Gateway Arch
- Forest Park
- The City Garden
- Tower Grove Park
- St. Louis Botanical Gardens

Climate

- Cold winters
 - Occasional snow/ice
 - Warm summers
 - Humid
 - Above average rainfall, especially in Spring
- Grew up in this climate
 - Very similar to Oxford's climate
 - Very accustomed to handling this kind of weather



Photo Credit: explorestlouis.com



Photo Credit: thevoice.com

Prevalent Industries

- Aviation
- Biotechnology
- Chemicals
- Electrical Utilities
- Food and Beverage Manufacturing
- Refining
- Research
- Telecommunications
- Transportation



Photo Credit: anheuser-busch.com



Photo Credit: glassdoor.com

¹www.city-data.com/us-cities/The-Midwest/St-Louis-Economy.html

Five Largest Corporate Headquarters

1) Centene Corporation

- a) Healthcare
- b) No. 24 on Fortune 500 list

2) Emerson Electric

- a) Engineering Services
- b) No. 181 on Fortune 500 list

3) Graybar Electric

- a) Communications Distribution
- b) No. 399 on Fortune 500 list

4) Ameren

- a) Electric and Energy Services
- b) No. 469 on Fortune 500 list

5) Post Holdings

- a) Packaged Food and Goods
- b) No. 474 on Fortune 500 list



¹fortune.com/fortune500/2021/search/

Photo Credit: ncil.org

Transportation Hubs

- Airports
 - St. Louis Lambert International Airport
- Bus Service
 - MetroBus
- Subway
 - MetroLink
- River Transport
 - Port of St. Louis - Over 100 docking facilities for barges
- Railroad Service
 - Passenger - Amtrak
 - Freight - Union Pacific, Norfolk Southern, etc.
- Taxicab Service
 - Private Companies

¹ www.metrostlouis.org/fares-and-passes

² www.amtrak.com/st-louis-attractions



Photo Credit: fox2now.com



Photo Credit: metrostlouis.org

Traveling Home

Logan

- Mode - Car
- Cost - \$5 (Gas money)
- Time - 30 minutes

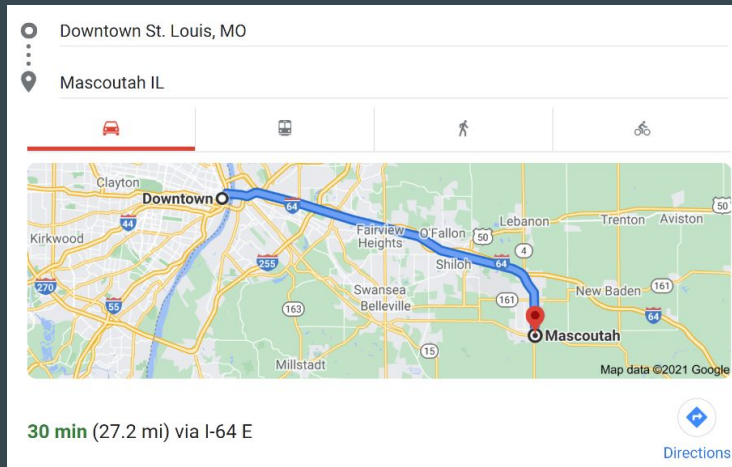


Photo Credit: Google Maps

Jacob

- Mode - Car
- Cost - \$10 (Gas money)
- Time - 50 minutes

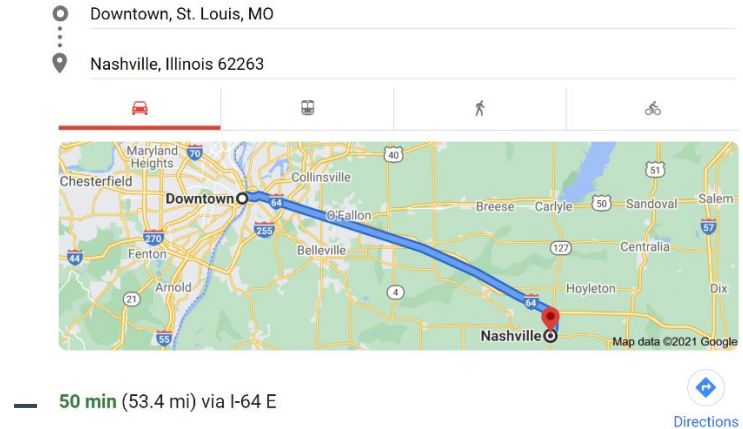


Photo Credit: Google Maps

Housing and Rent

- Location

- 1212 Chancellor Drive
- Edwardsville, IL 62025
- Great area/safe neighborhood

- Costs

- Rent- \$1,650 per month
- Need a third roommate
- \$550 per roommate per month
- Cost of utilities not included

- Details

- 2,072 Square Feet
- 3 beds / 3 baths
- No pets allowed

- Amenities

- Washer and dryer included
- Garage and street parking
- Finished basement
- Newly remodeled
- Vaulted living room
- Fireplace
- Large backyard and patio area
 - Lot size - 6,098 Square Feet

¹ www.zillow.com/homedetails/1212-Chancellor-Dr-Edwardsville-IL-62025/4949546_zpid/

Sample Property Pictures



Photo Credits: zillow.com

Commuting

- Mode of Transportation
 - Car
- Commute Time
 - 30 minutes
 - Traffic would not be bad until reaching downtown
- Cost
 - \$5 (Gas)

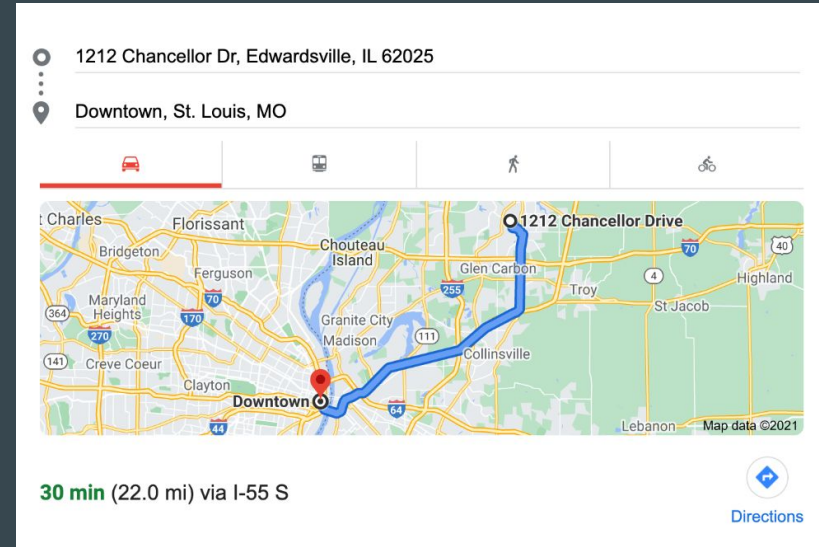


Photo Credit: Google Maps

Community Involvement

Logan

- Connections to Success
- Happy to Give
- St. Louis Community Foundation
- Jayson Tatum Foundation



Photo Credit: facebook.com

Jacob

- Jayson Tatum Foundation
- Rotary Club of St. Louis
- CityArchRiver Project
- United Way of Greater St. Louis



United Way
of Greater St. Louis

Photo Credit: stlvolunteer.org

Entertainment

- Sports
 - Cardinals baseball (“Baseball Heaven”)
 - Blues hockey
 - St. Louis CITY FC soccer (coming in 2023)
 - Topgolf
- Gateway Arch
 - 630-foot ride to the top
 - Underground museum
 - Riverfront and paddle-wheel boat cruises
- Bars/Nightlife
 - Ballpark Village
 - Laclede’s Landing
 - Paddy O’s



Photo Credit: twitter.com



Photo Credit: loewshotels.com

¹explorestlouis.com/25-things-to-do-in-st-louis/

Entertainment

- Union Station
 - The St. Louis Wheel
 - Aquarium
 - Mini-golf
 - Restaurants
- Soulard Farmers Market
 - Founded in 1779
 - More than 140 vendors
- Saint Louis Zoo
 - Free admission
 - One of the nation's leading zoological parks

¹explorestlouis.com/25-things-to-do-in-st-louis/



Photo Credit: makemytrip.com



Photo Credit: pinterest.com

Entertainment

- Anheuser-Busch Brewery
 - Tours and tastings
 - Clydesdales
 - Biergarten
- Six Flags St. Louis
- City Museum
- Casinos
- Concerts



Photo Credit: eonline.com



Photo Credit: travelmidwestmag.com

¹explorestlouis.com/25-things-to-do-in-st-louis/

Crime

- Ranked 4th most dangerous place to live in America
- Violent Crimes
 - 5,792 crimes in 2019
 - 194 murders
 - 1,475 robberies
- Property Crimes
 - 18,645 crimes in 2019
- Avoid North and East St. Louis

U.S. cities with the highest crime per capita

St. Louis has the highest crime per capita, according to 2015 data from Uniform Crime Reporting. The city also had the highest number of homicides per capita.

City	State	Population	Crime per capita	Homicides per capita
St. Louis	Missouri	317,095	1,817	59
Detroit	Michigan	673,225	1,760	44
Birmingham	Alabama	212,291	1,746	37
Memphis	Tennessee	657,936	1,740	21
Milwaukee	Wisconsin	600,400	1,596	24
Rockford	Illinois	148,178	1,585	13
Baltimore	Maryland	621,252	1,536	55
Little Rock	Arkansas	198,647	1,485	16
Oakland	California	419,481	1,442	20
Kansas City	Missouri	473,373	1,417	23
Springfield	Missouri	166,860	1,356	6
Stockton	California	304,890	1,352	16
Indianapolis	Indiana	863,657	1,288	17
San Bernardino	California	216,477	1,246	20
Washington	District	672,228	1,203	24

Source: UNIFORM CRIME REPORTING

LAUREN WRIGLEY/Missourian

¹ www.thetelegraph.com/news/article/St-Louis-ranked-fourth-most-dangerous-place-to-16329429.php

² www.neighborhoodscout.com/mo/st-louis/crime

Photo Credit: columbiamissourian.com

Healthcare

- Barnes-Jewish Hospital
 - Ranked 11th among nation's best hospitals
- Local Hospital readmission rate - 4.3%
 - National average - 4.4%
- Safety Rating
 - Most received A or B rating
- Hospital-Acquired Conditions (HAC)
 - Decreased again in 2018
 - 5 hospitals penalized for HAC scores

¹www.bizjournals.com/stlouis/news/2018/08/14/st-louis-area-hospital-ranked-among-nations-best.html

²Business Health Coalition, "St. Louis Health Care Industry Overview"

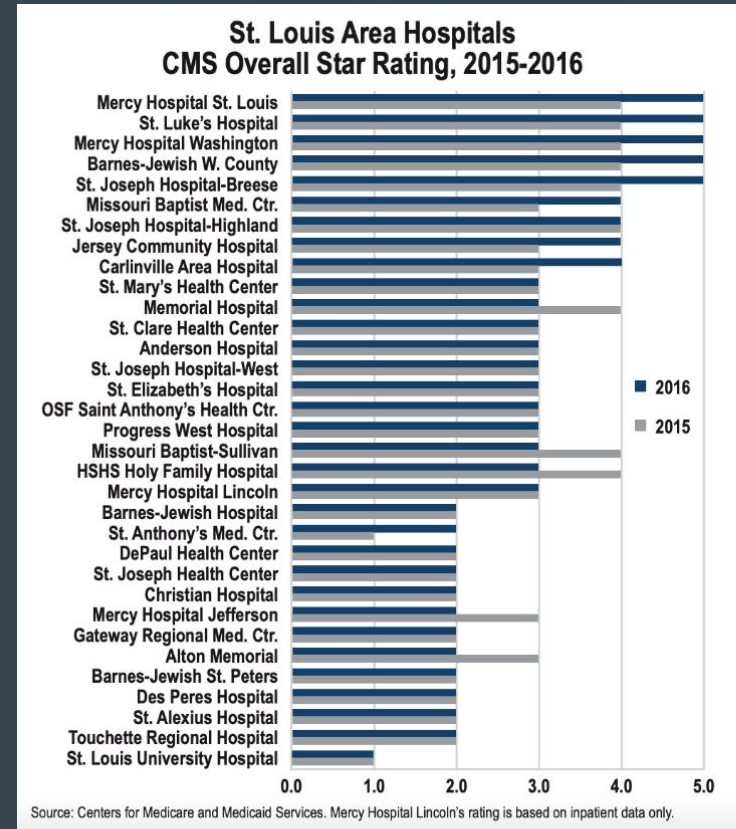


Photo Credit: columbiainmissourian.com

School Districts

- Edwardsville Public School District
 - Ranked 28th in “Best School Districts in Illinois”
- Edwardsville High School
 - Total Enrollment - 2,358
 - Male - 53%
 - Female - 47%
 - Full-Time Teachers - 122
 - 93% Graduation Rate



