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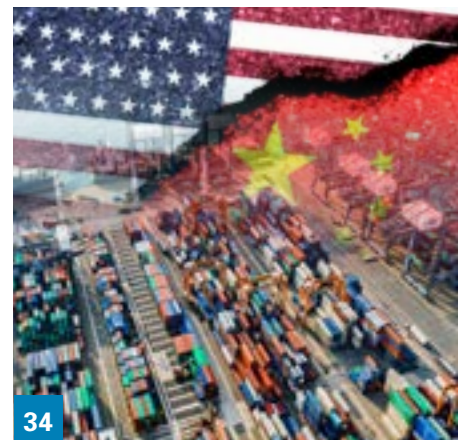
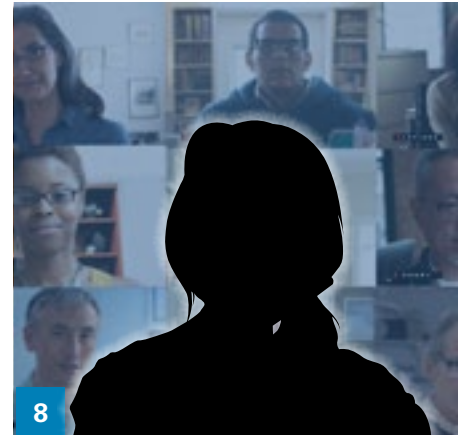
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Message from the Dean

Towson University, College of Business and Economics



Dear Colleagues and Friends,

I take great pleasure in sharing with you the twelfth issue of the *Baltimore Business Review: A Maryland Journal*. Year after year, *Baltimore Business Review* leverages the relative strengths of the College of Business and Economics (CBE) at Towson University and the CFA Society Baltimore to create an outstanding resource which showcases opportunities in the Baltimore and Maryland business communities and beyond.

Consistent with our vision, this issue covers a variety of topics from a diverse range of voices and perspectives, including scholars, local business practitioners and students. In this issue, we showcase how a Maryland family business continued to emphasize their values throughout the pandemic, highlighting what they have learned, and what other local businesses can take away from their experience. We discuss current trends in live music and the impact of the pandemic on the industry. You will also find an article collaboratively produced by a student and faculty member addressing the use of data analytics in the pharmaceutical industry. Further, we focus our attention on the market reaction to the announcement of tariffs on Chinese goods, as well as present a study from the Towson University Investment Group on students' knowledge of retirement and financial planning concepts.

I would like to express my appreciation to our editors and contributors to this issue of the *Baltimore Business Review*. It is their generous contributions of time and effort that made this publication possible. We are delighted that you are joining us as readers, and as always, we look forward to hearing any feedback.

Best regards,

Shohreh A. Kaynama, Ph.D.
Dean, College of Business and Economics

Message from the President

CFA Society Baltimore



Dear Friends and Colleagues,

The past year has been challenging to say the least and we have experienced things during the last year that are unprecedented. On behalf of myself and the rest of the board members of CFA Society Baltimore, I hope your families are safe and well during these times.

The CFA Society Baltimore was not immune from the affects of the COVID-19 pandemic and we had to change our business model on the fly, as many other businesses were forced to do the same. We shifted our focus from our traditional programming events at the Center Club, to virtual events and explored different types of content to connect and engage our membership.

Despite all the change in the past year, we still have been able to produce this year's Baltimore Business Review. This is the twelfth edition of the Baltimore Business Review and we are extremely proud of this publication. This year's Baltimore Business Review represents an ongoing partnership between the business and academic communities in Baltimore. CFA Society Baltimore is incredibly fortunate to have a great partnership with the Towson College of Business and Economics to make this world-class publication possible, despite everything going in the world right now.

This publication would not be possible with the help and support of our publication team. I want to thank the editor staff of Susan Weiner, and Lijing Du and Rachel Gordon from Towson University. I want to also thank the many contributors to this year's edition and to Rick Pallansch and Chris Komisar from the Towson University Creative Services team. Your time and efforts are incredibly valuable.

The CFA Society Baltimore originated in 1948 and currently serves over 750 members today. In a joint effort, the CFA Society Baltimore and its parent company, the CFA Institute, work to promote and advocate the principles of the CFA program. The society proudly leads the investment community and other finance related communities by promoting the highest standard of ethics, education, and professional excellence for the benefits of the entire community. In this publication, you can see the list of the top ten employers of our society's members.

During the past year, the CFA Society Baltimore has worked with Baltimore leaders to expand our efforts in diversity and inclusion in the investment management profession. We have, and will continue to listen to business and community leaders to learn the challenges of diversity and inclusion in the investment management industry in Baltimore. The leaders of the CFA Society Baltimore recognize that we are in a unique position in that we are a conduit between the investment management profession, academic institutions, and community organizations. We have set forth a plan and have put our time, effort and resources in making sure our goals and objectives are met with respect to diversity and inclusion.

I hope you enjoy this publication and find its content engaging and enriching. As always, we welcome your feedback and insights. To learn more about how CFA Society Baltimore can help support your career and professional network, please visit our website or find us on social media.

Zachary C. Reichenbach, CFA, CPA/ABV/CFE
President, CFA Society Baltimore



Top 10 Employers of CFA Society Baltimore Members

1. T. Rowe Price
2. Brown Advisory
3. Stifel Financial Corporation
4. PNC Financial
5. Legg Mason
6. Morgan Stanley Smith Barney
7. Aegon
8. Wells Fargo
9. Adams Funds, Inc.
10. Maryland State Retirement Agency



Financial Literacy: How Can Adults Help Future Generations?

Dave Donahoo, CFA

Board Member & Vice President, CFA Society Baltimore

We must start teaching financial literacy to children at young ages. This could make a big difference in the financial wellness of future generations.

Data shows that 59% to 78% of Americans are living paycheck to paycheck. That's consistent with another scary statistic: Only about 41% of Americans have enough savings to handle a \$1,000 emergency. In other words, essential but unexpected car or home repairs could push more than half of our fellow citizens into debt.

While many factors contribute to starkly different financial situations for Americans, the purpose of this article is to focus on financial literacy. Financial literacy can be a potentially powerful remedy for the lack of financial wellness reflected in the troubling statistics noted above. If Americans are not taught personal finance best practices, they are more likely to make poor financial choices. This can have long-run, generational effects.

Academic research, such as Divya Sridhar's "Financial Literacy Is More Important Now than Ever," tells us that to have the greatest impact, we should focus more on financial literacy than we have in the past. It also shows that children learn (or do not learn) about money and personal finance from their parents, which means that every parent has a responsibility to help their children learn about personal finance. Unfortunately, not all parents are adequately prepared to take on this responsibility.

This article highlights the ages—which are younger than you think—at which different forms of financial education becomes appropriate, how our financial education needs to evolve with technology (for example, my children may never balance a checkbook), the status of financial education in K-12 schools, the role of non-profits, and, most importantly, what we can all do to improve financial education outcomes.

How Young Is Too Young?

You may have personal experience with financial education for children in the form of an allowance. Children are monetarily incentivized to do household chores. For example, if they take the trash out and help wash dishes, \$10/week goes into their piggy bank. While research is mixed on whether money should be tied to contributing to family chores—to be sure, many children must step up in their households out of necessity, without a monetary reward—the research unequivocally says that we need to teach general financial education at a younger age than we think we should.

But children's financial education shouldn't start and end with an allowance. Experts suggest that as early as second grade, parents can introduce the concept of "need" versus "want." (My three-year-old argues she "needs" M&Ms ... we are working on that.) Need versus want—or spending now versus saving for later—is at the heart of financial education. It's also a foundation for concepts like "emergency savings."

In sixth to eighth grades, children learn about what Albert Einstein called the "eighth wonder of the world": compounding interest. In the asset management industry, we often talk about the positive power of compounding returns. However, it also works in reverse. Proper debt management is key for American households to avoid the negative power of compounding. Debt can grow rapidly—much more rapidly than many Americans grasp.

High schoolers, armed with an understanding of the positives and negatives behind compounding, are then forced to grapple with their first big-ticket life choices: the three Cs of cars, colleges, and credit cards. A greater focus on such "real world" challenges could yield results.

If we accept that teaching our children financial education at a young age is essential, should we teach them what we learned?

Technology Has Changed Personal Finance

I walked into my home office this autumn on a mission to find my checkbook. After finding it, I was embarrassed to explain to our contractor that I had run out of checks. A Venmo transaction later, I went online and ordered a sleeve of checks from my banking institution. Checks were offered in groups of 10, 25, or 50. I opted for 25 checks, knowing they will last me a few years.

Technology has changed personal finance profoundly over the last 30 years, but we have not changed the way we teach personal finance. The rise of credit cards in the 1990s, combined with online shopping in the 2000s, has made it difficult for everyday Americans to truly understand their spending habits. The ability to buy by clicking an online "buy now" button on Amazon makes it tougher and tougher—even for adults—to see the difference between a "need" and a "want." And,

without the example of mom and dad balancing a paper checkbook, kids have even less insight into personal finances today. Today, online budgeting services such as Mint serve as a virtual checkbook or ledger. The way that we teach personal finance needs to change to reflect these changes.

Lack of Preparedness at the K-12 Level

K-12 schools have long struggled with how to address financial education, although they recognize its importance. The lack of financial education for K-12 students isn't malicious. Rather, it's because many teachers lack the confidence to provide financial education—either because they grew up in families where it was taboo to talk about money or because they felt inadequately prepared to position themselves as experts.

Luckily, with greater awareness of the need to teach financial literacy at the K-12 level has come efforts to bring about change. We are seeing more and more school districts adopt some form of financial education training for their students. In the past decade, legislative efforts to improve financial literacy have accelerated. As of the 2018 legislative session, thirty states have passed legislation addressing K-12 financial literacy education.

However, the efforts to introduce financial education have had mixed results. Teachers historically have not received strong financial education training. Only one in five (20%) teachers felt competent to teach personal finance, according to *Teachers' Background and Capacity to Teach Personal Finance: Results of a National Study*. In contrast, almost 90% of teachers believed there *should be* some form of required financial education course.

If we all agree that personal finance is an important topic, but K-12 teachers aren't prepared to teach, where do we turn?

Role of Nonprofits

Over the past 30 years, many mission-oriented nonprofits have focused on partnering—not competing—with our public schools to provide financial education to children. The CFA Society of Baltimore, of which I'm a member, has worked with several. To ensure the next generation of adults is better prepared for a \$1,000 financial emergency than our current generation, we must find more ways to assist nonprofits in providing



Over the past 30 years, many mission-oriented nonprofits have focused on partnering—not competing—with our public schools to provide financial education to children.

financial education to K-12 schools.

Some examples of successful programs include Junior Achievement, a national nonprofit focused on K-12 education that develops and administers in-classroom financial education through a network of volunteers. The United Way has a similar program. John Hopkins School of Education has developed Stocks in The Future, a financial literacy program that reinforces math, language arts, and social studies here in Baltimore.

While financial education is needed across all races and genders, research shows young girls suffer from significantly higher confidence gaps related to finances. The Invest In Girls financial literacy program, which says only 12% of girls feel financially confident, has as its mission to change that statistic.

Like nonprofits, many corporations, especially in the financial services sector, have begun to develop financial wellness programs for their employees, including programs around the topic of how parents can talk with their children about money. My firm, T. Rowe Price, is one of many that have developed content around this subject, partnering with Junior Achievement to deliver the Money Confident Kids financial literacy program.

How Can You Make A Difference?

Financial education is a lifelong journey, but the journey must start early. If you want to get involved, the organizations I've mentioned are great places to lend your time and resources (find their websites in the "References" section below).