¹www.riverbender.com/articles/details/edwardsville-ranked-28th-of-404-districts-in-2017s-best-school-districts-in-illinois-17480.cfm

²www.usnews.com/education/best-high-schools/illinois/districts/edwardsville-community-unified-school-district-7/edwardsville-high-school-6711#test_scores_section

Photo Credit: ecusd7.org

Everyday Conveniences

- Shopping
 - Wide variety of options in the area
 - Large chain stores (grocery shopping)
 - Unique small businesses
- Laundry
 - Included in our house
 - Very convenient
- Pets
 - Landlord does not allow pets
 - Did not plan on getting pets
 - No cost for boarding



Tax Rate Information

- Filing Single
- **Living in Illinois**
- **State Income Tax (Illinois)**
 - 4.95% flat rate
 - Exempt from paying Illinois income tax
 - Missouri income tax plus earnings tax in St. Louis is higher than Illinois income tax
- **Local Income Tax (Illinois)**
 - No cities in Illinois charge income tax
- **Working in Missouri**
- **State Income Tax (Missouri)**
 - \$12,550 standard deduction
 - \$279 plus 5.4% of excess over \$8,584
- **Earnings Tax (Missouri)**
 - 1% for the city of St. Louis

¹Brent Maschhoff, CPA, Partner at Krehbiel & Associates, LLC

Tax Rate Information

- Federal Income Tax
 - \$12,550 standard deduction
 - \$4,664 plus 22% of excess over \$40,526
- Social Security Tax
 - 6.2%
- Medicare Tax
 - 1.45%
- Property Tax
 - None - Renting



Photo Credits: reptimbutler.org

Calculated Taxes

- Federal Income Tax
 - \$5,088
- Social Security Tax
 - \$3,410
- Medicare Tax
 - \$798
- State Income Tax
 - \$2,108
- Earnings Tax
 - \$550

Taxes per Year
\$11,954

Taxes per Month
≅ \$1,000

About 20% of our salary

Monthly Operating Budget

- Salary - \$5,000
- Taxes - \$1,000
- Income - \$4,000
- Savings and Investments - \$2,000
- Other Expenses - \$2,000

Monthly Budget	
Income:	
Salary	5,000
Less: Taxes	1,000
Total Income	4,000
Expenses:	
Rent	550
Electric	35
Water/Sewer	20
Gas/Heating	30
Telephone	70
Cable TV	70
Car Insurance	150
Groceries	400
Restaurant Meals	50
Personal Items/Clothes	50
Doctors, Dentists, etc.	50
Entertainment	300
Gas/Auto Expenses	150
Parking	75
Investments	750
Savings	1,250
Total Expenses	4,000

University of Mississippi

Case Three:

Excel Crash Course Certificate

Jacob Maschhoff

ACCY 420: Honors Professional Research

Dr. Victoria Dickinson

14 Oct. 2021



801-750 West Pender Street Vancouver BC V6C 2T8

The Board of Directors of the
Corporate Finance Institute® have conferred on

Jacob Maschhoff

who has pursued studies and completed all
the requirements for the certificate of

Excel Crash Course - Spreadsheet Formulas for Finance

National Registry of CPE Sponsors Number: 139079

Instructional Delivery Method: QAS Self Study

Finance: 3.0 credits.



In accordance with the standards of the National Registry of CPE Sponsors,
CPE credits have been granted based on a 50-minute hour.

Certificate number
180816348

Handwritten signature of Tim Vipond.

Chair of the Board

Handwritten signature of Scott Powell.

Director

Handwritten signature of Lisa Dorian.

Director

Oct 14, 2021

University of Mississippi

Case Four:

The Financial Impact of Covid on Pfizer

Ellen Popple, Amyaha Graham, Edward Francis, and Jacob Maschhoff

ACCY 420: Honors Professional Research

Dr. Victoria Dickinson

27 Oct. 2021

Executive Summary

The entirety of this case was completed in class in a group setting, and we were tasked with completing seven, 20-minute modules relating to the effect of Covid on Pfizer's profitability. Each module focused on a different aspect of how Pfizer's operations, financials, and competitors have responded to the pandemic. We also used a variety of search engines, such as Google, Brave, and DuckDuckGo, to conduct our research. This allowed us to be exposed to a wider scope of information from a wider variety of sources. Along with the paper, our group participated in focused conversation and speculation surrounding Pfizer and the impact of Covid-19. The use of different search engines allowed us to bring fresh perspectives to our discussion, and as a result, our viewpoints on the subject matter were expanded.

What We Learned

Pfizer and other corporations that primarily obtain revenue through the production of vaccines and other pharmaceutical products experienced slight losses during the Coronavirus pandemic, to be followed by large increases in revenue and net profit the following year. These losses can be attributed to research and development costs incurred by the companies as they raced to be the first to release a Covid-19 vaccine. Additionally, a poor global economic environment led to decreases in performance around the world, not only in the pharmaceutical industry. However, as Pfizer and other companies like Moderna received approval from the FDA to release their vaccines to the public, losses were recovered and ultimately these companies performed extremely well due to high numbers of sales.

An interesting fact that our group found was that Pfizer spends millions of dollars every year on lobbying fees. This is particularly fascinating because the President of the United States recently signed into law an Executive Order requiring all federal employees to be vaccinated.

Lobbying efforts by pharmaceutical companies comprise the majority of campaign contributions and undoubtedly affect public policy in the United States. Obviously, Pfizer and its competitors see large returns from these investments into lobbying efforts because the U.S. government has been their largest customer.

While researching these facts, our group encountered many contrasting results when using different search engines. Google produced results oriented towards the government and large companies. This makes sense because Google places search results based on relevance and payment. Other engines, like DuckDuckGo and Brave, offer more independent outlets, such as individual journalists and companies that are not affiliated with larger media companies, while also offering government resources.

Pfizer's Pandemic Performance

Obviously, the Covid-19 pandemic has had a huge impact on business and will continue to have a huge impact into the future. More specifically, Pfizer has been a big player in the process to roll out a vaccine and fight Covid-19. In turn, their financials have certainly been impacted in a mostly positive way. Revenues for Pfizer increased by 2 percent (\$736 million), but their net income decreased from \$16,273 million in 2019 to \$9,616 million in 2020. This is in great part to the new vaccine they developed, but it is important to note that they were losing money in many other areas of their business. Many of their services require office visits, which have not been possible during the pandemic. Also, much of Pfizer's focus turned towards research and development during this time, which left decreased time and resources for other areas of their operations. An interesting piece of information from their report stated that Pfizer has not experienced supply chain interruptions during the pandemic, and they have continued to operate at near normal levels. We are very curious to see if this changes in 2021.

Outside Perspective on Pfizer

A closer look at outside perspective on Pfizer's financial performance during the pandemic shows topics that were not given much attention in their annual report. For example, a search on Brave pulls up a plethora of information about vaccines being recommended for younger children. Because of this, the Covid-19 vaccine is expected to make up more than half the revenue for 2021. During the first half of 2021, Covid-19 vaccine sales added \$11.3 billion to the company's top line, and it is projected that Pfizer will bring in \$33.5 billion in Covid-19 vaccine sales for 2021. Additionally, a search on Google mentions that potential vaccine profits are harder to estimate for Pfizer, and the Covid-19 booster shots could be more profitable than the original doses of the vaccine. This is because the company will not have to worry about large expenditures on research and development. Lastly, a quick browse of DuckDuckGo explains that Pfizer experienced a \$500 million negative effect on revenue because of the pandemic. It also mentioned that their earnings per share for 2020 decreased by 7.3 percent. All in all, it was very interesting to observe that each search engine returned useful, yet differing, perspectives on how Pfizer has been impacted by the pandemic.

Alternative Therapeutics

An aspect of the pandemic that might negatively affect Pfizer and revenues from Covid-19 sales is additional therapeutics. Therapeutics such as Hydroxychloroquine and Ivermectin have arisen as popular alternatives for Covid-19 treatment. Both Google and DuckDuckGo returned information mentioning an oral protease inhibitor that is being developed and could be prescribed at the first sign of infection, which would not require patients to be hospitalized. The DuckDuckGo article states that this new inhibitor functions very similarly to Ivermectin, and it possesses many of the same qualities. However, an article on Brave completely contradicted this

statement. In the Google article, Pfizer specifically mentions that they are developing their own oral protease inhibitor, but they recommend that it should be used as a complement to the Covid-19 vaccine. Another alternative, Hydroxychloroquine, is very cheap in comparison to other treatments for Covid-19, but it has very negative feedback and strong opposition on Google. However, according to DuckDuckGo, Australia experienced an almost 100 percent increase in Hydroxychloroquine sales at the beginning of the pandemic. The speculation around alternative therapeutics has certainly begun to increase and challenge the vaccine as a standalone treatment.

Pfizer's Opinion on Alternative Treatments

Alternative treatments threaten to cut into Pfizer's sales of the Covid-19 vaccine. What is their response? According to an article on Pfizer's website, the company has begun developing their own oral inhibitor as an alternative method to fight Covid-19. Is it truly an alternative, though? Pfizer goes on to recommend that this inhibitor should be complemented by the Covid-19 vaccine, creating somewhat of a product bundle. This means that Pfizer could potentially make double the revenue if the public heeds the pharmaceutical giant's advice. It seems as if Pfizer is not discrediting therapeutics if they are also jumping on the alternative treatment bandwagon, but Pfizer representatives have been quick to come out and say this alternative, while it has similar properties to Ivermectin, will function differently by attacking Covid-19 directly. On the other hand, it was found that Pfizer has a stipulation in their contracts that requires countries buying vaccines from them to purchase a minimum amount. This stipulation has effectively decreased the prominence of alternative treatments such as Ivermectin and Hydroxychloroquine.

Pfizer's Lobbying Efforts

As we know, large corporations involve themselves in lobbying in hopes of gaining a political advantage for themselves, but this lobbying in a pre-Covid world could look much different than lobbying in a post-Covid world. Our research indicates that Pfizer is very involved in lobbying. More specifically, Pfizer's lobbying expenditures hovered around \$11 million from 2017 to 2019. However, these expenditures increased from \$11 million in 2019 to \$13.1 million in 2020. We can only speculate that legislation and regulations surrounding the pandemic are explanations for why Pfizer increased their lobbying expenditures in 2020. This assumption is supported by the fact that Pfizer spends most of their time lobbying in issues related to health, trade, patent protection, access to prescription drugs, and Medicare and Medicaid. Obviously, Pfizer hopes that their increased lobbying efforts will give them a unique advantage as they continue to roll out their Covid-19 vaccine and develop related products.

Biden's Executive Order

On September 9, 2021, the Biden administration signed an executive order requiring all federal employees to receive a Covid-19 vaccination. This comes after he promised no mask or vaccine mandates in December 2020. What caused the change of heart? Many possible reasons for this move exist. One possible explanation is the surge of the Delta variant in the United States. As explained by an article from U.S. News, another reason could be that the supply of the vaccines was becoming much greater than the demand, and the Biden administration wanted to close this gap because of the high cost of storing these vaccines. Lastly, we speculate that lobbying from Big Pharma finally pushed lawmakers and executives across the country to accept these mandates. This increased demand in vaccines will undoubtedly benefit these large pharmaceutical companies. This executive order will certainly affect many businesses, large and

small, as some employees now have a big decision to make and some companies must adjust their operations accordingly.