The CFA Society of Baltimore recognizes the role we can, and must, play as financial services professionals beholden to the broader Baltimore community. In addition to our longstanding practice of engaging with college students who are pursuing careers in finance, we have begun to partner with many organizations, including those listed above, to put our collective financial expertise to use.

I hope this article serves as a starting point for all of us to better explore the importance of financial education and to think about ways to pass along our knowledge to future generations.

References

Invest in Girls, a financial literacy program. <https://www.investgirls.org>

Money Confident Kids, a financial literacy program. <https://www.moneyconfidentkids.com>

Morton, Heather, *Ongoing Effort for Financial Literacy: National Conference of State Legislatures* <https://www.ncsl.org/blog/2018/03/28/ongoing-efforts-for-financial-literacy.aspx>

Sridhar, Divya, "Financial Literacy is More Important Now than Ever," Medium.com <https://medium.com/inspired-ideas-prek-12/financial-literacy-is-more-important-now-than-ever-ad771fe450ae>

Stocks in the Future, a financial literacy program. <https://www.sifonline.org>

Way, Wendy L., and Holden, Karen (2010). *Teachers' Background & Capacity to Teach Personal Finance: Results of a National Study*, National Endowment for Financial Education. <https://www.fdic.gov/about/comein/Mar3.pdf>



Managing the Pandemic: How a Maryland Family Business Maintains Their Values While Updating Operations

R. Gabrielle Swab

Assistant Professor, Department of Management, Towson University

The coronavirus disease 2019 (COVID-19) initiated economic disruptions in both large and small businesses, with a June 2020 study finding 94% of downtown Baltimore businesses were adversely affected by COVID-19.¹ A broader analysis of 5,800 small businesses in the United States finds patterns in mass layoffs, the risk of closure, and financial fragility.² This is concerning for Maryland, as small businesses in the state employ approximately 50% of our private workforce and are increasingly contributing to economic growth, such as providing over 10,000 net new jobs to our communities in 2016 alone.³

The COVID-19 Emergency Relief \$50M Grant Fund provided assistance to small businesses and nonprofits in Maryland,⁴ but some have still been unable to survive. Maryland businesses have also had to consider updates to both their internal and external processes and operations. This article focuses on those considerations in a local family business in Baltimore County, Kelly & Associates Insurance Group and Kelly Payroll (KELLY).

The KELLY Values

KELLY began in the home of husband and wife, Frank and Janet Kelly in 1976 to help local small businesses acquire affordable health care benefits for their employees. Through an innovative association relationship model, they brought these small businesses together through common industry, trade, and profession to form larger groups, allowing for access to better rates and benefits. Since, KELLY has grown into an enterprise integrating solutions for employers of all sizes in insurance, benefits, payroll, and various human resource solutions, and it continues to operate as a family business.

Like other local organizations, the pandemic has forced KELLY to consider changes to their business practices quickly and efficiently. Frank Kelly III, the eldest son of Frank and Janet, and Chief Executive Officer, said the business has continued to focus on adhering to their core values when making decisions and deciding how to move forward. This focus is on their people, both internally on employees and externally on their clients.

External Considerations

Though KELLY supports a variety of companies and industries nation-wide, the majority of their core clients are located in the mid-Atlantic. By mid-April and continuing into May, the company started to see a decrease in revenue. Since June, KELLY has remained stable. Though not near back to normal, with many clients still struggling, others, such as those in the trucking industry, have seen an increase in business. Restaurants and retailers were KELLY's largest customer segments to take a hit, with one client going from 8,000 to only seven employees in a matter of months. This particular client has grown back to over 3,000 employees, so they are hopeful these businesses will continue to recover. Accordingly, though mid-Atlantic businesses, such as those they support are still struggling, those which survived are beginning to see an uptick in business.

CEO Frank Kelly III affirms the struggles are not just with current clients, but in obtaining new business. "Our sales team and their current and target clients are having to adjust to new ways of networking and developing relationships", he mentions. Like other companies, they have been relying more on virtual meetings.

Internal Considerations

In a matter of one week in March, KELLY transitioned their staff from approximately 95% of their nearly 500 employees being in office, to 95% working remotely. The Vice President of Human Resources, Trish Backer-Miceli, attributes this quick transition to their emergency preparedness program, which included tabletop exercises that proactively prepped and tested equipment. Though they previously believed a disruption of in-office operations would likely be due to a weather emergency, this frequently practiced and discussed plan allowed remote work to begin more smoothly than it would have been otherwise.

Chief Operating Officer, Wes Mace, described the internal operational changes in three phases. During Phase 1, the primary focus of the organization was the health and safety of the employees both physically and emotionally. Mace used this phase as an opportunity to get to know his approximately 200 employees working under him on a deeper level. While in the office, most engagement was done in group meetings, with the manager and employee ratio at approximately 1:8. Since going

virtual, Mace and his management team have sought to have more one-on-one time with employees. Though remote, the practice ensures their employees are given a voice into how they are being affected personally and professionally. Though he sees no particular pattern in employee apprehensions and adjustment pains, they have continued to be concerned with those employees with young families at home during their work hours. As an additional layer of support, KELLY provides access to confidential emotional and spiritual services through their corporate chaplain, who is affiliated with Corporate Chaplains of America. The partnership provides employees with the ability to speak with a well-trained resource for encouragement, prayer, conversation or for general assistance in dealing with personal situations such as stress or crisis management.

Phase 2 focused on adjusting and reinforcing those disrupted business operations, though it became an ongoing process in evaluating what was working and not working. Phase 3, also an ongoing process, includes evaluating how the business will change going forward. Mace points out that although approximately 20% of their employees are back at the office, the plan is to have more return in the future though they are unsure of exactly how this will permanently change operations, along with the unknown timeline in which COVID-19 will be affecting the Baltimore area.

Moving Forward

In focusing on their employees and clients, despite drops in revenue, KELLY was able to maintain strong customer service and relationships, without a slip in service-focused Key Performance Indicators. They attribute this to their strong culture. The Senior Management Team (SMT) is utilizing Phase 3 to consider the success rate of what they have stopped and started doing as well as what they plan to continue. In answering their questions, businesses may wish to consider some of the following practices now and when moving forward.

Adhere to your values: Though organizational changes may occur during this time of uncertainty, it should not deter from the organization's mission and value statements, which should drive its culture if aligned properly. The KELLY culture is driven by the founders' and owners' values and vision. Organizational culture is further ingrained based on how top managers respond



However, employee health and safety are concerns, along with the need to be flexible to the personal circumstances of employees and the new work-life balance the pandemic has caused.

to critical incidents and organizational crises. Accordingly, when faced with issues, management responding in a way that matches the organization's mission and values sends a clear cultural message.⁵ Therefore, when KELLY stuck to considering people first, their SMT showed their resilience towards their core values when reacting to a crisis or tough situation(s).

Communicate often: Employees of all levels wish to be heard and valued, and organizations sometimes exacerbate the impact of a crisis due to poor communications.⁶

Overall, employees may be the biggest determinant in how fast and how well an organization recovers from a crisis. They are not only the first contact with customers both during and after, but employees themselves take note of how the organization communicates during the crisis. A lack of communication during a hardship can come at a high cost, but those leaders who communicate well determine the faith their employees and other business partners will have in them.⁷ While the KELLY SMT agrees that communication and engagement have been a struggle, they have encouraged middle level management to keep their team(s) engaged and supported.

Set expectations: According to Mace, "Frustration is unmet expectations", so he has sought to specifically address these with employees. This has presented a challenge, as the timeline for the pandemic is still unknown. However, employee expectations are important and have a variety of accompanying considerations such as motivation levels and job satisfaction.⁸ Employee expectations have changed in light of the pandemic, and leaders should be cautious in expecting business to return to normal, but rather should find a new normal to reshape or reinvent the organization.⁹ Therefore, though the KELLY team is unsure of the future, they have set expectations that while the day-to-day aspects of life at KELLY might look different, they do have a plan for coming back into the office eventually. However, employee health and safety are concerns, along with the need to be flexible to the personal circumstances of employees and the new work-life balance the pandemic has caused.

Consider new opportunities: While the pandemic has produced much stress, "Necessity is the mother of invention", as described by Mace. This change in business operations has forced them to consider opportunities and challenges in a way they were unable to before. One such opportunity is in how they recruit new employees. While KELLY had previously focused on recruiting those within the Baltimore area to work within their physical office space, they recognize they are able to successfully conduct remote operations when needed. As they are still trying to find their new normal, they are not currently or specifically looking outside the area for hiring, but acknowledge they are able to widen their recruitment pool if needed.

Though CEO Frank Kelly III misses the 'synergy and energy' of being connected in person, the KELLY employees rose to the challenge of remote work. This has allowed the KELLY SMT to see that team meetings or other activities may not be as effective as they once believed, and they are continually searching for ways to keep employees engaged, while eliminating those activities that have proven to be not as productive or necessary.

Final Thoughts

Despite KELLY and other organizations in our community finding best practices that are working for them, this is not without struggles, stress, and a bit of trial and error. Unfortunately, many businesses in our community are still struggling and will likely continue to do so. Support your local businesses and community in ways in which you are able. Small or local businesses may find also resources and information on COVID-19 Assistance at the federal and state level through the Maryland Small Business Development Center.¹⁰

References

- ¹<https://www.bizjournals.com/baltimore/news/2020/06/30/downtown-partnership-survey-coronavirus-effects.html>
- ²<https://www.pnas.org/content/117/30/17656>
- ³<https://cdn.advocacy.sba.gov/wp-content/uploads/2019/04/23142650/2019-Small-Business-Profiles-MD.pdf>
- ⁴<https://commerce.maryland.gov/fund/maryland-small-business-covid-19-emergency-relief-grant-fund>
- ⁵Kinicki, A., & Williams, B. K. (2016). *Management: A practical approach*. McGraw-Hill Education.
- ⁶Goodman, M. B., & Hirsch, P. B. (2010). *Corporate communication: Strategic adaptation for global practice*. Peter Lang.
- ⁷<https://www.shrm.org/hr-today/news/hr-magazine/1116/pages/communicating-with-employees-during-a-crisis.aspx>
- ⁸Irving, P. G., & Montes, S. D. (2009). Met expectations: The effects of expected and delivered inducements on employee satisfaction. *Journal of Occupational and Organizational Psychology*, 82(2), 431-451.
- ⁹<https://www.forbes.com/sites/kathycaprino/2020/04/30/how-employees-expectations-have-changed-through-the-pandemic-what-leaders-and-hr-officers-need-to-know/#a8107204f898>
- ¹⁰<http://www.mdsbdc.umd.edu/covid-19-assistance>



Short-termism Meets a New Frontier

Matt Orsagh, CFA, CIPM

Senior director, Capital Markets Policy, Americas, CFA Institute

A company's focus on short-term results can corrode shareholder wealth. Our analysis of short-termism for the CFA Institute has proved that, and yielded recommendations for how to fix the problem. And now, short-termism is taking on a new meaning as investment management and corporate leaders focus on sustainability and ESG (environmental, social, governance) goals.

Companies that failed to invest in research and development; selling, general and administrative expenses; and capital expenditures tended to underperform in the medium term (three to five years), when the numbers were crunched over a 22-year period. The results? Short-termism over that period resulted in estimated agency costs (i.e., foregone earnings) of \$1.7 trillion, or about \$79.1 billion annually.

Clearly, this is a problem that merits attention.

Progress on Recommendations Since 2006

Since 2006, we have recommended the following to corporate leaders, asset managers, investors, and analysts:

- **Reform earnings guidance practices:** All groups should reconsider the benefits and consequences of providing and relying on focused, quarterly earnings guidance and their involvement in the “earnings guidance game.”
- **Develop long-term incentives across the board:** Compensation for corporate executives and asset managers should be restructured to achieve long-term strategic and value-creation goals.
- **Demonstrate leadership:** Leaders should shift their focus to long-term value creation.
- **Improve communications and transparency:** More meaningful, and potentially more frequent, communications about company strategy and long-term value drivers can lessen the financial community's dependence on earnings guidance.
- **Promote broad education of all market participants:** All parties should understand the benefits of long-term thinking and the costs of short-term thinking.

Since 2006, progress has been made on several of these fronts. S&P 500 companies issuing quarterly guidance fell from 36.0% in 2010 to 27.8% in 2016, according to *Moving Beyond Quarterly Guidance: A Relic of the Past*, published by FCLTGlobal.

Executive compensation practices have improved as well. Developments such as shareowner say-on-pay voting and majority voting for boards of directors have increased engagement between investors and issuers on compensation. Some of the worst practices—including tax gross-ups and the repricing of stock options—have mostly gone away. Now executive compensation is more often linked to long-term strategic interests. Also, transparency around executive compensation has improved.

New Recommendations

After revisiting the topic of short-termism with another set of distinguished panelists, CFA Institute adopted four new recommendations for market participants in *Short-Termism Revisited: Improvements Made and Challenges in Investing for the Long-Term* (2020):

1. Issuers and investors should focus their engagement on long-term strategy and agreed-upon metrics that drive that strategic success as a substitution for stepping away from earnings guidance.
2. Issuers and investors should simplify executive compensation plans so that incentives better align with those of shareowners and are more easily understood.
3. Issuers and investors both should make meaningful investments in engagement to foster increased discussion around the long-term issues most important to a company's strategy.
4. Issuers and investors should establish better standards around ESG data, so the data are consistent, comparable, and audited, as well as material.

Although executive compensation practices have improved, the panel we assembled had a common complaint: Executive compensation programs have become too complicated and simpler pay structures would benefit both issuers and investors.

Engagement has improved communications between issuers and investors, helping to better educate each side. This development has required leadership; all actors in this market development should be commended.

The Next Frontier: Sustainability and ESG

Sustainability and ESG were not part of our 2006 study, but in 2020 they represent the next frontier of short-termism.

Much work needs to be done for ESG to constructively contribute to overcoming short-termism. We need agreement on the following:

- **Who are the principals?** When addressing short-termism, the principal is the shareholder. When addressing ESG, we usually consider multiple stakeholders whose interests need to be considered.
- **How do you define agency costs?** For short-termism, agency costs are the reduction in shareholder value. For ESG, each element of the triad has multiple potential agency costs, some of which—but not others—can be easily defined as a monetary value. Environmental agency costs might include the remediation costs of cleaning up after a polluter. They might also measure the number of polar bears lost because of rising seas.
- **How do you measure agency costs?** With short-termism, the loss in shareholder value can be computed as shown in the appendix of *Short-termism Revisited*. With ESG, one can quantify some environmental and remediation costs, but that doesn't answer questions such as how to measure the value of stopping the trade in conflict diamonds or how do you measure the value of a diverse board of directors or of workers having representatives to the board?
- **What about trade-offs?** With short-termism, there is a clear goal (maximizing shareholder value) and no intrinsic trade-offs to reach that goal. ESG necessarily involves trade-offs among the E, S, and G goals themselves, as well as between ESG goals and earnings. There are also trade-offs among different shareholders. For example, a proposal could benefit employees at the expense of shareholders, or customers at the expense of employees.

- **How big is the prize?** CFA Institute estimates that addressing short-termism could increase shareholder value by some \$200 billion. This is a large figure, but it is dwarfed by the potential costs of making poor ESG decisions. The Economist Intelligence Unit estimated the global cost of climate change by 2050 to be approximately \$8 trillion (some 40 times the impact of short-termism), according to Phys.org. And this is just one subset of one part of the ESG triad. So, although the challenge of addressing ESG is vastly greater than that of short-termism, it offers a vastly greater prize.

Big numbers and tough choices are not just short-term problems.

References

CFA Centre for Market Integrity, Business Roundtable Institute for Corporate Ethics (2006), *Breaking the Short-Term Cycle*. <https://www.cfainstitute.org/en/advocacy/policy-positions/breaking-the-short-term-cycle>

CFA Institute (2020), *Short-Termism Revisited: Improvements Made and Challenges in Investing for the Long-Term*. <https://www.cfainstitute.org/-/media/documents/article/position-paper/Short-termism-revisited.ashx>.

FCLTGlobal (2017), *Moving Beyond Quarterly Guidance: A Relic of the Past* <https://www.fcltglobal.org/wp-content/uploads/Moving-Beyond-Quarterly-Guidance-A-Relic-of-the-Past.pdf>.

Galey, Patrick, "Climate impacts 'to cost world \$7.9 trillion' by 2050," Phys.org (Nov. 20, 2019), <https://phys.org/news/2019-11-climate-impacts-world-trillion.html>.

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Live Music Industry Is Poised for a Strong Rebound: Evidence from Streaming Trends

Finn Christensen

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The live music industry had been booming prior to the coronavirus pandemic. According to estimates from Pollstar, an industry magazine which gathers concert box office data, ticket revenue from live performance in North America climbed from \$2.47 billion in 2000 to \$8.18 billion in 2017. Recently, however, the coronavirus pandemic has taken a heavy toll. Despite a few months of normal activity prior to the lockdowns, the 2020 mid-year gross was only 54.4 percent of 2019's mid-year gross. Locally, the stages of Maryland venues have fallen silent since mid-March 2020, and some smaller local venues have shut down permanently. Although the industry has been severely impacted, recent research by me and others suggests that increasing streaming trends will continue to stimulate the demand for live music post-pandemic.

Trends in Live Music

Before discussing the role of streaming, let's first unpack the pre-pandemic industry revenue trend into its constituent parts: ticket prices and tickets sold.

One way to do this is to concentrate on the top tours since data are available from Pollstar's annual list of the top 200 grossing tours in North America. The average ticket price in 2004 among this elite group was \$46.18. If prices had simply kept up with inflation, then the average ticket price in 2018 would have been \$61.24. In reality it was \$81.43.

Despite this rapid increase in prices, the number of tickets sold among the top 200 tours increased from 46.1 million in 2004 to 55.5 million in 2018. The fact that both ticket prices and tickets sold increased over this time period indicates that the demand for live concerts increased over this time period.

National price and sales data for tours outside the top 200 are difficult to obtain, but I do have data on some local venues where concerts are performed. Dedicated venues host events from a wide variety of artists, not just the elite ones who make the top 200. If we observe similar trends at the venue level then we can be more confident that the changes in the live music are industry-wide rather than concentrated at the top.

Figure 1: Average Price per Ticket Among the Top 200 Tours and Overall Inflation Rate

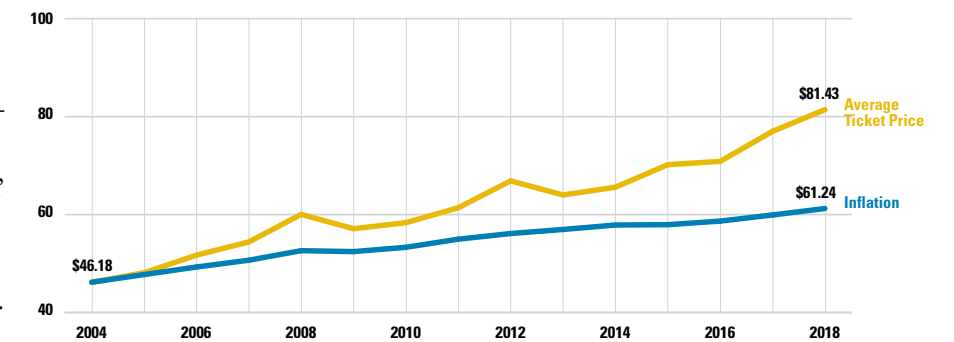
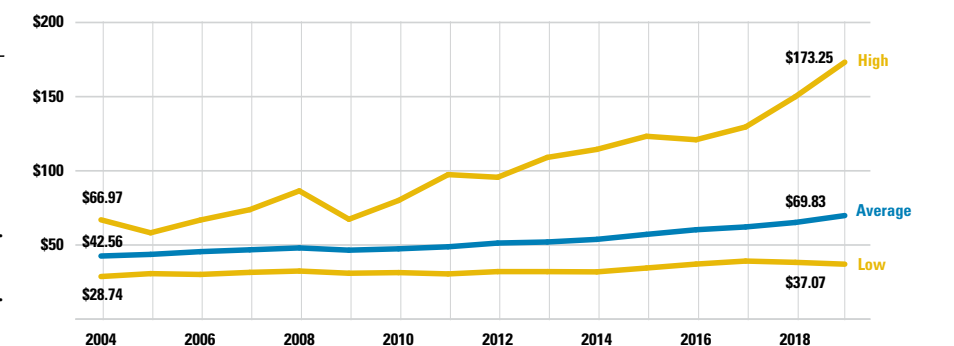


Figure 2: Average Price per Ticket, Average Maximum Price, and Average Minimum Price at Local Venues



Data quality for any specific venue varies, so I aggregate data across six Baltimore-Washington area venues. These include the Capital One Arena in downtown DC, the EagleBank Arena in Fairfax, VA, the Filene Center in Wolf Trap, VA, the Royal Farms Arena in downtown Baltimore, the Merriweather Post Pavilion in Columbia, and the MECU Pavilion (formerly Pier Six) at Baltimore's Inner Harbor.

The average ticket price across all six venues increased steadily from \$42.56 in 2004 to \$69.83 in 2019, far above the price of \$56.44 that inflation alone would have predicted. Part of what is driving this price increase is an industry trend toward greater price discrimination. The best seats are increasingly sold at a premium. In fact, while the lowest priced tickets have merely kept pace with overall inflation, the highest priced tickets have nearly tripled since 2004.

Figure 3: Number of Shows at Local Venues (3-Year Moving Average) and Percent of Capacity of Capacity Sold

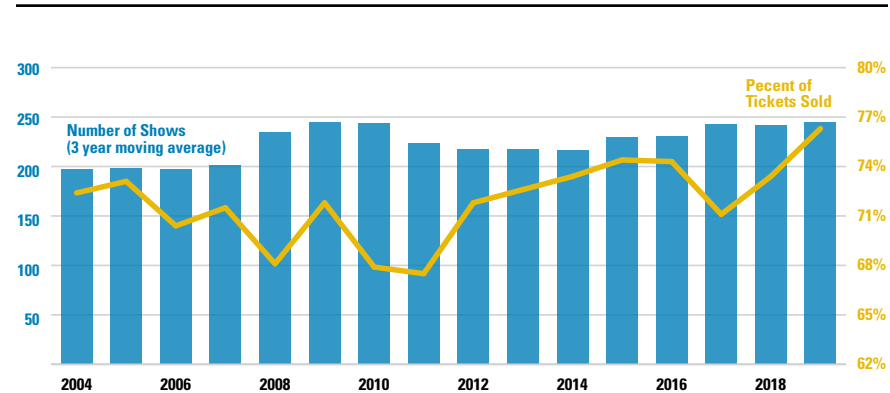
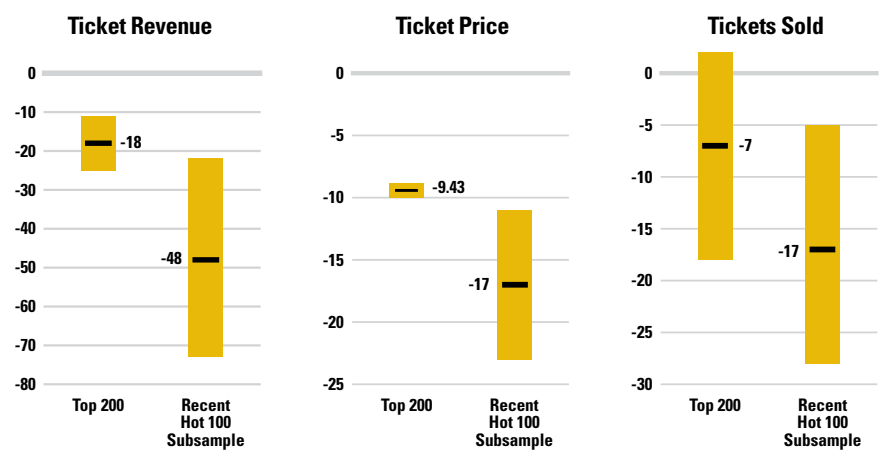


Figure 4: Estimated Difference in the 2008 to 2009 Percentage Change in Ticket Revenue, Price and Tickets Sold Per Show Between NonWarner Artists and Warner Artists Who Made the Top 200 and a Subsample with a Recent Hot 100 Song



Ticket revenues go to artists and promoters while venues make money through rental fees, sponsorships, concessions, and parking. In this sense venues care very much about the number of shows and attendance. Across all six Baltimore-Washington venues, annual ticket sales increased from around 1.1 million in 2000 to 1.8 million in 2019. This increase came about through a combination of selling a higher percent of a show's capacity and an increase in the number of shows per year. In Figure 3 I use a three-year moving average for number of shows to smooth out year-to-year fluctuations.