University of Mississippi

Case Five:

Interview with a Business Professional – Brad Luechtefeld

Jacob Maschhoff

ACCY 420: Honors Professional Research

Dr. Victoria Dickinson

19 Nov. 2021

Brad Luechtefeld was raised in a small farming community in southern Illinois called Lively Grove. Growing up, he lived and worked on the family farm alongside his father, Gerald, and his grandfather, Sidney. Throughout grade school and high school, Brad played baseball and basketball, but he had to balance his extracurricular involvement with his responsibilities on the farm. Many of Brad's experiences growing up on the farm, both negative and positive, shaped who he is today, but these experiences did not necessarily define the path he chose to take in life. For instance, he attributes his strong work ethic to the time he spent farming, and it is this work ethic that has propelled him to where he is today. However, he also recalled that he sometimes felt isolated from people who were pursuing experiences that were more exciting than his life on the farm. In particular, he distinctly remembered when his uncle, Stanley, would take off work on a Thursday or a Friday to visit the family farm. Not only was Brad intrigued by his uncle's company car, but he also noticed how flexible his schedule was and how happy he was with his job. Brad's high aspirations were influenced by moments such as these, but he did not consider himself "a seed placed on very fertile ground" at times. Being from a small town, it can be hard to leave family and friends to pursue a career and defy predetermined expectations. Ultimately, Brad was able to overcome these obstacles and migrate to more exciting opportunities outside of Lively Grove.

After high school, Brad was unsure of what he wanted to do and what career he wanted to pursue. Initially, he planned on going back to work on the farm because he felt that this route was more tailored towards him. However, with some encouragement from his mother, Joan, he attended Kaskaskia College, a community college in southern Illinois, where he graduated in 1991 with an Associate's degree. After this, he went back to work on the family farm for three and a half years and then continued on to Southern Illinois University (SIU) in Carbondale,

Illinois, where he spent two years. He graduated from SIU in 1997 with a Bachelor's of Science in Plant and Soil Science. Brad loved his time in college, and he found it to be an eye-opening and enlightening experience. He mentioned that he does not consider them the best years of his life but coming from the farm and a work situation that he was not particularly fond of, he thoroughly enjoyed being away at college. During these years, he recalls feeling proactive, and he felt as if college presented him options that he did not have before. He thrived on the newly found independence and the opportunity to meet new people. One piece of advice he had about college was to not rush through it because you only get to do it one time. Overall, Brad believes his college years, coupled with his early experiences and his interests, projected him into his career today.

Growing up, Brad had a few different career ideas that interested him. For example, he was very creative and fascinated with building, so he thought architecture would be a compelling career. Also, he mentioned being interested in becoming an Air Force pilot at one point. However, he was drawn away from architecture because of the math involved, and he was told that he would be too tall to be a pilot in the Air Force. When asked about how he became interested in agriculture sales and business, Brad referred to his time on the farm and how his extensive background and knowledge in agriculture gave him an advantage in the profession. He also mentioned that a job in sales was a good fit for him because he enjoys being around other people and observing their behavior in regards to sales needs. Trying to fill customers' needs is comparable to a game that is ever-changing, and this is one aspect of sales that particularly interests Brad. He also had a great piece of advice about choosing a career path: when it comes to choosing a career, set a trajectory that is even higher than maybe you even want to achieve

because there are always situations in life that are going to pull you down. By setting a higher trajectory, you are better able to prepare yourself for these obstacles.

As mentioned previously, Brad's first job was working on the farm, and these responsibilities instilled the value of hard work and dedication within him. For example, he recalled a very popular saying used frequently by his grandfather: "If you run out of things to do, you are not looking hard enough." After graduating from SIU, Brad moved to Iowa to work for American Cyanamid, where he sold crop protection chemicals. The most valuable lesson he learned at his first job out of college was how important preparation is. Whether it is for a meeting or a sales call, preparation is always necessary. American Cyanamid offered Brad the opportunity to move to New Jersey, but he declined because he felt like he needed to move closer to home. After three years there, he moved to Indiana to work for Cargill, who had a new, cutting-edge marketing program that interested him. After a year and a half, Cargill sold this division of their business. It was bought by Mycogen, the seed division of Dow AgroSciences, and they paid Brad salary-and-a-half to stay on as an employee.

After meeting his wife, Erin, in 2001, Brad took a pay cut to move back to southern Illinois and work for Syngenta. He worked here for four years, and this was the organization he liked working for the least. In 2006, he was given an opportunity with Pioneer. In this role, Brad served as a manager, and he felt empowered by the freedom he was given to make more decisions for himself and the business. It was in this position that he fell in love with being a manager instead of making field sales. As a manager, he found a clearer, more rewarding purpose as he worked to develop employees into more effective salespeople. In 2014, Brad was offered a position as District Sales Manager for the state of Illinois with Bayer. When Bayer completed the acquisition of Monsanto in 2019, Brad became a United States Key Accounts

Lead for the East region of the business. In cooperation with the Key Accounts Lead for the West region, he is responsible for a team of 19 people who manage 70 accounts. These accounts are worth approximately \$2 billion; Brad is responsible for the Eastern accounts, which are worth about \$1 billion. In this role, he has been able to advance his career further in people management, and he really enjoys the freedom he has to speak his mind and influence others. After discussing his career, Brad mentioned that he has always had an appetite for change, and he could not have made these career changes without the support of his wife, Erin.

Brad believes that his most challenging and difficult hurdle so far has been finding and maintaining a work-life balance. This struggle to split time between work and family is something that also affected Brad when he left the farm to go to college. When he told his grandfather he was leaving the farm, his grandfather cried, and Brad mentioned that this was the first time he had seen him cry in his life. He also recalled that his father did not believe that he was leaving for college until the day he left to enroll for classes. All of this was very hard to take for him, but ultimately, Brad understood what he wanted and what was going to make him happy, and he was ready to stand by his decision. He also believes that this same way of thinking is a great way to approach decisions concerning work-life balance and career path choices.

When talking about his life outside of work, Brad is very grateful, and he feels that he has been luckier than he deserves. He is always challenging himself to make sure he has time for friends and family, but he also realizes that finding this balance is not always perfect. Another aspect of life outside of work that he talked about was marriage. He mentioned how important compromise is when you are dealing with two sets of decisions, and you must be willing to prioritize certain decisions that are more important to you but maybe back off on other decisions.

However, he goes on to say that he is blessed to have a wife that makes compromise easy, and he has two wonderful daughters, Raegan and Lydia. He said his life outside of work is better than he ever expected, and the one word that he used to summarize it is fortunate.

Some advice Brad imparted was to set yourself on a good trajectory and do not be afraid to aim for goals that may be higher than what you think you want to achieve. Also, he recommends that we take in as many experiences as we can, such as travel, before we are tied down by commitments. Travel allows us to see other cultures and view the world in new and different ways. When it comes to travel, Brad considers himself fortunate because he has been given frequent opportunities to travel. He recalls that his favorite vacation was a family trip to Jackson Hole, Wyoming. During the vacation, Brad, his wife, and his two daughters went snowmobiling, skiing, and spent quality family time together. When asked what other destinations are on his bucket list, he said that he did not have a bucket list because his prior experiences have been very fulfilling and some of the best trips are the ones you do not plan for.

Brad is a very humble person, both in life and in the way he treats others. When asked what he is most proud of, he answered that he has been able to provide a good life for his family and raise two daughters who are well-educated and set on a great path for future. He mentions that life is about the journey and the vehicles we use along the way; the journey is your life goals, and the vehicles are what fuels your lifestyle, such as your job. He uses this comparison to say that while he is proud of what he has accomplished to this point, he is still always striving to achieve more.

Looking forward into the future, Brad shared some compelling insights about possible challenges facing his generation and my generation. He believes the biggest challenge facing his generation is retirement. With people living longer and inflation on the rise, he is worried that

savings set aside for retirement will deteriorate much more quickly. He mentions these factors will affect the kind of lifestyle that older people have in the future, and it will be especially challenging for individuals who did not begin to save for retirement early in life and may not have a nest egg built up. When speaking about my generation, Brad thinks data and technology, as it relates to work-life balance and loss of privacy, will pose the largest challenge. He goes on to explain that phones do not make us more efficient; instead, they make us more accountable, and this can interfere with work-life balance. He also noted that the rapid evolution of data and technology could lead to an increased loss of privacy in certain areas of life. The insights shared above demonstrate Brad's observant nature and natural mind for the business world. It is these qualities, along with extensive experience and strong work ethic, that have propelled him to a very successful career in sales and management.

University of Mississippi

Tyson Foods, Inc.

Week One - Overview

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ACCY 420: Honors Professional Research

Dr. Victoria Dickinson

9 February 2022

The task for this week involved a thorough investigation of the structure of our chosen entity, recent developments in its business lines and operations, and the forces that represent the greatest threats to its continued operation. Our corporation of choice was Tyson Foods Inc. The sources we used to draw our conclusions about the state of Tyson include annual reports, business press, industry-level information, and finance-oriented blogs. After compiling and assessing the relevance of the information we gathered, we used the most pertinent and consequential points to develop a summary of what Tyson has been doing in the last several months, where it currently stands in its various market spaces, and how it might be challenged in the future. All told, the greatest threats to Tyson's operations can be understood as falling under a few designations: typical market risks, COVID-19-related problems, and relational issues.

Seasonal demand is fundamental to livestock-affiliated industries, and Tyson has the ability to prepare for fluctuations in the demand for beef, pork, or chicken depending on the month. However, moving too slowly in the adoption of a corporate strategy to respond to industry trends can present a new threat to the success of the company. For example, as a result of the pandemic, a major shift has occurred from customers dining in restaurants and children eating meals at school, to consumers choosing to eat at home.¹ This shift has led to elevated pressure on Tyson's retail supply chains, and the financial loss from decreased demand in food service has not been countered by the recent increase in retail deliveries to supermarkets and grocery stores. As for Tyson's own supply of raw materials, they are reliant on independent cattle farmers and livestock producers. Tyson assumes risks associated with this arrangement such as procurement agreements and the market price for the various inputs they purchase.^{2, 3} In

¹ my-ibisworld-com.umiss.idm.oclc.org/us/en/industry/31161/about

² my-ibisworld-com.umiss.idm.oclc.org/us/en/industry/42444/about

³ my-ibisworld-com.umiss.idm.oclc.org/us/en/industry/42447/about

a period of increasing production costs due to rising input prices, Tyson may not be able to raise the prices of their own finished goods in time to cover the loss.

Food safety remains a high priority - the Food Safety and Quality Assurance Team (FSQA) has the responsibility of overseeing inspection prior to distribution,⁴ and it is incumbent upon people at every stage of production to comply with USDA and FDA guidelines. One of the many hazards these measures are in place to prevent presented a problem during the summer of 2021, when the FSIS and the CDC determined there had been a *Listeria monocytogenes* outbreak. This discovery necessitated a recall of “approximately 8,955,296 pounds of ready-to-eat (RTE) chicken products” from public and private institutions across the country.⁵ The cascading legal and regulatory consequences of similar recall events can wreak havoc on the value chain.

Tyson has run into similar problems with environmental regulations. The 2019 wastewater spill in Black Warrior River was still under litigation as recently as 2021,⁶ incurring both reputational damage and the costs associated with a lawsuit of this class and scale. On the other hand, Tyson has made commitments to protect the environment - before settling out of court in the Black Warrior River suit, the corporation stated its intent to have net-zero greenhouse gas emissions by 2050.⁷

Also noteworthy is the increasing demand for information technology in every segment of the economy. The advance of IT brings vulnerabilities in which entities like Tyson have a vested interest in offsetting through security, disaster recovery planning, and overall risk

⁴ www.tysonfoods.com/innovation/food-innovation/food-quality-leader

⁵ www.fsis.usda.gov/recalls-alerts/tyson-foods-inc.-recalls-ready-eat-chicken-products-due-possible-listeria

⁶ www.wvtm13.com/article/tyson-farms-alabama-settle-lawsuit-over-wastewater-spill-in-black-warrior-rivers-mulberry-fork/37284282

⁷ www.thepigsite.com/news/2021/06/tyson-foods-pledges-to-reach-net-zero-greenhouse-gas-emissions-by-2050

management. IT is deeply embedded at all levels, allowing room for significant damage to Tyson's day-to-day functions as a result of insufficient systems management, as well as the potential impact on the brand from a marketing perspective.