All told, the numbers from the top 200 tours and local venues are broadly consistent. Demand for live concerts has been increasing industry-wide since the digitization of music.

Digitization and Live Music

While live music revenues were growing, the recorded music industry was transitioning from distributing music on CDs to distributing it through the Internet. In the early days of digital music, illegal file-sharing, or piracy, using software such as Napster was prevalent. In the mid to late 2000s, paid downloads and ad-based streaming through services like YouTube and Pandora became popular. In the 2010s, freemium streaming services like Spotify and Apple Music which now dominate the space began to emerge in the United States.

Digitization could stimulate the demand for live music in several ways. Compared to traditional radio and purchasing CDs, streaming provides the consumer a more interactive experience and access to more music. Users can discover and explore music more easily, making it easier to form the emotional connection to an artist's music that drives concert attendance. Also, concerts are more fun if you know the songs and can sing along. Streaming has lowered the cost of this concert preparation. Finally, listening to a recording is enhanced if one can reminisce about going to a concert, and knowing this in advance can make attending a concert more attractive. The on-demand nature of streaming services makes this nostalgic listening easier.

Academic research supports the link between digitization and live music. A 2012 study by a team of researchers at Boston College, University of Wisconsin-Madison, and the University of Chicago demonstrated that a positive break in trend for live music revenue occurred in 1999, the same year as the Napster launch. Moreover, the break in trend was more pronounced in areas with greater broadband access, consistent with the idea that file-sharing stimulated concert demand.

Evidence from YouTube

In a recent working paper, I demonstrate that the concert business of artists under the Warner label suffered during a blackout of Warner content from YouTube during the first nine months of 2009. This is consistent with the idea that streaming stimulates concert demand.

Warner was one of four major record labels at the time, and all of them were negotiating compensation from YouTube for copyrighted music played in videos on its site. While the other labels were able to strike a deal with YouTube, Warner and YouTube could not. This impasse resulted in the Warner blackout until mutually agreeable terms could be reached.

The Warner-YouTube blackout provides what is known as a "natural experiment." In this experiment, Warner artists were "treated" with removal from the most popular music streaming site in the world at the time. Non-Warner artists served as the control group. This assignment to treatment and control groups was effectively random as I demonstrate in the paper. Thus, it is plausible that the difference in year-over-year measures of concert business performance between non-Warner and Warner artists can be attributed to the blackout.

Using Pollstar data for the top 200 tours, I show that in the years preceding the 2009 blackout, Warner and non-Warner artists had very similar concert outcomes with respect to revenues, average ticket price, and attendance. But in 2009 Warner artists had a tough year compared to non-Warner artists.

Specifically, I estimate that the percentage change in revenue from 2008 to 2009 was 18 points lower among Warner artists, and the percentage change in average ticket prices was 9.4 points lower. My estimates did not pick up a significant difference in the percentage change in tickets sold per show. These effects are illustrated in the Figure 4. The black square is the point estimate and the yellow band is the 95 percent confidence interval. The fact that the confidence interval around the estimated price effect among the top 200 is barely visible means that the effect was estimated precisely.

It is unlikely that artists were equally affected by the blackout. For example, fans of Willie Nelson or Diana Krall probably did not turn to YouTube in 2008-2009 as much as fans of Taylor Swift or the Spice Girls. The former group of artists were probably less affected by the blackout than the latter. To capture this idea, I estimate the effects of the blackout among a subsample of artists who recently had a song in the *Billboard* Hot 100, a weekly ranking of recorded songs based on sales and traditional radio play (streams were not factored in the ranking in a significant way until 2012.) Thirty-three percent of artists in the top 200 had a recent Hot 100 song.

Among these hot artists, the percentage change in revenue from 2008 to 2009 was 47.6 points lower among Warner artists, the percentage change in average ticket price was 16.8 points lower, and the percentage change in the tickets sold per performance was 16.6 percentage points lower.

The evidence suggests that simultaneous rise in the live music industry and in streaming is more than just coincidence; the rise in streaming appears to have stimulated the demand for live music.

The Impact of the Pandemic

Very few live shows are being played during the pandemic, but venue owners' fixed costs such as insurance and rent still need to be paid. Small independent and privately-owned venues are particularly vulnerable. In fact, The Soundry in Columbia, MD, the U Street Music Hall in DC, and others have shut down permanently due to the pandemic. Larger players such as AEG and Live Nation Entertainment are more likely to weather the pandemic, so we can expect greater concentration in the venue industry after this is all over.

For industry players who survive, the post-pandemic picture looks rosy. It's difficult to predict exactly when demand will fully return, but there is a hunger for live music and live events more generally. After all, just think about the 2020 Sturgis motorcycle rally in South Dakota which drew large crowds despite the health risks. And the recent approval and rollout of highly effective vaccines is certainly welcome news.

In addition, paid subscriptions to streaming services have exploded in the last few years as complementary products have emerged such as smart speakers and apps like CarPlay. These products make it easier to use streaming services at home and in the car. While Spotify CEO Daniel Ek acknowledged in a recent earnings call that some of this uptake in streaming is due to podcasts, I suspect that many new subscribers will also be listening to music. If so, we can expect the demand for live music to continue to increase beyond pre-pandemic levels.



U.S. Corporate Leverage—Pressure Is Building Beneath the Surface

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Last year's Baltimore Business Review covered a speech by former Federal Deposit Insurance Corp. Chair Sheila Bair in which she expressed concern over the record level of debt among U.S. businesses. This article updates the analysis and provides a deeper quantitative dive into the leverage profile of S&P 500 companies. It also considers how those profiles should factor into stock analysis.

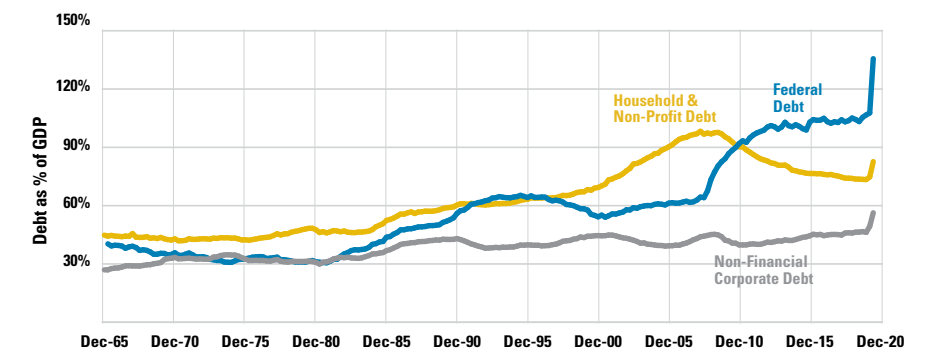
Federal and Corporate Debt Hits Record Levels

U.S. companies and the federal government have issued record levels of debt in recent years, largely due to nearly a decade of record-low interest rates. Figure 1 shows that federal debt currently represents 136% of GDP (blue line) and corporate debt represents 56% of the national output (gray line), both of which are historic highs since at least 1965. Debt levels as of the end of 2020's second quarter were: \$10.99 trillion nonfinancial corporate, \$26.48 trillion federal, and \$16.14 trillion household and nonprofit. Each of these debt levels represents absolute historic highs. The latest observation for the second quarter of 2020 looks especially dramatic due to the onset of the COVID-19 pandemic as U.S. GDP declined 9.5%, while federal debt increased 14.0% and corporate debt increased by 3.3%.

Figure 1 also shows an uptick in U.S. household debt to 83% of GDP (gold line) at the end of the second quarter. However, unlike the financial crisis of 2008–2009, the rise in consumer debt is significantly lower, which is consistent with Ms. Bair's observation last year that U.S. households' low indebtedness has been a positive development.

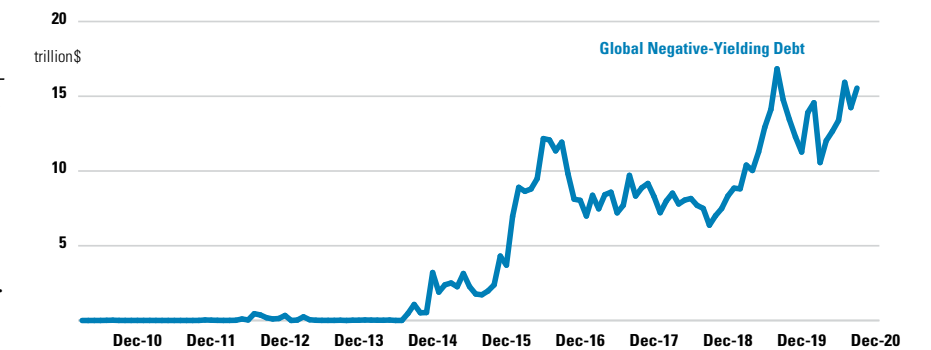
As noted above, the latest increases in federal and corporate debt in Figure 1 were worsened by the sharp decline in GDP caused by the widespread economic shutdown to fight the coronavirus. It would be reasonable to see a similarly sharp decline in these ratios once GDP rebounds in a post-pandemic world. However, the data series were at historic highs even before the COVID-19 pandemic-related spike, and there are no signs of a meaningful reduction in these ratios because most central banks and governments remain committed to accommodative fiscal and monetary policies to fight the economic slowdown from the coronavirus.

Figure 1: U.S. Nonfinancial Corporate and Federal Debt As % of GDP Are at Historic Levels



Source: U.S. Bureau of Economic Analysis, Board of Governors of the Federal Reserve System (US), and U.S. Department of the Treasury. Retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org>, on October 8, 2020.

Figure 2: Global Negative-yielding Debt Is Near Historic Highs (\$ trillion)



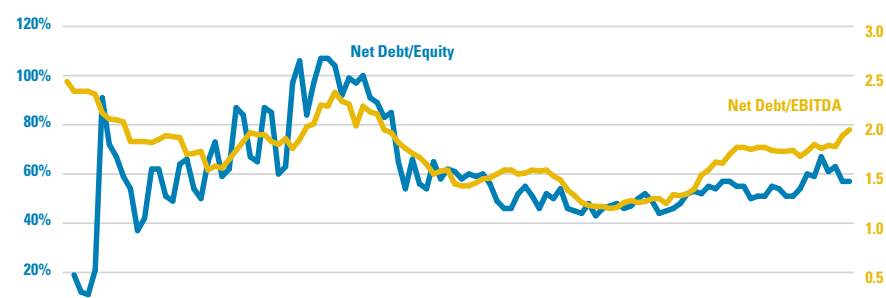
Source: Bloomberg, L.P.