Healthy supplier relationships are also critical. The corporation assumes some risk in any agreement with a supplier, including the potential for losses or bottlenecks during periods of imbalance between supply and demand. Tyson is not involved in cattle raising, hence their reliance on buyers and independent cattle producers.⁸ This relationship was a point of contention in the Senate during July 2021, as congresspeople had speculated that Tyson's use of alternative marketing agreements (AMAs) in its dealings with beef suppliers was keeping the cost of beef inordinately low and the final price of Tyson's beef goods comparatively high. Shane Miller, President of Tyson Fresh Meats, testified in defense of AMAs as the preferred arrangement of most independent beef suppliers.⁹ His attribution of the problem to COVID-19-related idling at various points in the production process points to an ambiguity that makes the maintenance of supplier relationships especially challenging during global supply shocks. There is also the plight of the prepared foods division, which has a wide range of needs compared to other segments and thus has numerous raw materials suppliers with diverse interests and concerns. Keeping supply inflows open and consistent requires active cooperation from both sides, and the strength of supplier relationships ought to reflect the necessity of the goods.

Naturally, Tyson has vast fields of competition in its many business lines. Staying abreast of market rivals puts the corporation at risk of harming profit margins, as higher investments in marketing and innovation might not always pan out. Between Tyson's recent entry into plant-

⁸ my-ibisworld-com.umiss.idm.oclc.org/us/en/industry/nn004/about

⁹ www.judiciary.senate.gov/imo/media/doc/Miller%20-%20Testimony.pdf

based meat substitutes^{10, 11} and ever-shifting competitive dynamics in international markets, the potential for exponential gain as well as crushing loss abounds.

Human resource management, a realm already fraught with risks for miscommunication and misalignment of motives, has been further complicated by COVID-19. Even after the onset and downturn of multiple variants, there are still instances of conflict between workers and management over mask policies.¹² While Tyson expects job candidates to already be vaccinated, this requirement does not turn away young potential workers in settings like Central Georgia Technical College, which held a job fair in coordination with Tyson in January of 2022.¹³

Problems related specifically to the initial outbreak of COVID-19 still loom. Facilities not suffering from slowdowns or outright shutdowns are subject to the costs of implementing safety measures. Travel restrictions further choke down the supply chain and boost foundational logistics costs, and all of these added burdens are before the goods are available for direct purchase. The pandemic has drained foodservice as an industry, leading to more activity in retail channels than pre-pandemic supply chains can readily tolerate.

Tyson's finances are primed to take a hit in other ways - in the interest of preserving liquidity, the corporation might decide to reduce or suspend dividends and delay new initiatives that would have been considered safe bets before COVID-19. There could very well be some damage to Tyson's credit rating, which would present a problem in any future attempts to finance debt. Volatile interest rates could be hurting pensions, and to take an even longer-term

¹⁰ www.reuters.com/business/retail-consumer/tyson-foods-beyond-meat-face-off-with-new-plant-based-burgers - 2021-05-03/

¹¹ seekingalpha.com/article/4482027-if-tyson-acquired-beyond-meat

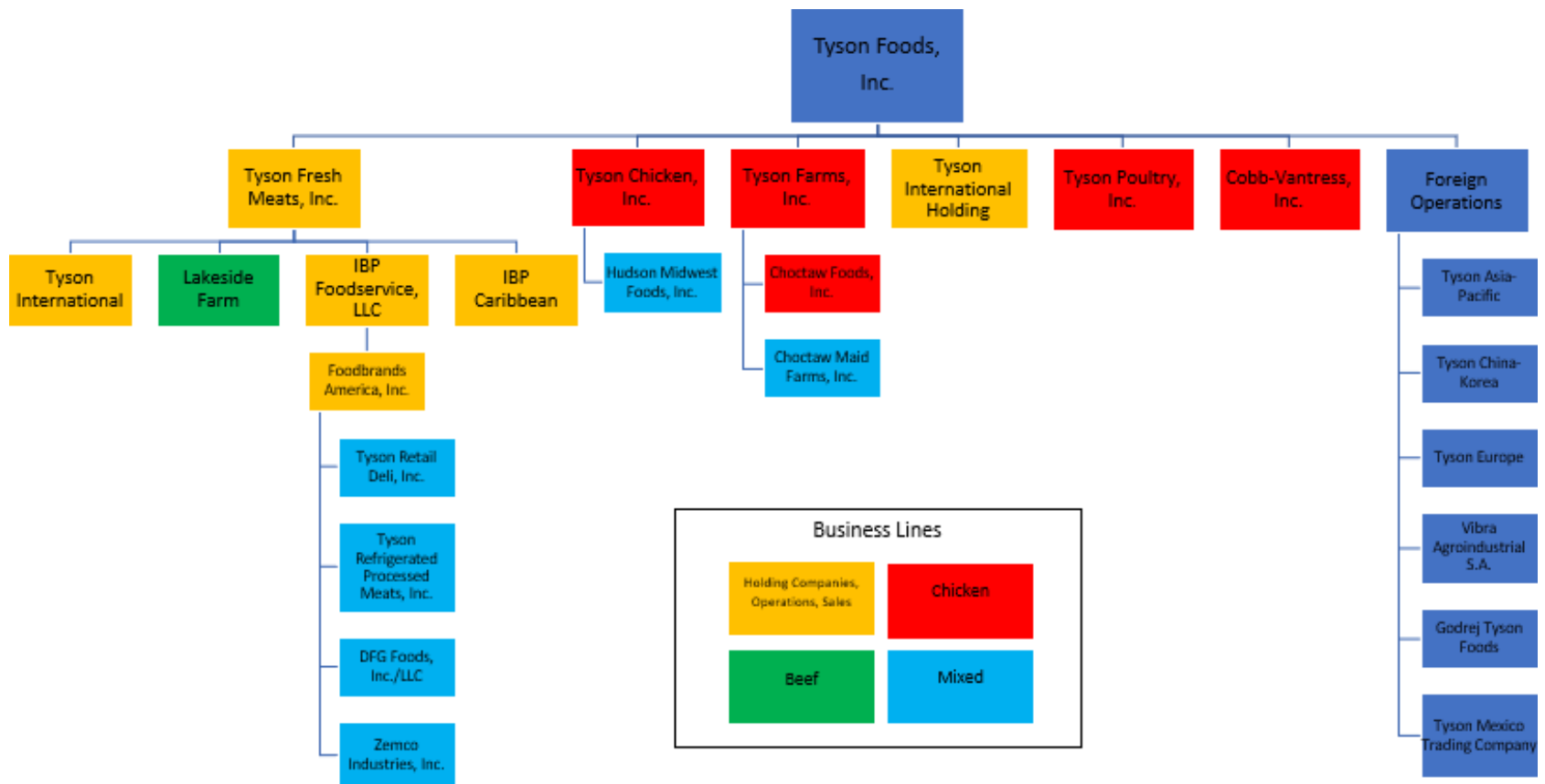
¹² news.bloomberglaw.com/litigation/tyson-foods-must-face-workers-covid-19-mask-related-leave-suit

¹³ www.13wmaz.com/article/news/local/tyson-foods-works-with-central-georgia-technical-college/93-5618ddfd-9ff4-4f82-b091-1b7e44b29432

view, the pandemic may have done irreparable damage to Tyson's net worth by draining goodwill and other intangibles.

When looking at the organizational structure of Tyson, we found there are many subsidiaries, all related to different points of production and divisions. While many of the firms are incorporated in Delaware, their operations often occur elsewhere, spanning from Arkansas to Asia. For example, the parent company, Tyson Foods, Inc., was incorporated in Delaware, is headquartered in Arkansas, and conducts operations on an international scale. Tyson Foods, Inc. keeps a large portion of its operations within Tyson Fresh Meats, Inc., a subsidiary that acts as a holding company for many other subsidiaries. Tyson's non-operating holding companies are located all over the world, such as Tyson International Service Center, which is an American-based company that houses Tyson's sales operations for Europe and Asia. Another example is IBP Caribbean, Inc., which is located in the Cayman Islands, and acts as a holding company for Tyson's international investments. IBP Foodservice, LLC acts as a holding corporation for Foodbrands America, Inc., another subsidiary that holds other companies, such as Tyson Retail Deli, Inc., Tyson Refrigerated Processed Meats, Inc., DFG Foods, Inc., and Zemco Industries, Inc., all of which conduct mixed operations related to farming, slaughtering, meat processing, and distribution. Tyson's beef operations are primarily housed within Lakeside Farm Industries, Ltd., located in Alberta, Canada. Another subsidiary of Tyson Foods, Inc. is Tyson Chicken, Inc., which operates primarily as a poultry processor, but also houses the separate subsidiary Hudson Midwest Foods, Inc., which does everything from farming to marketing for a variety of meat products. Tyson Farms, Inc. is another subsidiary of Tyson Foods, Inc., which itself owns and operates poultry broilers across the southeastern United States. However, Tyson Farms, Inc. also owns several other subsidiaries, such as Choctaw Foods, Inc. and Choctaw Maid Farms,

Inc., which are both meat farms and processors located in Mississippi. Tyson Foods, Inc. also owns Tyson Poultry, Inc., a United States-based operator of poultry farms and processors, and Cobb-Vantress, Inc., an international producer and marketer of chicken stock. Another primary subsidiary of Tyson Foods, Inc. is Tyson International Holding Company, which houses foreign sales operations and other foreign subsidiaries. Lastly, Tyson Foods has many international subsidiaries connected to the main corporation, such as Tyson Asia-Pacific, Tyson China-Korea, Tyson Europe, Vibra Agroindustrial S.A, Godrej Tyson Foods (India), and Tyson Mexico Trading Company.



University of Mississippi

Tyson Foods, Inc.

Week Two - Audit

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ACCY 420: Honors Professional Research

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16 February 2022

The task this week allowed us to leverage the information we gathered the previous week to examine annual financial statements, create an audit plan, and give judgments about what should be done to mitigate the most serious risks to Tyson. Using the 2021 10-K available on sec.gov, we examined each item on both the balance sheet and income statement for their respective levels of audit risk, materiality, and failure risk. We selected what we judged to be the three riskiest accounts, and for each of them we discussed what internal controls might help in mitigating the worst risks and what substantive controls might be necessary to keep the account honest after the fact. The last component of the assignment involved an exploration of what data analytics techniques might be used in verifying each of the at-risk account balances.

The account most easily recognizable as risky was inventory. Tyson brings in a vast array of inventory items from a diverse range of suppliers whose inventory practices differ considerably. Items under the inventory heading are consistently valued at the lower of cost or net realizable value, but the inventory method used to track them varies between first-in-first-out and the weighted average method. Tyson deliberately leverages the size of its inbound freight to keep costs down, and while this scale is not problematic on its own, it can exacerbate the kinds of problems created by erroneous counts earlier in the value chain. Even when production stutters become significant enough to be identified, Tyson's complicated supplier relationships can make locating bottlenecks difficult. Tyson's dynamic with cattle suppliers is straightforward, as the corporation typically buys cattle directly. On the other hand, Tyson provides chickens to independent farmers who in turn raise the chickens. There is also the simple fact that the basic products Tyson trades in are commodities - they are bound to a price index and thus are uniquely sensitive to rises and drops in the economy at large.

The current internal controls scheme for inventory management is robust as these things go. All segments of the corporation use mail for invoices. Some use Standard Electronic Data Interchange Transactions for transportation invoices, and some of the entities under the Tyson umbrella use different IT systems than others; Fresh Meats uses Taulia, but Hillshire and AdvancePierre use the new SAP system P41. However, the enterprise management system deployed in the service of inventory management is a less pressing issue than the more grounded matter of maintaining a reliable count of the physical inventory.

Fundamental to livestock industries is the inevitability of counting errors - animals can be born and die off for any number of reasons without having been properly tracked. In December 2020 a cattle supplier overstated inventory by \$285 million,¹ resulting in an investigation of the material control efforts that led to this outcome. Substantive tests ought to include rigorous physical examination of inventories, and creating circumstances in which that level of effort is possible may require a review of Tyson's contracts with independent farmers and vendors. Flow documentation will be vital, as few other things are as effective in helping multiple parties coordinate work of high detail and broad scope.