% Neg-Yield Debt (9/30/20)

Japan	32.5%
Germany	15.7%
France	15.2%
Spain	4.9%
Netherlands	4.6%
Britain	4.4%
Italy	3.7%
Supranational	2.8%
Belgium	2.7%
Austria	2.0%
Switzerland	1.7%
Finland	1.3%
Luxembourg	1.2%
Sweden	1.2%
Denmark	1.0%
Ireland	0.9%
United States	0.8%
Others	3.4%

These aggressive policy measures are appropriate to manage the fallout from the global pandemic. But these accommodative monetary and fiscal policies come on the heels of multiple years of accommodative policies that have virtually eliminated the potency of interest rates as a policy tool around the world. Developed economies around the globe have been issuing negative-interest-rate debt for several years. As Figure 2 shows, there is nearly \$16 trillion of negative-yielding debt outstanding as of September 30, 2020, with Japan representing nearly one-third, and Germany and France each representing one-sixth of the total.

Figure 3: S&P 500 Leverage Ratios Are Close to Long-Term Averages



Current observations as of 9/30/2020: Net Debt/Equity: 57%; Net Debt/EBITDA: 1.95x
 Data for net debt/equity represents the weighted-average metric for S&P 500 companies. Data for net debt/EBITDA represents aggregate net debt and last-12-month EBITDA for S&P 500 companies.
 Source: FactSet Research Systems

Negative-yielding debt condemns bondholders to lose money if they hold the issue to maturity. At the macroeconomic level, central banks in Japan and Europe are using this as a monetary policy tool to encourage banks to lend and stimulate the economy. At the microeconomic level, investors may tolerate negative-yielding bonds due to anticipation of even worse returns in other investments. For traders, negative-yielding debt could simply be an outcome of positive momentum in the price of these bonds, where successive trades at higher prices are profitable as yields move further into negative territory.

Pressure Is Building

There is a logical narrative for why U.S. corporate and federal debt are at historic highs—both absolutely and relative to GDP. There is also a rational explanation for why developed economies are awash in negative-yielding debt. However, it is unreasonable to expect these trends to continue without a major disruption or reversion to their long-term averages because these dynamics come with ever-increasing risks. These trends represent pressure building beneath the surface of an otherwise profitable and rising market.

It is possible that large-scale fiscal spending into the global economy’s long-term productive capacity would generate sufficient economic productivity to pay off all the debt, especially with such low interest rates. But what

if productivity does not support enough real economic growth to carry the debt burden? In such a scenario, the aggressive policy measures would result in inflationary pressures and higher interest rates, even if we get some nominal economic growth. It is also worth considering more stressful scenarios, such as a crisis of confidence in the creditworthiness of the borrowers in a modest economic recovery, in which case the higher cost of borrowing would likely push levered businesses into distress or even bankruptcies. Or, what if geopolitical, socioeconomic, or existential risks like war, income/wealth inequality, climate change, etc., disrupt the socioeconomic stability required to bring the global debt load to more reasonable levels? We can present lengthy analyses about each of these scenarios, but the key point is there are multiple scenarios in which the current debt regime could prove unsustainable and result in individual company bankruptcies or even a systemic debt crisis.

A debt crisis happens when an entity (corporate or governmental) defaults on its loans. From Latin America’s lost decade in the 1980s to the 2008–2009 credit crisis in the U.S. and the European Union, there are plenty of painful reminders of what happens when countries cannot service their debts. A debt crisis can undermine the stability of financial systems in the crisis-hit country, and also spread to other countries, especially for strategically connected economies like the European Union and Japan. This can hit economic growth, as well as create turmoil in global financial markets. If a country’s debt crisis is severe enough, it could result in a sharp economic slowdown at home that drags on growth elsewhere.

This analysis is not meant to predict an impending global debt crisis. The economy and the stock market are complex adaptive systems in which agents adapt to current conditions, and the eventual outcomes are often very different from linear extrapolations of recent events. Rather, the point is that highly levered agents (companies, governments, etc.) would be at greater risk of bankruptcies than unlevered agents in a higher-rate environment. Therefore, the rest of this article analyzes the leverage risk of S&P 500 companies to help identify highly levered and unlevered investment opportunities. At the outset, it is important to note that leverage analysis should not be the entire basis of an investment decision, but it should be a key component of a more comprehensive stock analysis for any investment decision.

A Closer Look at U.S. Corporate Debt

Figure 3 shows leverage (net debt/equity) and debt-servicing (net debt/EBITDA) ratios for S&P 500 companies from 1990 to the second quarter of 2020. In terms of overall leverage, net debt represents 57% of the equity as of Sept. 30, 2020, which is in line with its long-term average of about 60%. From the perspective of being able to repay the debt, net debt represents 1.95 times EBITDA as of Sept. 30, 2020, which is modestly above its average of 1.69x since 1990.

On the surface, using sensible high-level metrics like weighted-average net debt/equity and aggregate net debt/EBITDA, S&P 500 stocks do not appear to have elevated leverage in the aggregate. However, a breakdown of the index constituents into the most- and least-levered stocks presents a much different picture.

Table 1 shows the breakdown of S&P 500 companies into the 20% most-levered stocks, the “middle” 60%, and the 20% least-levered stocks, based on net debt/equity and net debt/EBITDA metrics. For each metric, the “average” column shows an unweighted average statistic for each group and the “index weight” column shows the percentage of index weight in each group. Table 2 shows the sector breakdown of the stocks in each bucket based on the net debt/equity and net debt/EBITDA metrics.

Around one-quarter of the S&P 500 Index consists of stocks with negative net debt/equity and net debt/EBITDA metrics, which typically means these stocks have net cash, or more cash than debt.¹ From Table 2, we can further see that the majority of these companies are in the information technology sector. These companies represent a larger percentage of the market capitalization-weighted S&P 500 Index than their unweighted number, indicating that these tend to have higher market capitalizations than stocks in the other buckets.

Management teams at these companies are taking advantage of the low-cost debt available in the market, and their ability to pay down their debt with cash at hand means these tend to be low-leverage-risk investment opportunities. This does not necessarily mean such low-leverage-risk stocks are good investments, because there is also valuation risk. An investor would have to analyze many more aspects of the stock and the company before making that decision.

¹Analysis excludes stocks with negative equity (liabilities exceed assets, as Niall O’Malley discussed in last year’s *Baltimore Business Review*) or negative EBITDA over the prior 12 months.

Table 1: Breakdown of S&P 500 Companies into High-leverage and Low-leverage Stocks as of 9/30/2020

	Net Debt/Equity		Net Debt/EBITDA	
	Average	Index Wgt	Average	Index Wgt
20% Most Levered	230.42	17.16	6.62	9.58
60% “Middle”	60.86	54.35	1.80	65.29
20% Least Levered	-44.35	24.37	-3.50	23.96

Table 2: Sector-Level Breakdown of S&P 500 Companies into High-leverage and Low-leverage Stocks as of 9/30/2020

Net Debt/Equity	Comm Svcs	Cons Disc	Cons Stpls	Energy	Fin’l	Health Care	Indus	Info Tech	Mat’l	Real Estate	Utilities
20% Most Levered	5	16	8	5	10	8	16	8	6	6	13
60% “Middle”	14	31	20	20	41	41	48	28	20	24	15
20% Least Levered	7	4	3	0	14	13	5	30	1	0	0

Net Debt/EBITDA	Comm Svcs	Cons Disc	Cons Stpls	Energy	Fin’l	Health Care	Indus	Info Tech	Mat’l	Real Estate	Utilities
20% Most Levered	3	16	0	3	2	2	6	2	2	27	25
60% “Middle”	13	32	29	10	56	47	59	39	24	4	3
20% Least Levered	8	4	3	0	8	12	5	30	1	0	0

Analysis breaks down the index into 20% buckets by number of names where the 20% top and bottom buckets are designed to have 101 stocks each, while the middle 60% bucket should have 303 stocks. However, the “20% least-levered” buckets only represent 70-80 stocks with negative net debt, which represent companies with more cash than debt.

Analysis excludes stocks with negative equity or negative EBITDA over the prior 12 months. Analysis of net debt/EBITDA also excludes most financial stocks because EBITDA is not a relevant metric for their business models.

Source: FactSet Research Systems

Among Maryland-based companies, T Rowe Price (ticker: TROW) is in the least-levered group on both net debt/equity and net debt/EBITDA metrics.

On the other end of the spectrum, 10% to 17% of S&P 500 stocks have net debt representing multiples of their shareholders’ equity and/or trailing-12-month EBITDA. These stocks represent 20% of the index in terms of the number of companies, but a smaller percentage in terms of index weight, which indicates a smaller-market-capitalization bias in this group. Consumer discretionary and utilities represent the largest share of highly levered companies on both leverage metrics, and numerous industrials and real-estate companies are also highly levered, based on net debt/equity and net debt/EBITDA, respectively.

Among Maryland-based companies, Apartment Investment & Mortgage (ticker: AIV), Extra Space Storage (ticker: EXR), Federal Realty Investment Trust (ticker: FRT) and UDR (ticker: UDR) are four local REITs (real-estate investment trusts) in the most-levered category, based on both leverage metrics.

Being Highly Levered Is Sometimes OK

Being among the most-levered stocks does not necessarily mean these stocks should be avoided in a portfolio. A large debt load is part of the business model for many businesses, such as utilities and real-estate companies. For this reason, it is up to each investor to analyze stocks with high leverage ratios to determine whether the leverage is appropriate for the business model and to assess its impact on the investment's overall attractiveness. In fact, detailed analysis of a levered company that has the business fundamentals to manage the debt through difficult times might create an opportunity to invest at an attractive entry point, if the stock trades down with other levered stocks in a distressed environment.

Additionally, simple leverage ratios such as those in this analysis do not constitute a complete analysis of a stock's leverage risk or its merits as an investment opportunity. However, many passive and algorithmic investment vehicles rely on simple ratios to divide an investment universe into attractive and unattractive buckets, and to create long-short portfolios² to capture the performance differential of stocks in each bucket. This is a simplistic description, but the key point is that the widespread popularity of passive investment vehicles makes it common to find sharp stock price movements because the stock is part of a thematic bucket, rather than because of its fundamentals. In this way, these metrics' simplicity can be a powerful causal factor in framing securities and driving their prices.

²Using the analysis presented here as an example, a long-short portfolio would buy all least-levered stocks and sell short all most-levered stocks in the S&P 500. Such a strategy would seek to benefit from a scenario when unlevered stocks outperform highly-levered stocks.

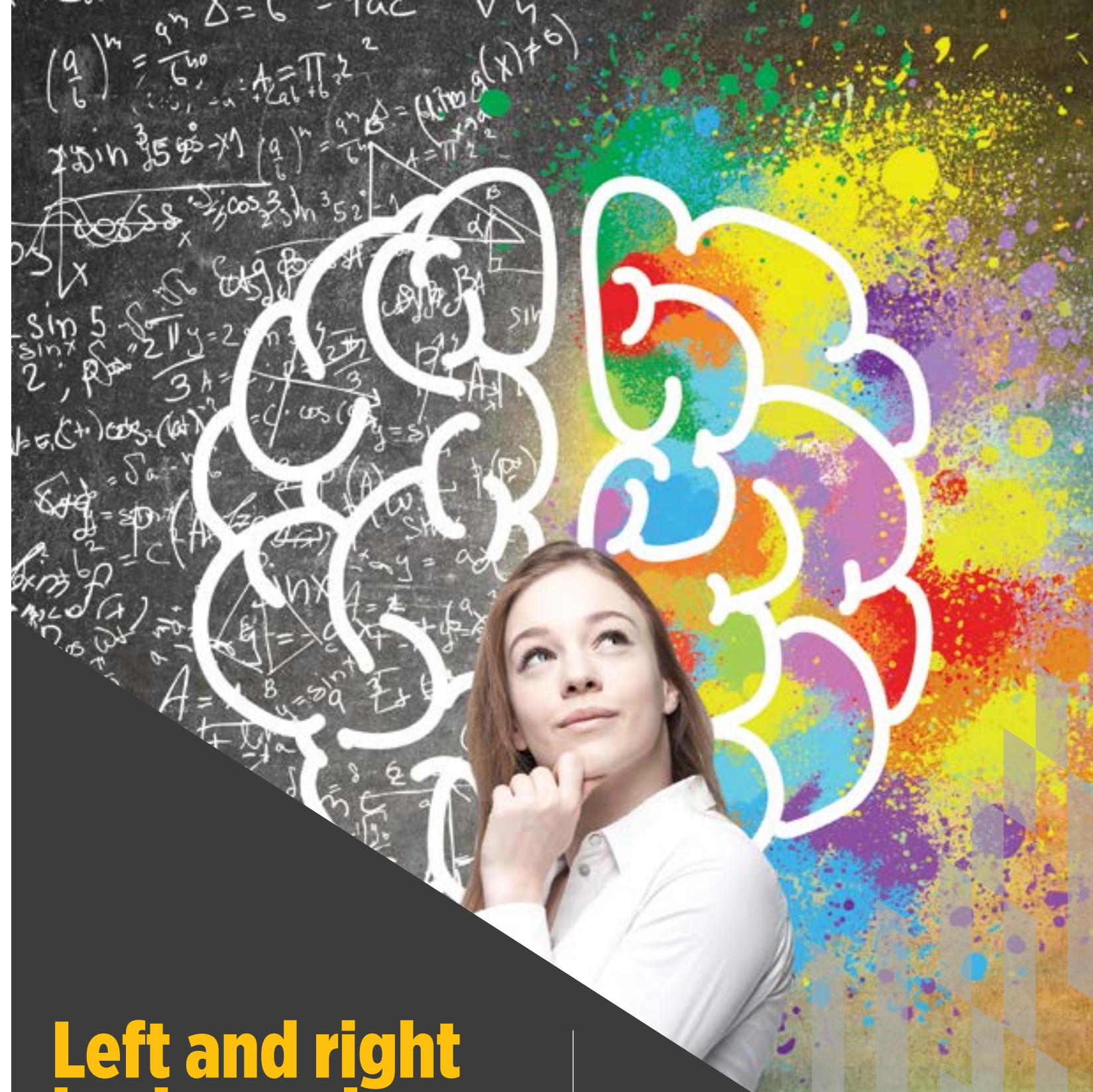
Conclusion: Higher Risk of Debt Crisis and More Need for Leverage Analysis

Rising levels of debt at the federal and corporate levels are increasing the risk of corporate bankruptcies and a debt crisis as interest rates eventually return to more normalized levels. This risk may not be at the forefront of investors' attention due to historic levels of fiscal and monetary stimulus around the globe, but the pressure is building under an otherwise calm surface of increasing indebtedness. For investors, it is inappropriate to generalize the effects of high leverage on individual companies because so much depends on an individual industry's or company's business model. Detailed leverage analysis should be in every investor's stock analysis toolkit. This would help avoid the risk of distress in highly levered companies and protect clients' capital in case of a debt crisis. At the same time, such analysis could create investment opportunities if highly levered companies become undervalued and less-levered companies become overvalued as quantitative strategies use leverage as a crude measure of attractiveness.

References

Mustafa, Farhan (2020). "Former FDIC Chair Sheila Bair Is Optimistic About the Potential of Technology to Improve Financial System, While Expressing Concern About Non-Financial Debt Segment of the Market," Baltimore Business Review.

O'Malley, Niall (2020). "When Does A Good Investment Become a Bad Investment?" Baltimore Business Review.



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Importance of Data Analysis in Healthcare Industry

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Introduction

Data science is a field that uses scientific methods, processes, and systems to extract insight and knowledge from structured and unstructured data. The amount of the data is growing exponentially. About 33 zettabytes of data was generated in 2018 and it is estimated that there will be 175 zettabytes in 2025 (Novikov, 2020). Data Science/Business Intelligence/Analytics were identified among “the top 10 most sought-after skills” by Computerworld (Pratt, 2016). The Bureau of Labor Statistics estimates growth in the field of data science and business analytics to 11 percent through.

The use of advanced computing technology to improve medical care is called healthcare analytics. Medical care is a critical sector where analytics can help to identify best approaches. The three areas that healthcare analytics can help with are – have better outcomes, reduce the cost of healthcare and ensure quality care. Historical data in these areas are used to identify patterns that can help with decision making.

Healthcare Analytics during the Pandemic

Healthcare analytics is especially crucial during the current global pandemic. Coronavirus observation draws from a mix of information sources from existing flu and viral respiratory infection surveillance, syndromic observation, case detailing, business lab revealing, continuous exploration stages, and other new frameworks intended to address explicit inquiries (CDC, 2020). These frameworks consolidated make a refreshed, exact image of SARS-COV-2 spread and its belongings in the United States and give information to illuminate the U.S. public general wellbeing reaction to COVID-19 (CDC, 2020).

Outbreak analytics takes all accessible information, including the quantity of affirmed cases, deaths, following contacts of contaminated individuals, populace densities, maps, voyager stream, which are only the tip of the iceberg. Such information is then measured through AI to make models of the infection (Marr, 2020). These models speak to the best expectations with respect to top disease rates and results (Marr, 2020). According

to CDC (2020), a form is developed to help tracking the reports of COVID-19. These forms are then entered into the database and analyzed which helps to track the impact of the outbreak and inform the public accordingly on new places infected with the virus.

Data analytics can also be used in detecting virus. If the patient has been detected with the virus, he/she must get tested and have CT scans performed. The CT scans can be then stored and used to compare with future cases. This way we can keep track of any new symptoms detected and keep track of how the virus is changing and impacting individuals.

On example of data analytics is the online dashboard built by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University, which tracks affirmed COVID cases, deaths, and recuperations for every influenced nation (Kent, 2020). Johns Hopkins University and the University of Washington facilitated an elevated discussion, “Preserving The Scientific Integrity of COVID-19 Vaccine Efficacy Trials: From Clinical Trials to Public Allocation”, that investigated complex issues, united driving voices in the field, and set forward a succinct arrangement for ensuring the logical trustworthiness of these progressing endeavors. This arrangement of brief reports provided insights into COVID-19 antibody improvement, allotment, and organization in the United States and universally (John Hopkins University & Medicine, 2020). The Johns Hopkins COVID-19 following guide, created by Lauren Gardner and her group at the Center for Systems Science and Engineering, has become an authoritative on the COVID data. Gardner and her team shared the data to increase cooperation around the world. Tableau has distributed the open-source data set through their platform to grant other vendors/individuals access to the COVID data.

Figure 1: Rare Diseases with Clinical Trial

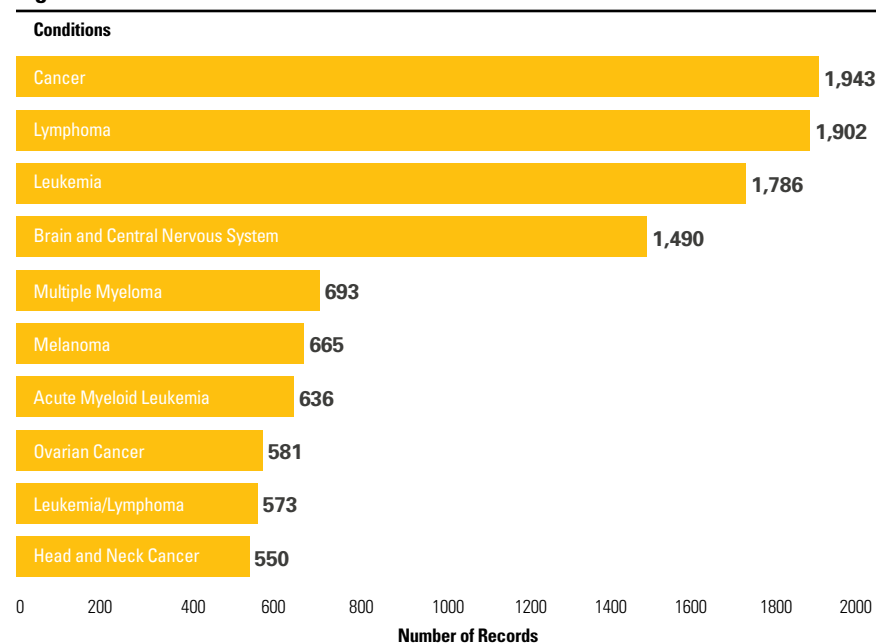
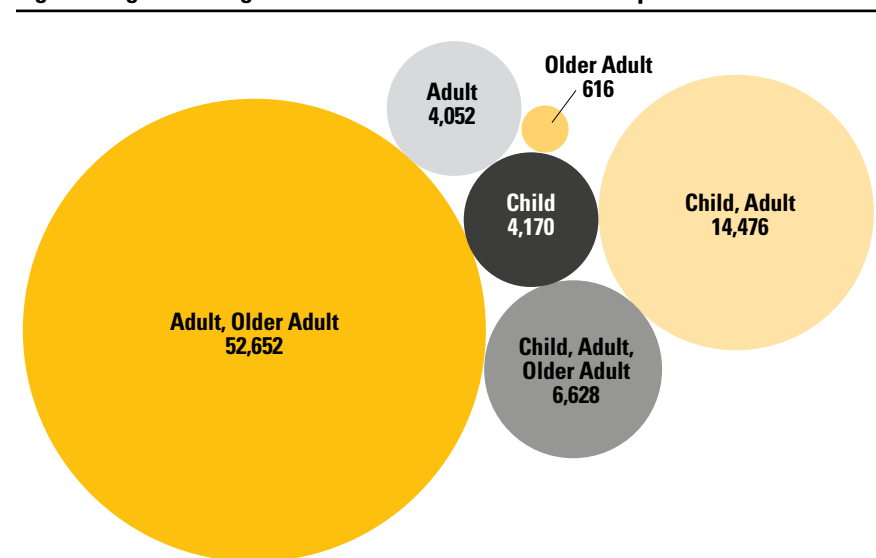


Figure 2: Age Affecting Clinical Trials and Number of Participants



Data Analytics in Pharmaceutical Industry: A Local Example

In the pharmaceutical industry, data analytics is helping organizations to manage declining achievement rates and stale pipelines. The usage of collected datasets can help pharmaceutical organizations develop drugs. Likewise, analytics has empowered organizations to improve clinical trials, oversee chances productively, and improve persistent wellbeing. Analysts are using their skills to help drug companies set prices for new medicines and choose the most effective promotion campaign. Data analysts also analyze clinical trials to find the efficacy of the drug in subjects. They can review data and create models to find an effective enrollment forecast for specific trials that will allow for accurate budget identification. Using data insights, pharmaceutical companies can start to reach out to doctors and advise them on how certain medications can help patients in their treatment plans. Analytics can also help companies identify different financial plans for different medicines.

As a part of this study, we analyzed data of a local pharmaceutical company in PA on clinical trials for rare diseases. Rare diseases are the diseases which affects only a small proportion of the population. Using analytic tools, we cleaned the data set to ungroup diseases from each of the clinical trials, got rid of extra spaces, treated blank cells, converted numbers stored as text into numbers, and removed duplicates. We then sorted, grouped, and ungrouped data pertaining to diseases and clinical trials. Figure 1 presents top rare diseases with clinical trial. The top 5 primary conditions for rare trials were cancer, lymphoma, leukemia, brain and central nervous system and multiple myeloma.