Another account we found to be prone to risk was accounts receivable. Allowance for credit losses was \$25 million in 2020 and \$26 million in 2021, showing a relatively stable amount of receivables outstanding over time. The slight increase can be attributed to an increase in sales and a decrease in the cash flows associated with operating activities. In determining an appropriate allowance for doubtful accounts, the company uses historical performance evaluations, future economic conditions, level of the account, and customer relationships. These factors are helpful in determining the balance but can pose risks in understating or overstating

¹ www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/tyson-overstated-fy-20-cattle-inventory-by-285m-61847348

the accounts receivable balance. This precarity filters down into net income. For example, Walmart is Tyson's largest customer, accounting for 16.3 percent of their net accounts receivable. Due to this close relationship, there is a likelihood of errors to be present in the statements of accounts receivable balances. However, such a large volume of end consumers dispersed across vast geographic areas allows for the otherwise high concentration of credit risk to be more spread out and therefore easier to manage. Tyson also does not grant payment financing terms greater than one year, as the majority of their customer contracts are short-term. The reported accounts receivable turnover ratio in 2021 was 19.6, though Tyson's involvement in many industries makes finding acceptable points of comparison a delicate operation.

The firm currently participates in several internal controls to ensure the safety of their reported accounts receivable. By periodically evaluating customer credit, they can better monitor and prepare for defaults on accounts. Collateral can be a source of frustration for auditors in tracking receivables, but Tyson generally does not require collateral in transactions with customers. Substantive controls, then, can be limited to the kind of ratio analysis and transaction tracing already regularly used for accounts receivable in other settings and for other kinds of economic entities.

The third and final account we judged to be high-risk was intangible assets, though this account is different from the others because of its relative detachment from day-to-day operations. Tyson's fair value calculations for intangible assets are based on multi-period excess earnings and involve Level 3 inputs, which can require estimates and assumptions about future economic activity. Valuations not based on current economic events are by their very nature prone to error, and the role of expected earnings in this set of calculations renders potential overconfidence on Tyson's part especially troublesome. The upshot of this situation is that, as

previously stated, the value of intangible assets is largely irrelevant to most daily operations. Real problems do not come to the forefront until the intangible assets are being sold or exchanged; at this point the parties involved are forced to confront the discrepancy between the intangible asset's book value and its market value. If Tyson expects too much of its future earnings and enters into a transaction with a faulty understanding of the value of its assets, this miscalculation could introduce friction not only to the transaction in question but also to the buyer-seller relationship. Overshooting goodwill, for instance, could reflect poorly on Tyson's bookkeeping and indicate to potential buyers that the corporation is not willing to properly account for market forces when doing so is inconvenient. Likewise, mistakes in the calculation of impairments could result in lower operations and net worth figures that go on to influence other projections and future reporting.

Internal controls ought to be regarded as a higher priority than substantive testing because of the role Tyson plays in determining book value. The relevant calculations involve judgments and projections at several levels, and any measures taken to keep these calculations grounded in predictable and provable trends must be consistently applied across assets included in the intangible assets account while still recognizing the differences between assets of this class. Tyson has used both income and market approaches in calculating goodwill, and they use relief-from-royalty and excess earnings approaches for other indefinite-life intangible assets. The explanation for these choices in the 2021 10-K filing points to the way each of these methods reliably results in a book value appropriate for an exit transaction. However, goodwill and indefinite-life intangibles represented 40 percent of total assets as of October 2, 2021. Tyson has this high proportion in common with other entities of its size,² which makes it especially prudent

² www.radicalcompliance.com/2020/12/14/more-on-goodwill-internal-controls/

for figures in organizational management to have a transparent, purpose-driven process for deciding when an impairment test is necessary and how to document those discoveries and the resulting changes in book value.

Data analytics can be used to automate the substantive tests that are performed manually to result in increased efficiency. Additionally, larger amounts of data can be analyzed to identify the information used to support audit decisions to better understand the risks of various operations. For example, regarding the risk of misstating inventory, an AI-based camera that constantly captures aerial-view pictures of a particular inventory can map the inventory count in real time.³ This system can be used by mounting the camera to the ceiling of a warehouse for chickens or attaching it to a drone to cover a field of cattle. For accounts receivable, software can be used to gather large amounts of data, analyze past performance, and locate risky accounts using a forecasting model.⁴ New data analytics software is also being developed to support the value of intangible assets using a combination of forecast analysis, “goal-seeking” functionality, and industry benchmarking.⁵ When using data analytics and technology to mitigate risks, Tyson must ensure the adherence to procedures and policies set by both their own organization and the legal environment.

³ us.aicpa.org/content/dam/aicpa/interestareas/frc/assuranceadvisoryservices/downloadabledocuments/the-data-driven-audit.pdf

⁴ www.mindbridge.ai/blog/ai-analysis-accounts-payable-accounts-receivable-audit-subledger-data/

⁵ assets.kpmg/content/dam/kpmg/qm/pdf/KPMG-Dynamic-Audit-ci.pdf

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ACCY 420: Honors Professional Research

Dr. Victoria Dickinson

2 March 2022

Having covered generalized audit work last week, we spent this week developing an understanding of tax. The first step involved reading resources from large accounting firms meant to help potential clients make decisions about what tax strategies might best suit their needs. We noted the points most relevant to Tyson and moved on to the next phase: researching specific corporate tax credits. This stage gave us the opportunity to use the organizational and competitive information we gathered in Week 1 to determine which tax credits were the most applicable to Tyson. The biggest task for this week, however, was to use our new knowledge of tax and pertinent tax credits to formulate two distinct tax strategies. The strategies needed to minimize Tyson's tax payments by expansion, divestiture, or restructuring of operations. In proving the value of each strategy, we were expected to calculate dollar amounts of potential tax savings to determine if the effects would hold in the short- or long-term. Points of concern included new federal tax law under the Biden administration, differences in tax code both inside and outside the US, regulatory impacts of the COVID-19 pandemic, and the long-embattled Build Back Better Act.

As a part of the food production industry, Tyson can focus on research and development tax credits to minimize expected tax payments. The food industry is constantly developing new products for customers in response to changing demands, as well as creating new processes to increase production and lower costs. For example, Tyson has recently ventured into the development of organic foods, easy-to-prepare meals, automated production systems, and new methods of sanitation - all of which are included in the R&D tax credit category. Activities of this type available for the application of these tax credits must meet four criteria: elimination of uncertainty, establishment of experimentation, proof of the activity's technological nature, and demonstration of purpose.

To prove its ability to take advantage of the R&D credits, Tyson must show the relevant expenses through payroll records, project lists, general ledger details, and other forms of documentation. These credits directly offset tax liability, and there is no limitation on how much can be claimed each year. In addition, the credits can be carried forward for 20 years and can be retrospectively adjusted back three years to recoup previously paid taxes. The federal credit accounts for between five and ten percent of development expenses each year, and with state credits this amount can be increased.

Notably, companies have recently been told they can no longer directly expense R&D after 2021 and are instead required to create a capital account to deduct R&D expenses over a five-year period. Because of the permanency of these credits, the wisest course of action for Tyson would be to incorporate R&D tax credits into future tax strategy. Tyson incurred \$114 million, \$98 million, and \$97 million of R&D expenses in 2021, 2020, and 2019 respectively. Tyson can expect to claim more R&D credits in the coming years in keeping with its yearly increases in R&D expenses. Without detailed knowledge as to which of Tyson's expenses qualify, we are not equipped to make an accurate estimation of potential tax savings. However, we can attempt limited projections. For instance, if we were to assume all of Tyson's 2021 R&D expenses were Qualified Research Expenses, we could calculate a hypothetical R&D tax credit of \$8,750,000 by taking an average of the past three years' expenses, multiplying it by 50 percent, subtracting this number from the average, and finally multiplying this number by 14 percent.¹ Hypothetically, this figure would represent a dollar-for-dollar reduction of Tyson's tax liability for 2021.

¹www.adp.com/resources/articles-and-insights/articles/r-r-and-d-tax-credit-calculation-methods.aspx

Furthermore, there are specific projects that we can examine to determine the future trajectory of large-scale tax changes. Tyson's current innovative ventures include FoodLogiQ, Clear Labs, MycoTechnology, New Wave, and various others, and all provide sustainable nutrition by transforming the food industry. Additionally, Tyson could expand their R&D efforts into the sector of healthy and vegan meat alternatives. Vegan options such as Impossible and Beyond Meat are currently available to and popular with consumers. If Tyson was to allocate more resources towards improving these alternatives or developing their own line of health-conscious substitutes, a larger R&D tax credit could be claimed. To accomplish this end, Tyson could consider a business expansion into the meat alternative market or restructure current operations to allow for a reallocation of capital and labor. These operations as well as Tyson's two primary development locations - a Discovery Center in Springdale, Arkansas and an Innovation Center in Downers Grove, Illinois - should focus on R&D tax credits, as the aims of their business strategy overlap with what the credits cover.

Another strategy Tyson should include in their tax planning is taking advantage of the state-to-state differences in corporate tax credits. When deciding where to expand their operations, Tyson should consider states like Iowa, which imposes considerably lower tax burdens compared to other states due to the availability of tax credits. Tyson has already seen the fruits of its investments in Iowa - in 2018, it secured \$647,000 in tax credits for \$44 million in improvements to a plant in Perry.² R&D credits are also on the table for this branch of strategies, as was proven in 2021; Tyson was able to earn \$540,000 in tax credits from the state of Iowa because of its shift to the use of carbon dioxide to kill pigs at its Columbus Junction

²www.desmoinesregister.com/story/money/business/2018/05/17/no-new-jobs-tyson-plan-pump-nearly-44-million-into-iowa-plant/620570002/

slaughterhouse.³ A \$28.2 million plant expansion in Waterloo earned Tyson \$2.4 million in tax credits in 2017, but the list does not stop there. The state of Iowa granted Tyson approximately \$10 million in incentive packages between 1986 and 2017.⁴ Wyoming is also promising. The state has no corporate income tax, and for holding companies specifically, it imposes no tax on intangible assets. However, it does have an 11.5% tax on industrial property and a 9.5% tax on commercial and residential property.⁵

Due to these favorable tax treatments, we recommend that Tyson prioritize expansion of the company into Iowa and Wyoming. Tyson could stand to receive these tax breaks if it improves current plants in these areas or builds new plants that provide new jobs for surrounding residents. Iowa and Wyoming are hubs for agriculture, specifically livestock, so Tyson's expansion should also be aimed at partnering with farmers who would be willing to take on the responsibility of breeding and raising chickens, cows, and pigs. In this way, Tyson would be able to grow their business while also being presented with a broad range of new potential tax incentives.

Tyson is currently working towards its sustainable "30 by 30" target - to reduce greenhouse gas emissions by 30 percent by 2030.⁶ It comes as no surprise, given recent shifts in public policy and investment alike, that there are tax benefits available to Tyson in pursuit of this goal. Tyson could benefit from this arrangement if its entities implement certain energy efficient measures. Section 179(d) of the Internal Revenue Code allows taxpayers to deduct part of the cost of energy efficient commercial building property. If the changes improve a building's

³www.thegazette.com/companies/tyson-foods-receives-almost-540000-in-tax-credits-for-new-slaughtering-method-in-columbus-junction/

⁴www.desmoinesregister.com/story/money/business/2017/09/21/tyson-asks-iowa-2-4-million-tax-incentives/690004001/

⁵www.bestwyomingregisteredagent.com/wyoming-taxes/

⁶www.smartenergydecisions.com/energy-management/2019/05/13/tyson-aims-for-30-by-30

energy efficiency by at least 50 percent, the deduction that can currently be taken is \$1.80 per square foot. If the entire building does not meet the 50 percent threshold, a partial deduction is still available.⁷

Tyson could qualify through an expansion or an improvement to current operations. For example, if Tyson were to open more plants or farms, they could concentrate on installing more energy efficient systems such as solar, LED lighting, updated windows, and improved waste disposal technology in their facilities. Likewise, Tyson could replace outdated systems in existing buildings and still claim the Section 179(d) deduction. Not only would they be minimizing their tax liability, but the company would also be saving money on electric bills, water bills, and much more.⁸ Estimated tax savings would vary depending on the size of the affected building. Hypothetically, if Tyson were to build or improve a 300,000-square-foot plant with systems that boosted energy efficiency by at least 50 percent, they could claim a deduction of \$540,000 on their tax return. This deduction is very scalable and highly effective for substantial building projects and large expansions.