Clinical trials use various variables such as gender and age to identify the demographics in various rare disease clinical trials. We found that successful trials included all genders (93%) instead of just focusing on one gender. 63% of the clinical trials had participants in the older adult age bracket.

In addition to age and gender, we found that location, funding sources and intervention method had impacts on the success of clinical trials. As presented in Figures 3 and 4, we found clinical trials with multi-locations had greater success rate than trials with single location; trials with multiple funding sources were more successful than the private (industry) and single sources (for instance, US. National Institutes of Health or other US Federal agencies); and that the intervention of drugs had the highest trial completion rate than biological interventions. In summary, based on our data analysis, the pharmaceutical company was able to discover which clinical trials had the most success in terms of funding source, intervention method, age group enrolled and location.

Our analysis was short compared to the extend that data analytics can be used in the healthcare industry. Learning more about the historical data captured can inform management on how to proceed with future clinical trials. The insights retrieved from the data allows decision makers to make intelligent decisions. Moving forward, analyst can begin to make dashboards with key performance indicators that can change with live data, like what we see with Johns Hopkins’ dashboard. The possibilities are endless.

References

Center for Diseases control and Prevention. (June 29, 2020). Surveillance and Data Analytics. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/php/open-america/surveillance-data-analytics.html>

Cruickshank S. (April 14, 2020). John Hopkins launches new U.S. – focused COVID-19 tracking map. Retrieved from <https://hub.jhu.edu/2020/04/14/johns-hopkins-launches-us-coronavirus-tracking-map/>

Devesa D., Rine J., & Sethuraman V. (September 24, 2018). Applied Clinical Trials. How data and analytics can improve clinical trial feasibility. Retrieved from <https://www.appliedclinicaltrials.com/view/how-data-and-analytics-can-improve-clinical-trial-feasibility>

HUB. (April 9, 2020). John Hopkins adds new data visualization tools alongside COVID-19 tracking map. Retrieved from <https://hub.jhu.edu/2020/04/09/data-visualization-covid19-map/>

John Hopkins University & Medicine. (2020). Vaccines. Retrieved from <https://coronavirus.jhu.edu/vaccines>

Figure 3: Multi Locations vs. Single Locations

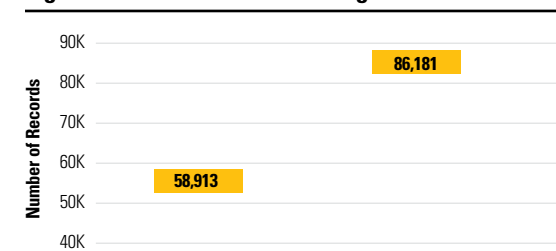
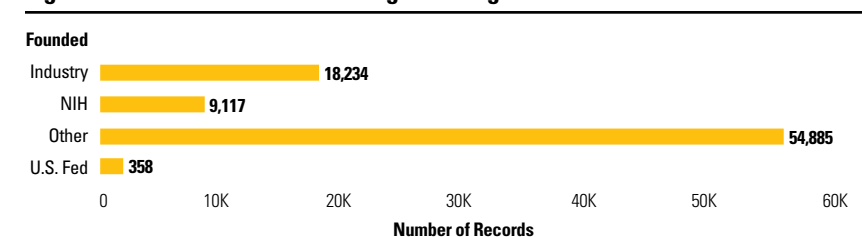


Figure 4: Public and Private Funding Affecting Clinical Trials



Kent J. (March 11, 2020). John Hopkins develop real time dashboard to track coronavirus. Retrieved from <https://healthitanalytics.com/news/johns-hopkins-develops-real-time-data-dashboard-to-track-coronavirus>

Kent J. (September 4, 2018). FDA sets goals for Big data, Clinical trials and artificial intelligence. Retrieved from <https://healthitanalytics.com/news/fda-sets-goals-for-big-data-clinical-trials-artificial-intelligence>

Novikov, S. V. (2020). Data Science and Big Data Technologies Role in the Digital Economy. TEM Journal, 9(2), 756–762. <https://doi-org.proxy-tu.researchport.umd.edu/10.18421/tem92-44>

Marr B. (April 9, 2020). The vital role of big data in fight against coronavirus. Retrieved from <https://www.forbes.com/sites/bernardmarr/2020/04/09/the-vital-role-of-big-data-in-the-fight-against-coronavirus/#2d46f9da3806>

Pratt, M. K. (2016, December 7). 10 hottest tech skills for 2017. Retrieved from <https://www.computerworld.com/article/3147427/10-hottest-tech-skills-for-2017.html>



The Discount Rate in Business Valuations during the COVID-19 Pandemic

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The COVID-19 pandemic has uniquely challenged businesses; no business model or industry appears to be immune. However, situations vary. Some companies have been forced to adapt to avoid shuttering, while others are riding out state-mandated closures using cash on hand and Paycheck Protection Program (PPP) loans. As a result, the effects of COVID-19 on business valuations of privately held companies can vary dramatically.

The pandemic has notably affected business valuations through the discount rate used in the income approach to valuation, in which projected future cash flows are discounted to present value using a discount rate. This article discusses the significance for valuations of privately held businesses of (1) volatility and risk, (2) the build-up method for determining the discount rate, and (3) the effects of the COVID-19 pandemic on risk and the equity discount rate for privately held businesses.

Volatility and Risk in the Global Pandemic

Volatility and risk matter because they affect what buyers will pay for privately held businesses. Since the pandemic's start, U.S. equity markets have experienced significant changes in volatility that are at least partly tied to people's perception of risk in those markets. U.S. equities, as measured by the S&P 500 index, fell more than 33% in the one-month period from February 20 to March 20 (Figure 1). However, they have recouped these losses, eclipsing their late-February high in late August.¹

In addition, equity market volatility, which acts as a gauge of investor sentiment, has hit levels of volatility unknown since the 2007–2008 financial crisis. As shown in Figure 2, the CBOE Volatility Index (VIX) soared from 15.6 on February 20 to a record high of 82.7 less than 30 days later on March 16, due to the rapid, unchecked spread of the coronavirus. Values greater than 30 for the VIX, which represents the implied volatility of 30-day options on the S&P 500, are generally associated with a large amount of volatility because of investor fear or uncertainty, while values below 20 generally correspond to less stressful, even complacent, market conditions.

Figure 1: S&P 500 Performance Year-to-date 2020 as of Nov. 19



Source: Tagnifi

Figure 2: CBOE VIX Year-to-date 2020 as of Nov. 19



Source: Tagnifi

Despite efforts by the Federal Reserve and Congress to stabilize equity markets, the VIX remained significantly above pre-pandemic levels throughout the summer. Volatility has remained high over the 60-day period ended November 19 as the United States and many European nations have seen a resurgence in new coronavirus cases.

Risk is associated with volatility. The tighter the probability distribution of returns for an investment in the existing economic conditions, the lower the risk profile of the investment. In other words, risk can be defined as, “the degree of uncertainty (or lack thereof) of achieving future expectations at the times and in the amounts expected.”²

In business valuation, risk is evaluated, quantified, and accounted for in the discount rate. A discount rate is a rate of return used to convert a monetary sum, payable or receivable in the future, into its present value.³ The discount rate is equal to the “cost of capital,” the expected rate of return that the market requires to attract funds to a particular investment.⁴ Thus, the cost of capital is based on the principle of substitution, in that it is equal to the return that could be earned on alternative investments with a similar level of risk.

Other terms used interchangeably to describe the cost of capital include:

- Rate of return
- Required rate of return
- Cost of equity capital
- Weighted average cost of capital
- Alternative cost of capital
- Discount rate
- Hurdle rate

Risk and return are positively correlated. The greater the perceived risk of an investment, the higher the required rate of return an investor would demand from the purchase of the investment. Accordingly, the discount rate and value are negatively correlated. In other words, when perceived risk and the discount rate increase, the value of the company decreases, all else being held constant. It is important to note that the relationship between risk and value is nonlinear (e.g., a percentage change in the discount rate does not result in an equal percentage change in value).

The Build-Up Method for Determining the Discount Rate

For business valuations, two types of discount valuations are relevant for investors who provide capital in the form of equity or debt. They are the equity discount rate and the weighted average cost of capital (WACC). As stated above, the equity discount rate represents the required rate of return for an equity investor to invest in the business, whereas the WACC considers the return required by both equity and debt investors.

The build-up method is one of the methods most widely used by valuation analysts to determine the cost of equity. As the name implies, the build-up method is an equity discount rate estimated as the sum of multiple rates of return and risk premia, expressed in percentages as follows:

Cost of Equity = RFR + ERP + SRP + SCRP

RFR is the risk-free rate; ERP, equity risk premium; SRP, size risk premium; and SCRP, specific company risk premium.

Effects of COVID-19 on the Discount Rate's Components

As of November 2020, the global COVID-19 pandemic has significantly affected business valuations through its impact on discount rates using the income approach, in which projected future cash flows are discounted or capitalized back to present value using a discount rate (or a capitalization rate) to account for the risk of achieving those projected cash flows.⁵ By their nature, discount rates are tied closely to local, national, and global economic performance, and therefore fluctuate with the market.

When determining the cost of equity, the build-up method considers and aggregates multiple building blocks (RFR, ERP, SRP, and SCRP). With the spread of COVID-19, most of these building blocks have fluctuated. Risk-free rates are currently lower as a result of the Federal Reserve maintaining a low interest rate environment. On the other hand, the equity risk premium has increased as a result of general economic instability. Additionally, as companies battle an economic downturn and potentially going out of business as a result of COVID-19, the SCRP can also increase as a result of the greater risk of the company not achieving its projections. We discuss the effects of the pandemic on each component below.

Risk-Free Rate

The RFR is the rate of return available on investments free of default risk. The most appropriate proxy for the RFR is the yield on a 30-year U.S. Treasury bond, 10 years into its life cycle with 20 years remaining.⁶ Valuation analysts typically get cost of equity data including RFR guidance from Duff & Phelps.

When equity markets tumble, as they did at the beginning of the pandemic, an RFR-lowering “flight to quality” typically follows as investors seek the perceived safety of Treasuries. If a valuation analyst were to use the spot yield in the build-up method under these conditions, the result would be a lower equity discount rate and cost of capital, all other components held the same, rather than reflecting the increased risk associated with an uncertain economic environment. In a situation like this, some valuation analysts may choose to use a



Risk is associated with volatility. The tighter the probability distribution of returns for an investment in the existing economic conditions, the lower the risk profile of the investment.

normalized RFR to account for inflation and short-term effects on interest rates.⁷ A normalized RFR is typically estimated by averaging yields to maturity on long-term government bonds over several periods.

As a result of the pandemic, in early July, Duff & Phelps lowered its normalized U.S. RFR from 3.0% to 2.5% for estimating discount rates in valuations after June 30, 2020.⁸

Equity Risk Premium

The expected returns on equity are much less certain than on U.S. Treasuries, so they are riskier than the interest and maturity payments on U.S. Treasury obligations. Accordingly, in exchange for an increase in risk, investors demand higher returns for equity investments. The ERP reflects this additional risk.

In late March 2020, Duff & Phelps increased its U.S. ERP from 5.0% to 6.0%. In doing so, it cited some of the pandemic’s effects on U.S. businesses, including supply chain disruptions, job losses, business closures, and collapsing equity markets.⁹ ERP is a critical component of the build-up method of determining the equity

discount rate, and this suggested change (for developing discount rates as of March 25, 2020, and forward) reflects the severity of the current crisis. Keep in mind that the discount rate has an inverse relationship with value. As the discount rate increases, all other things remaining constant, the value of the business decreases.