The future of Build Back Better is uncertain; it seems likely that parts of it will become law. Press attention and rhetoric from the Biden administration has largely been devoted to the provisions of the bill that relate to kitchen-table issues like prescription drug pricing and two years of free community college (now out of the question),⁹ but there are also provisions of the bill that could influence Tyson's decisions about its energy sources and the distribution of its international tax liabilities. Which provisions will survive the meat grinder of congressional

⁷www.wipfli.com/insights/articles/cre-covid-19-section-179d-tax-deduction-made-permanent

⁸www.energytaxsavers.com/articles/Food-Processing-Industry

⁹www.washingtonpost.com/politics/2022/02/18/biden-build-back-better-where/

politics is an open question, and analyzing the impacts of every potential policy package is well beyond the scope of this assignment.

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ACCY 420: Honors Professional Research

Dr. Victoria Dickinson

23 March 2022

This week, we were asked to develop a plan to mitigate each of Tyson's two biggest threats, calculate the effects of implementation on Tyson's financial position, and either explain how the changes support Tyson's stated mission or suggest a change in strategy from the top. Part of the procedure for this assignment was to find balance sheet and income statement information from the last five years, adjust the figures to reflect our suggested changes, and calculate the resulting effects on accounting ratios. An acceptable solution set is defined in the prompt as a change of plans that gives rise to future improvements.

When analyzing Tyson's behaviors internally and externally, we found their values and processes to be consistent with the strategy of cost leadership. Cost leaders automate their processes using technologies to ultimately decrease their costs of production. In doing so, they are able to expand to new markets while maintaining low, affordable purchasing prices for their customers. While their mission statement invokes sustainability and social responsibility¹ - objectives typically associated with product differentiators - this phrasing is not so much a description of Tyson's processes as it is an expression of what we could expect from them in the future based on their green initiatives. More specifically, because of Tyson's evident focus on improving its efficiency, the organization is able to competitively price their products and increase company profits. Tyson also offers discounts and coupons for many of their products to incentivize consumers to purchase them based on cost. That is not to say that product differentiation is completely out of Tyson's purview. Its portfolios of products in each of their four segments – chicken, beef, poultry, and prepared foods – indicates a pursuit of product differentiation in the interest of maintaining Tyson's current customer base. This goal is achieved

¹ www.tyson sustainability.com/downloads/Tyson_2005_Sustainability_Report.pdf

by offering new, innovative products compared to the majority of Tyson's low-cost commodities, a tactic that keeps the company up to date with trending demands.

One major threat to the success of Tyson is the broad variety of inputs necessary for production, including animal feed and transportation fuel. Tyson sources the grains for chicken, turkey, and pig feed from companies within the United States and sources the vitamins and various other feed ingredients from international suppliers. Therefore, international affairs play a significant role in the prices of animal feed. More to the point, Russia's invasion of Ukraine has resulted in considerable increases in the prices of grain. In February 2022, prices for corn rose to \$7.4775 per bushel,² about three dollars more expensive than the prior year. Tyson purchased more than seven million bushels of corn each week in 2015 to supply chicken farmers.³ Without assuming an increase in the size of Tyson's chicken production and using this figure as a basis for one of Tyson's chicken production expenses, yearly corn-based feed expenses can be expected to increase from \$30.8 million to \$51.8 million. To minimize this threat, an alternative would involve using a mix without corn or a mix with cheaper corn substitutes. The issue here is that dropping corn increases the time required for the animals to grow to a useful size. That means the livestock must remain on the field for longer periods of time, creating opportunities for increased livestock-related expenses.

Fuel is another major input for Tyson, and unsurprisingly, prices have sharply risen over the past few months in light of the conflict in Ukraine. Increases in the prices of staples like fuel are typically passed on to customers, but this outcome is precisely what cost leadership-oriented organizations like Tyson tend to avoid. However, completely abandoning fossil fuels would

² [www.nbcnews.com/news/us-news/us-farmers-feel-squeeze-ukraine-invasion-sends-livestock-feed-costs- hi-rcna20087](https://www.nbcnews.com/news/us-news/us-farmers-feel-squeeze-ukraine-invasion-sends-livestock-feed-costs-hi-rcna20087)

³ talkbusiness.net/2015/01/things-you-may-not-have-known-tyson-foods/

entail a reallocation of resources on an organization-wide scale, and this would be a response to what could ultimately be a temporary state of the fuel market. While there is increasing consensus within the press that inflation combined with rising oil prices might actually motivate a shift toward green energy,^{4, 5, 6} it still might be wise in the short term for Tyson to preserve and refine its existing fuel infrastructure. One potential angle would include allocation of resources to the planning and optimization of transportation routes. Moves like this one would most likely represent an increase in SG&A expenses - maybe even more jobs. The difficulty in that scenario would be in finding places in the organizational structure where these jobs would deliver enough value to justify the additional expense.

Tyson takes a proactive approach to food safety and quality management, but they do not disclose any specifics of their contamination prevention strategies in publicly available documentation. Still, the outlines of some of Tyson's initiatives are visible from the outside. For instance, the company created the Sentinel Site Program in 1999 for quality checks and verification of post-production contamination. This move was a targeted response to the looming possibility of a *Listeria monocytogenes* outbreak in ready-to-eat products. If Tyson were to expand this particular program to test for listeria multiple times per week rather than once per week, there would potentially be less listeria contamination for the company due to the decreased time intervals between testing. Contamination in ready-to-eat goods produced in just one week could present a significant cost hit; in 2019, Tyson produced approximately 200.47 million pounds of ready-to-cook chicken every week on a national scale,⁷ and doubling testing to twice

⁴ www.latimes.com/business/story/2022-02-26/one-way-to-combat-russia-move-faster-on-clean-energy

⁵ www.fastcompany.com/90725988/could-russia-inadvertently-speed-up-the-green-energy-transition

⁶ [thehill.com/opinion/energy-environment/596066-a-shift-to-clean-energy-would-halt-russias-petro-thuggery- and-more](http://thehill.com/opinion/energy-environment/596066-a-shift-to-clean-energy-would-halt-russias-petro-thuggery-and-more)

⁷ talkbusiness.net/2020/08/tyson-foods-the-largest-u-s-chicken-processor-in-2019-georges-ranked-9th/

per week could reduce the potential extent of contamination by 50 percent. Chicken is a point of justifiable concern in this arena. Arkansas reported \$3.6 billion in total sales from poultry production in 2017⁸ and Tyson accounted for 67 percent of these sales.⁹ Using these figures, we projected that in Arkansas alone, Tyson receives roughly \$2.412 billion in poultry processing sales annually, and reducing the threat of pathogens and increasing food safety measures would minimize the potential loss in related revenues. In addition to testing contact surfaces, listeria can be tested in the raw materials at earlier points in the process of production, saving both time and money. The CDC recently posted that the economic impact of pathogenic food safety outbreaks in the United States is \$17.6 billion, two billion dollars higher than 2013,¹⁰ stressing the importance of an anticipatory approach.

In utilizing these strategies to minimize costs incurred from some of the most relevant threats to Tyson, the return on assets, profit margin, and asset turnover figures can be expected to change. The return on assets, computed by net income divided by total assets, would most likely be lower in the initial years of strategy implementation because of the various expenses needed to meet the plans, such as increasing transportation personnel and increasing pathogen testing. However, over time the savings from these actions would eventually increase the return on assets as net income increases. Tyson's profit margin would remain relatively stable as this calculation deals with sales and cost of goods sold. Without large changes in these amounts, the profit margin would also reflect this minor shift. However, it is possible that with increased food safety, there would be more sales because of an expansion of products available for sale. The asset turnover ratio measuring the company's efficiency in utilizing its assets in relation to its

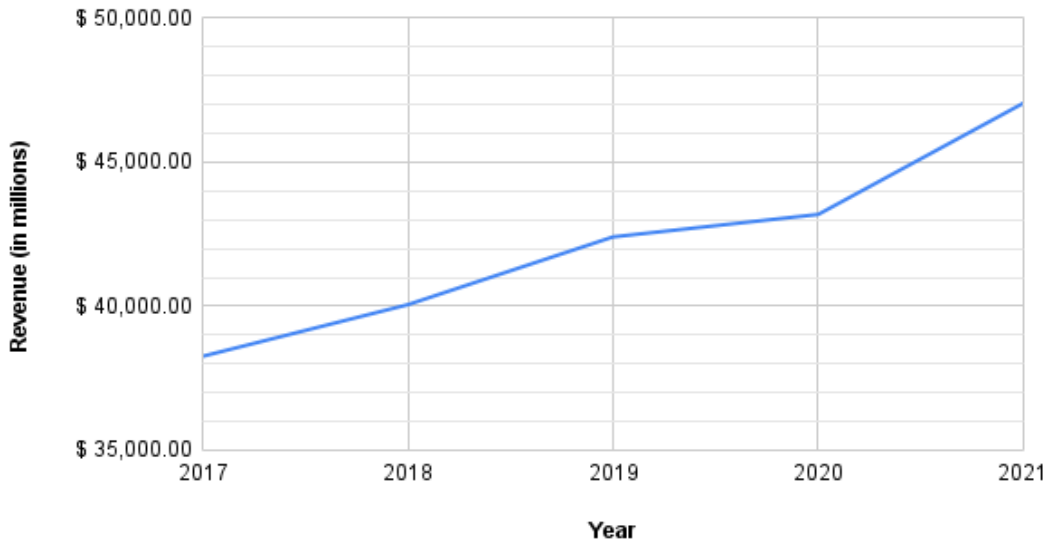
⁸ talkbusiness.net/2022/02/influenza-could-threaten-states-poultry-industry/

⁹ www.ucsusa.org/resources/tyson-spells-trouble#read-online-content

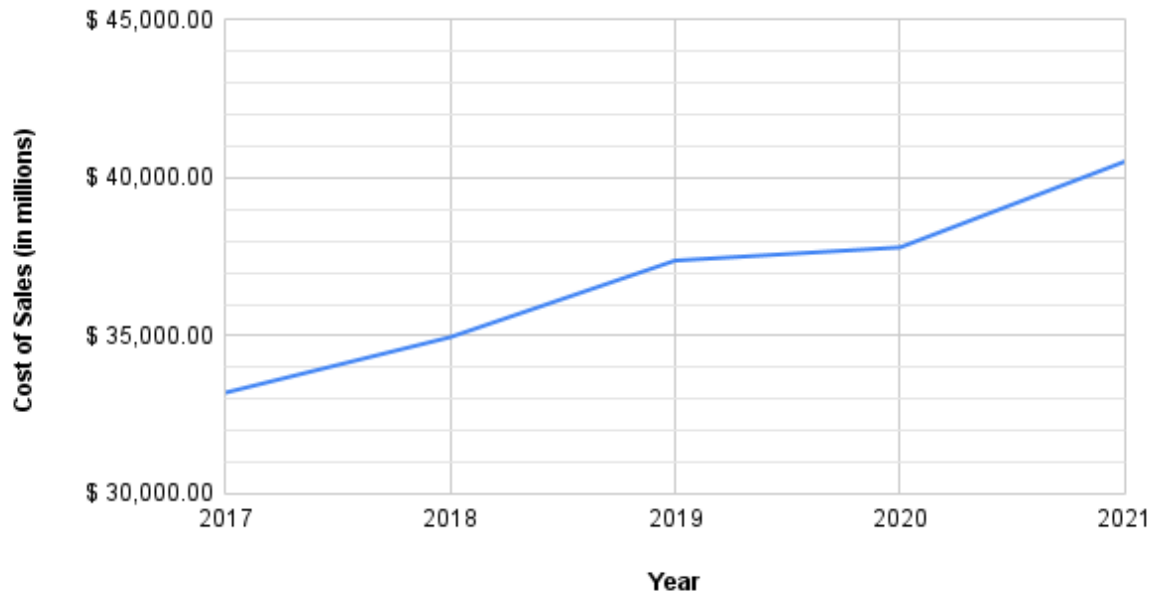
¹⁰ foodsafetytech.com/column/the-costs-of-food-safety-correction-vs-prevention/

sales would also increase assuming the proposed increased pathogen testing prevents large amounts of product from being recalled. In the past 5 years, Tyson's asset turnover ratio has fluctuated between 1.25 and 1.38, and with anticipated increase in sales, the forecasted figure would be on the higher end of this range.

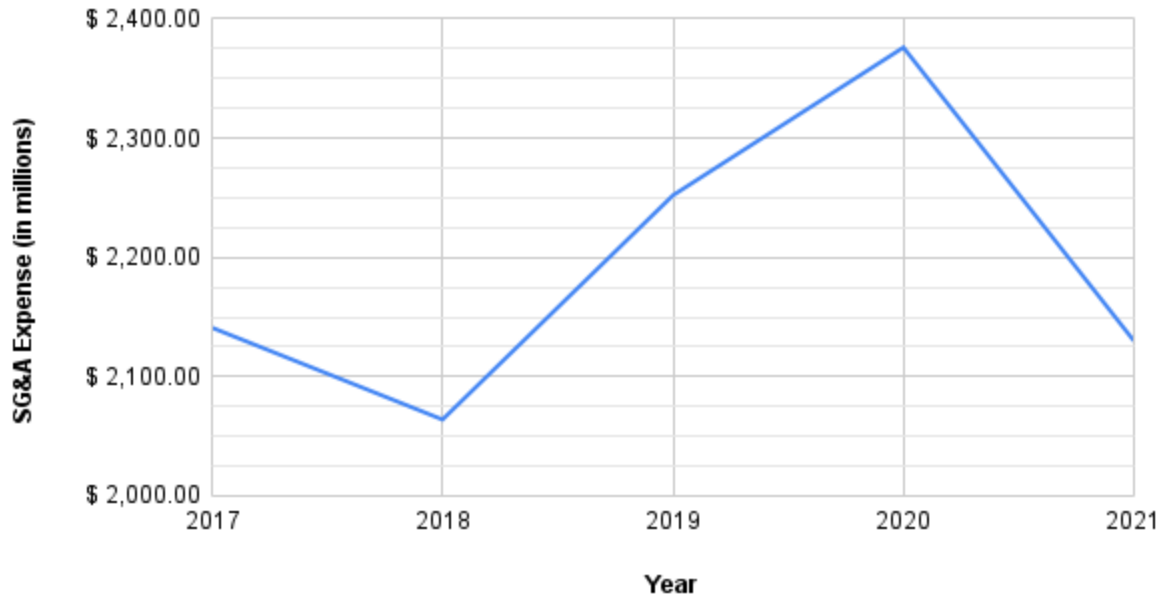
Revenue



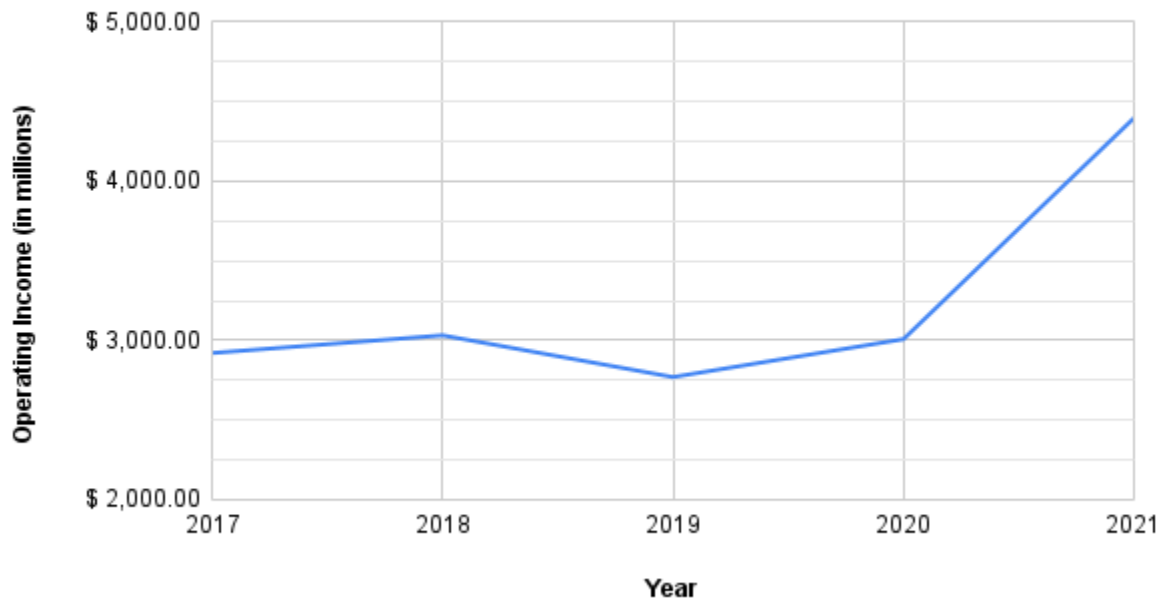
Cost of Sales



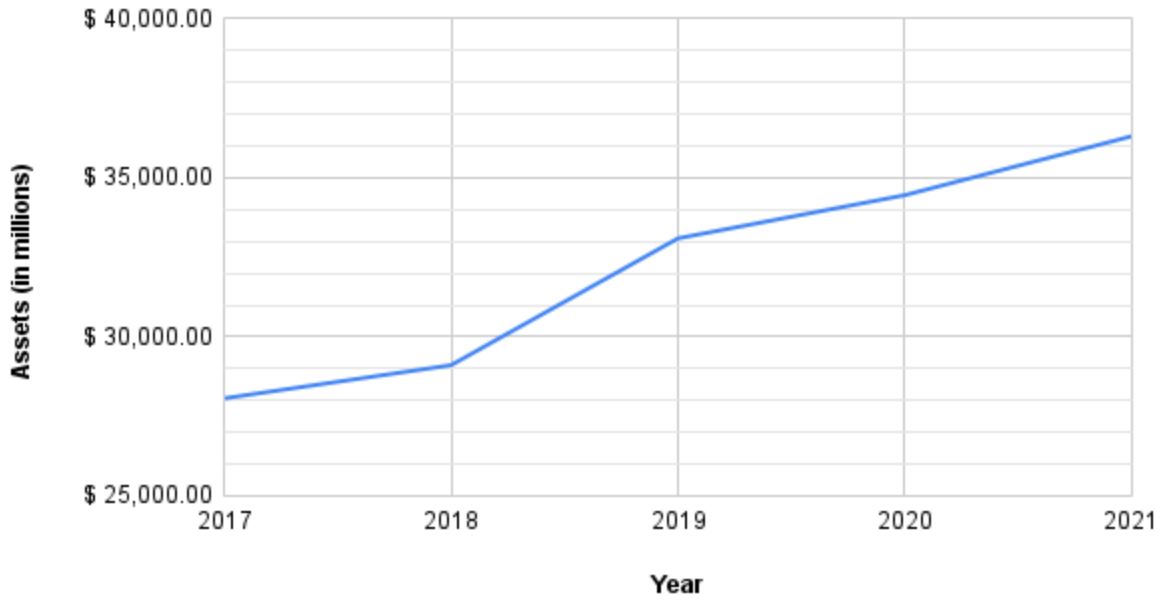
SG&A Expense



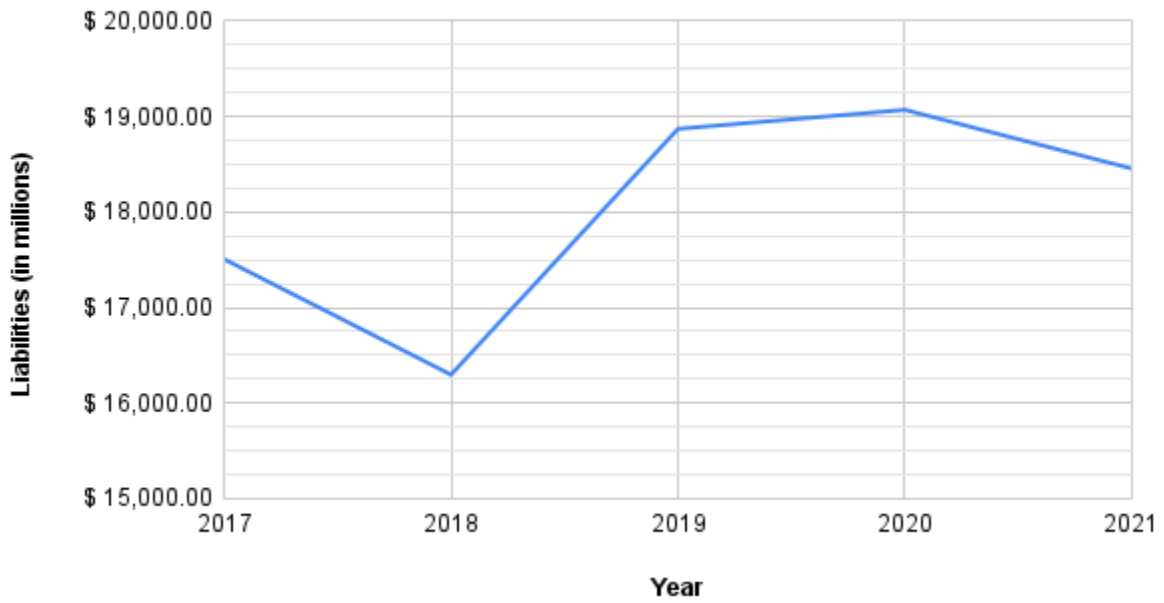
Operating Income



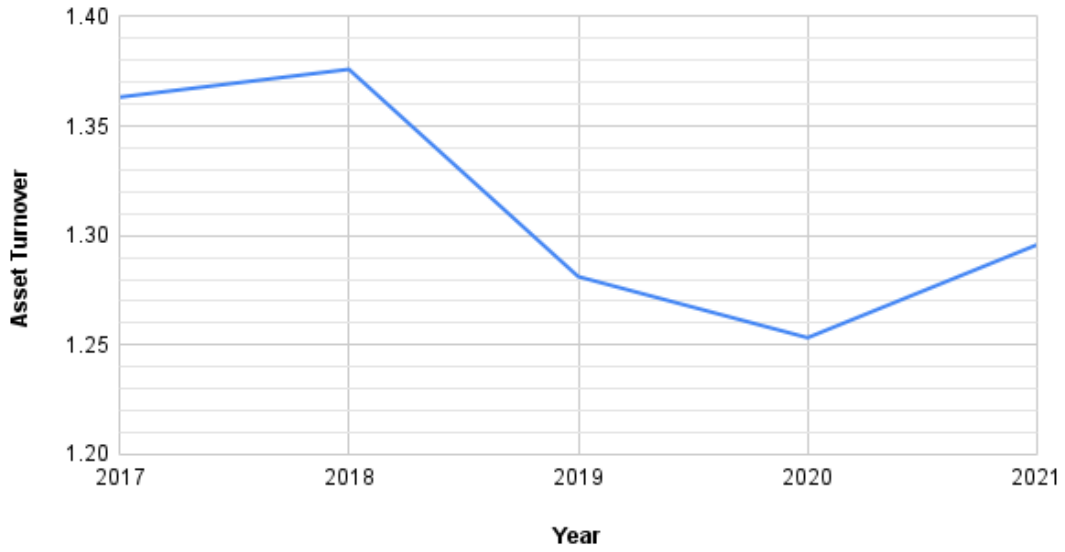
Assets



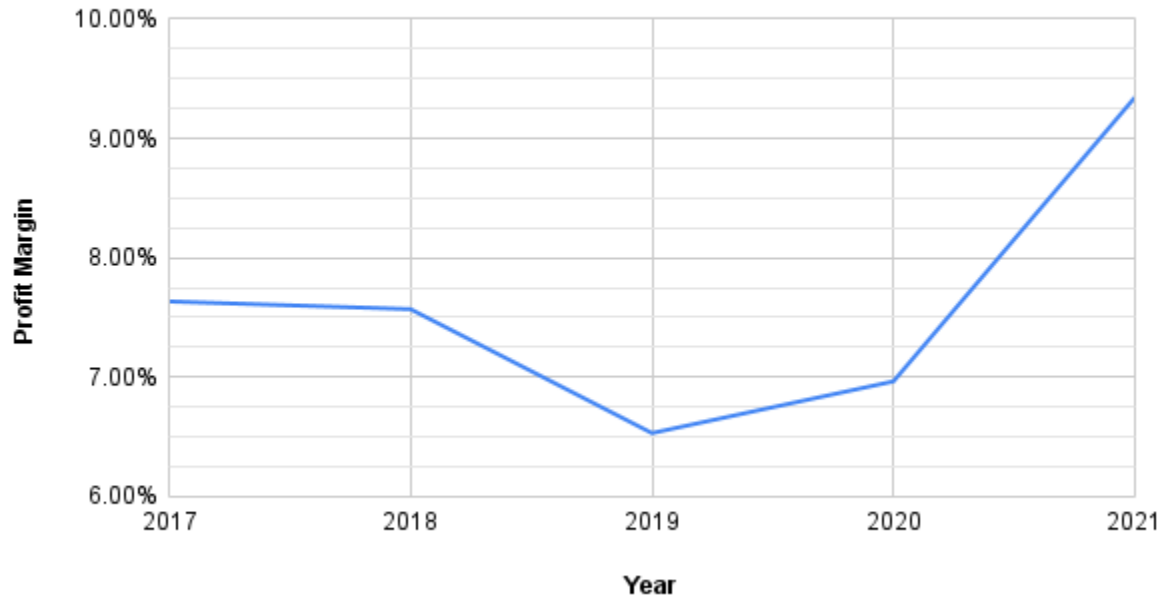
Liabilities



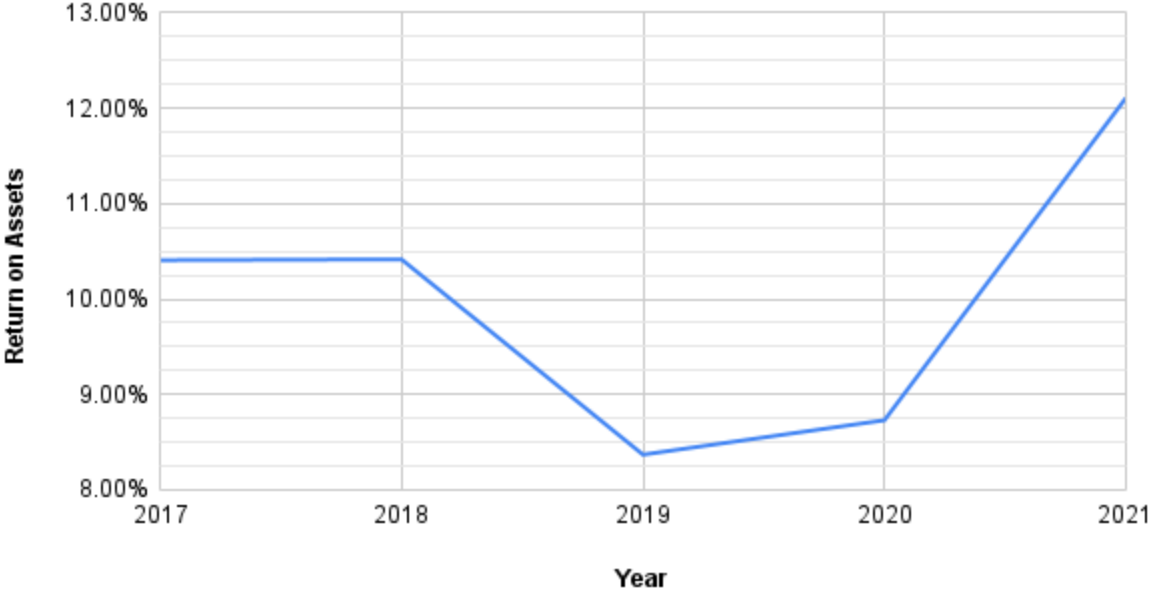
Asset Turnover



Profit Margin



Return on Assets



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ACCY 420: Honors Professional Research

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30 March 2022

The case this week was one of the last reporting- and analysis-oriented assignments of the course. We expanded on the advisory work from last week by focusing on identifying and mitigating risks to the organization on three different fronts: operational, macroeconomic, and cybersecurity. Operational risks were defined for us as the risks inherent to Tyson's processes and structure, while macroeconomic risks and cybersecurity risks have to do with environmental factors - the national and international economy in the first case and the global technological ecosystem in the second. One of the global issues that came to the forefront over the course of our work on this assignment was the recent advance of violence in Ukraine and its implications for the relationship between the United States and Russia. It could be said that this was a problem before the escalation of the last several weeks, but the international dynamic is in flux in ways that real advisory professionals must contend with. While many of the fundamental risks involved in running an organization as large and internally diverse as Tyson have not changed dramatically, the distribution of focus in our coverage of various risks has been adjusted to accommodate the necessary shift in our priorities.

A prevailing operational risk for companies in intersection areas of the food industry is the spread of contamination within stores of inventory. A rash of avian influenza outbreaks across the United States in early 2022 put the industry on edge, and Tyson itself contended with it - one of its partner farms was found to be contaminated on February 14. This discovery triggered emergency procedures that elevated contamination detection and prevention measures at Tyson's other partner farms. On one hand, this quick response represents a success of Tyson's existing procedures, but if the outcomes of other recent bird flu outbreaks are any indicator, this problem is not entirely solved. The risk is not that chickens with bird flu will make people who eat them sick, as birds found to be contaminated never make it any further in the value chain.

The greater concern is stopping the outbreak before it spreads and necessitates the depopulation of multiple farms. The February 14 findings indicate that approximately 240,000 birds were contaminated, and outcomes of this severity at multiple farms could give rise to a national supply shock. Tyson is already in talks with the Kentucky state government (the location of the outbreak) to study this particular outbreak in the interest of finding ways to predict future outbreaks,¹ and it would be wise for regional officers to enter similar negotiations with state and municipal governments not only to detect contamination but also to aggregate infection data, track vectors of the disease, and prevent outbreaks altogether. This cohesion is one of the goals of the Global Food Safety Initiative (GFSI), which met March 28, 2022. Tyson has a representative on the GFSI's governing body Steering Committee, which has the responsibility of bringing together suppliers, manufacturers, retailers, and policymakers to integrate and improve food safety strategies.² The GFSI's Race to the Top (RTTT) Framework led us to a relatively optimistic conclusion about Tyson's success in this area, as the framework emphasizes the level of extensive collaboration and research critical in preventing disease outbreaks.³

That said, the dark side of collaboration has also presented itself in the last several months for Tyson in another instance of operational issues. This February, a retrial began for a 2021 antitrust case that involved allegations of price fixing against Tyson and other poultry giants. The executives involved in the case (now no longer associated with their former companies) say that sharing price information in the way they did was within the bounds of the

¹ thehill.com/policy/healthcare/594317-tyson-foods-working-with-government-after-lethal-bird-flu-detected-in

² finance.yahoo.com/news/global-food-safety-initiative-steering-161608531.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xiLmNvbS8&guce_referrer_sig=AQAAAJhKyhBBCvo2hTp7Kwlvfh3uXDrGuOx4eJIH7TOIpgO9BXx3kgIHqXJfG5h7rQg4jicxjmh-mu9SsKltAA1IWwFoS3GqNXhTh84mIcskvRltkpYWvTeF-GH51Q-fHsOhGuefI3GO1176lR_1mmTtbz1GxosfNu_bFIzrOyf3UYy1

³ mygfsi.com/what-we-do/race-to-the-top-framework/?utm_source=newswires&utm_medium=referral&utm_campaign=GFSI-SteerCo-PR-Barcelona

law and did not involve conspiracy.⁴ However, later in the timeline of the same suit, it was found that the defendants shared pricing information not just for inventory but also for labor. The prosecution has characterized this revelation as a sign that Tyson and the other companies implicated were deliberately keeping wages down.⁵ The systematic and collaborative aspects of price manipulation necessitate prevention measures that are also systematic and collaborative. More rigor ought to be employed in the application of existing standards within companies, but it would be worthwhile to go further. It would be worthwhile to instate mandatory leave more frequently for officers at every level, enforce restrictions on the use of unapproved communication channels, and share knowledge internally about often-missed signs of bad behavior. This would also be a good use case for big data and RegTech, which would allow internal regulatory professionals to identify suspicious patterns of behavior before too much damage is done.⁶

Tyson also faces macroeconomic risks, including the uncertainty of tax reform and international pricing. On March 28, 2022, President Joe Biden sent to Congress a \$5.8 trillion FY 2023 budget proposing tax increases.⁷ The release of this FY 2023 budget and the Treasury Department's explanation of it comes at a time when Senate Democrats are trying to pass the Build Back Better reconciliation bill. Included in the proposed budget is a 20 percent minimum tax that would apply to certain high-income individuals and other measures to reduce federal deficits by \$1 trillion over the next ten years. Specifically in Tyson's interest, there is a re-proposed 28 percent corporate income tax rate, an increase of seven percent. This adjustment

⁴ www.wsj.com/articles/chicken-industry-officials-prepare-for-retrial-in-price-fixing-case-11645459200

⁵ www.wsj.com/articles/justice-department-investigates-chicken-companies-information-sharing-on-labor-11646397000

⁶ www.ascentregtech.com/blog/4-effective-controls-to-prevent-market-manipulation/

⁷ www.pwc.com/us/en/services/tax/library/president-biden-fy2023-budget-calls-for-new-billionaire-minimum-tax.html?WT.mc_id=CT2-PL200-DM2-TR1-LS1-ND30-PRG7-CN_TX-KM-NL-3FY22-WNTS-Biden-budget

causes some risk for Tyson as they do not know if their amount of tax liability for the current and future years will change based on the uncertainty of the tax rate change.

In order to mitigate some of these macroeconomic risks, Tyson should look at their current payments of taxes and minimize costs of various inputs from sources that are dependent on international pricing. As President Biden is looking to increase the corporate tax rate with the Build Back Better bill, Tyson should cut back on their tax deferrals and pay more taxes up front at the more favorable tax rate in the event the act is passed. In regards to the pricing of inputs, such as those for chicken feed and transportation fuel, using corn-feed alternatives and more efficient route planning can contribute to a minimization of costs. By lowering the input expenses, the cost to consumers would potentially decrease, allowing Tyson to plan production in accordance with regular demand patterns.

In the current world of increasing use of online technologies, Tyson faces various cybersecurity threats. In 2021, one of Tyson's competitors, JBS SA, was forced to shut down all of its U.S. beef plants due to a cyberattack at their headquarters in Sao Paulo, Brazil, causing disruptions in the U.S. supply chain.⁸ The attackers were found to most likely be located in Russia, and between this attack in 2021 and the year prior, there had been more than 40 reports of ransomware attacks on the food industry alone. More recently, this past week on March 24, 2022, the U.S. Department of Justice released two indictments charging four Russian government officials with attempting, supporting, and conducting computer intrusions targeting the global energy sector between the years 2012 and 2018.⁹ While this did not specifically affect the food industry itself, it was a very wide-scale hacking event affecting hundreds of companies.

⁸ www.bloomberg.com/news/articles/2021-05-31/meat-is-latest-cyber-victim-as-hackers-hit-top-supplier-jbs

⁹ www.justice.gov/opa/pr/four-russian-government-employees-charged-two-historical-hacking-campaigns-targeting-critical

With threats like this, Tyson should prepare for potential hackings, especially with current tensions in Russia.

These cybersecurity risks can be mitigated by the use of a broad range of safety methods regarding the use of their technology. One way Tyson can stay on top of the changing online environment is by upgrading their systems and hardware as soon as possible. The automation of updates has made this easier for companies to do, but they must be authentic updates from the vendor. Updates allow for Tyson's systems to essentially fill in patches where a weakness in security measures may exist. Additionally, Tyson's technology team must have a system-recovery plan. The creation, testing, and utilization of a recovery plan would ensure the protection of critical data as well as outline the steps of how to move forward from a breach of security. By encrypting backups and storing data offsite and offline, when possible, Tyson can limit the exploitation of its sensitive data. Removing unnecessary hardware from the server and training employees on the use of their systems provides additional safety measures in protecting their data. One of the biggest changes in recent years is the implementation of duo-security and multi-factor authentication. When signing onto a server, computer, or various online accounts, the software can require multiple passcodes and pin numbers to ensure the person logging on has the right credentials to access the information.

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