Professor Aswath Damodaran suggests using a COVID-adjusted ERP, which he estimates monthly based on an expected earnings analysis. His COVID-adjusted ERP has ranged from 6.02% in April 2020 to the current ERP of 5.02% for November 2020. Damodaran, a professor of business valuation and corporate finance at New York University’s Stern School of Business, has published numerous articles and books on the equity discount rate and the components of the build-up method. Damodaran maintains a website and a blog, which he uses as a platform to update valuation analysts on the perceived effects of COVID-19 on the financial marketplace.¹⁰

Simply adjusting risk percentages for every valuation is not enough to account for the effects of COVID-19.¹¹ Damodaran says that “It is almost impossible to adjust for [COVID-19] in discount rates and it is therefore imperative that you make judgments about the likelihood that your company will not make it, and this probability will be higher for smaller companies, young companies, and more indebted companies.”¹² Amid great uncertainty, Damodaran suggests that valuation analysts cannot simply rely on higher discount rates to account for COVID-19. Instead, experts must apply critical judgment more than ever before, to ensure that all risk factors are considered in developing the equity discount rate.

Size Premium

Small capitalization stocks are considered riskier investments than large capitalization stocks. As a result, investors require additional return in exchange for the added risk of investing in small-cap stocks. The SP represents the additional return expected by an investor in the stock of a small-cap company over that of an otherwise comparable investment in a larger company. This also applies to investments in privately held companies.

Little consensus exists among valuation analysts about the effects of COVID-19 on the size premium. Generally, smaller companies have been hit worse than large companies with cash on the balance sheet to weather the short-term cash crunch. Time will tell whether small companies are disproportionately affected by the pandemic, which would warrant an increase in the SP. If increases are needed, we expect to see higher observed SP in business valuations in the future, depending on the course of the virus and the country's response.

Specific Company Risk Premium

An SCRIP is often appropriate to reflect unsystematic risk factors, which refers to risks that are specific to the company relative to the market as a whole. This is an area where the judgment of the valuation analyst comes into play. Examples of unsystematic risk could include the financial history and current financial condition of the entity, depth of management, key-person risk, customer concentration, and competition.

COVID-19 has disproportionately affected businesses in some industries, while leaving others relatively unscathed or even benefiting from the pandemic. Projection risk—the risk of a company not achieving its projections—can either be accounted for by adjusting a company's discrete projected cash flows to include a probability weighting or other applicable adjustment, or by including an additional risk consideration in the SCRIP component of the build-up method of determining the discount rate.

The ability of a company to pivot and to take advantage of opportunities has proven critical during the pandemic. For example, in the food service industry, restaurants that have successfully and efficiently shifted from dine-in to curbside pickup and delivery have generally fared better than restaurants tied to the dine-in experience. Consumer demand for dine-in restaurants may not rebound until after widespread COVID-19 vaccinations, or even later, which translates to an additional level of uncertainty for their projected cash flows. Companies that have retooled or adapted their business model have generally outperformed and may not have suffered financially as a result of the pandemic, so a change in SCRIP may not be necessary.

The pandemic forces the valuation analyst to consider factors such as state and local regulations and their effects on business operations and risk. For example, a brick-and-mortar business with locations throughout the country might be better geographically diversified when some locations are forced to close, but others can remain open. The analyst must become familiar with the dynamic regulatory environment in each location.

Cost of Equity and WACC

The sum of the above components of the build-up method is the equity discount rate. The estimation of the WACC considers the equity discount rate, the cost of debt, and the capital structure. The cost of debt is based on the company's outstanding debt obligations and consideration of market conditions.¹³ The capital structure represents the proportion of equity and debt for the company, which is applied to the equity discount rate and cost of debt, the sum of which represents the WACC.

For the foreseeable future, the risk associated with the uncertainty and volatility of the COVID-19 pandemic will continue to be a critical factor in business valuations. In the current environment, the valuation analyst must consider many more factors with a higher level of scrutiny when determining an equity discount rate. Analysts must critically examine the outlook for the company being valued; its adaptability; the industry; customer relationships; local, state, and federal regulations and COVID restrictions; and dozens of other dynamic factors. Because accounting for the effects of a modern-day global pandemic is uncharted territory, analysts can only speculate about the projected effects that a vaccine or a global reduction in case counts and deaths will have on risk and the equity discount rate.

Endnotes

¹As of November 19, 2020.

²David Laro and Shannon P. Pratt, *Business Valuation and Federal Taxes: Procedure, Law, and Perspective*, 2nd ed., Chapter 12.

³BVR's *Glossary of Business Valuation Terms 2010*, Business Valuation Resources, p. 6, <https://sub.bvresources.com/freedownloads/bvglossary10.pdf>.

⁴BVR's *Glossary of Business Valuation Terms 2010*, Business Valuation Resources, p. 5, <https://sub.bvresources.com/freedownloads/bvglossary10.pdf>.

⁵The income approach includes the discounted cash flow (DCF) method and the capitalized cash flow (CCF) method. The CCF method may be inappropriate for companies that are experiencing temporarily reduced revenue and profitability as a result of COVID-19; instead, a valuation professional may choose to use the DCF method when a company's cash flows have been affected in the short term by the pandemic, but they expect financial performance to recover in the next few years.

⁶These rates can be obtained online from the *Federal Reserve Statistical Release H.15*.

⁷The assumption that a normalized RFR might yield the best estimate of the risk-free rate in times of flight to quality arose during the 2008-2009 financial crisis. See Roger Grabowski, "Developing the Cost of Equity Capital: Risk-free Rate and ERP during Periods of 'Flight to Quality,'" *Business Valuation Review*, Winter 2010.

⁸Carla Nunes and James P. Harrington, "Duff & Phelps U.S. Normalized Risk-Free Rate Lowered from 3.0% to 2.5%, Effective June 30, 2020," <https://www.duffandphelps.com/insights/publications/cost-of-capital/us-normalized-risk-free-rate-lowered-june-30-2020>.

⁹Carla Nunes and James P. Harrington, "Duff & Phelps Recommended U.S. Equity Risk Premium Increased from 5.0% to 6.0% Effective March 25, 2020," <https://www.duffandphelps.com/insights/publications/cost-of-capital/us-equity-risk-premium-increased-march-25-2020>.

¹⁰Aswath Damodaran, *Damodaran Online*, <http://pages.stern.nyu.edu/~adamodar/>.

¹¹<http://pages.stern.nyu.edu/~adamodar/pc/implprem/ERPbymonth.xlsx>.

¹²Aswath Damodaran, "A Viral Market Meltdown V: Back to Basics!" *Musings on Markets*, March 31, <http://aswathdamodaran.blogspot.com/2020/03/a-viral-market-meltdown-v-bailouts-and.html>

¹³Since the interest paid on most debt remains tax deductible under the Tax Cuts and Jobs Act of 2017, the interest rate applicable to this debt is tax-affected to produce an after-tax cost of debt, see <https://www.cbh.com/guide/articles/planning-for-the-new-business-interest-expense-deduction-limitation/>

References

Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release H.15*. <https://www.federalreserve.gov/releases/h15/>

BVR's *Glossary of Business Valuation Terms 2010*, Business Valuation Resources LLC. <https://sub.bvresources.com/freedownloads/bvglossary10.pdf>

Damodaran, Aswath, *Damodaran Online*. <http://pages.stern.nyu.edu/~adamodar/>

Damodaran, Aswath, *Musings on Markets*, <http://aswathdamodaran.blogspot.com/>

Grabowski, Roger J., "Developing the Cost of Equity Capital: Risk-free Rate and ERP during Periods of 'Flight to Quality,'" *Business Valuation Review*, Winter 2010.

Laro, David and Shannon P. Pratt, *Business Valuation and Federal Taxes: Procedure, Law, and Perspective*, 2nd edition, Hoboken, NJ: John Wiley & Sons, 2011.

Nunes, Carla, and James P. Harrington, "Duff & Phelps Recommended U.S. Equity Risk Premium Increased from 5.0% to 6.0% Effective March 25, 2020," Duff & Phelps, March 27. <https://www.duffandphelps.com/insights/publications/cost-of-capital/us-equity-risk-premium-increased-march-25-2020>

Nunes, Carla, and James P. Harrington, "Duff & Phelps U.S. Normalized Risk-Free Rate Lowered from 3.0% to 2.5%, Effective June 30, 2020," Duff & Phelps, July 9. <https://www.duffandphelps.com/insights/publications/cost-of-capital/us-normalized-risk-free-rate-lowered-june-30-2020>

Pratt, Shannon P., and Roger J. Grabowski, *Cost of Capital*, 5th edition, Hoboken, NJ: John Wiley & Sons, 2014.

TagniFi, *TagniFi Econ*. <https://www.tagnifi.com/>



The Market Reaction to the March 2018 Chinese Tariffs Announcement

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On March 22, 2018, “President Trump put China squarely in his cross hairs” according to The New York Times. The White House had just announced tariffs on \$60 billion worth of Chinese goods. The announcement was part of continued economic tension between the two nations. The current White House administration had shifted its stance on economic relations with China. Rather than encourage trade with China and rely on China’s efforts to participate in rules-based agreements, the administration sees its trading partner as an economic adversary. The decision is a reaction to questions of fairness of trade with its partner, the U.S. accusing China of trying to obtain American technology and trade secrets.

The timing, magnitude and coverage of the tariffs were unprecedented. This action came at a time when production sharing across the two countries is at an all-time high. The market reaction to this escalating trade war was immediate. We document the varied reactions as we report the stock price movements for all firms in the U.S., firms in the Maryland-Delaware-Pennsylvania-Virginia region and across industries.

The administration had two weeks to reveal the list of targeted products. The market reaction on these early days was knee-jerk as the White House had not sketched out full details of the products that would be subject to the 25% tariff. The market reacted strongly negatively. The tension had been building with trade partners but the White House actions had not targeted a single trade partner as much up to this point. The steel and aluminium tariffs announced earlier in March 2018 hit China to a much smaller extent, most of those tariffs impacting Canada. This new announcement had the potential to hurt companies for two reasons. First, firms with suppliers in China would see their input costs increase as tariffs would raise the prices of Chinese goods, and would increase the demand for and the prices of alternate suppliers’ goods. This would guarantee profit margin pressures for these companies, if not outright disruption. Second, firms that sell to China would likely suffer as China was to inevitably retaliate. The Chinese reaction was in fact immediate with its own tariffs announcement the following day.

Table 1: Stock market reaction for the U.S. and the MD-DE-PA-VA samples

U.S.		
	Mean	Median
CRR	-2.6%	-2.9%
CAR	-2.7%	-2.9%
MD-DE-PA-VA Region		
CRR	-3.2%	-3.2%
CAR	-0.4%	-0.7%

Following the steps of Huang et al. (2020), we focus our study on the market reaction over the three trading days surrounding the announcement. We report not only the 3-day cumulative raw returns (CRR) but also the market-adjusted cumulative abnormal returns over the same 3-day window (CAR).

How do stocks of firms in the Maryland-Delaware-Pennsylvania-Virginia region react?

Using data from The Center for Research in Security Prices, we collect information on all actively traded firms that are headquartered in Maryland, and the three states surrounding Maryland. We retrieve information on 199 firms and proceed to compute the CRRs and CARs for our sample. We report the results in Table 1.

Table 1 provides summary statistics for CRR and CAR for the entire U.S. sample of listed firms, excluding financial firms, as reported in Huang et al. (2020), and the statistics for the regional sample we created. Overall, the market reaction to the announcement pushed returns down a nearly full 3%. The CARs match that number as well. The distribution is fairly symmetric as Mean and Median are close to each other. For our regional sample, the raw reaction is similar to that of the entire nation, showing a swift negative reaction to the announcement. The CARs evidence though shows a more muted regional reaction than nationwide. This evidence requires further investigation. On the one hand, it hints at a lower reliance on China for imports and exports. On the other hand, it highlights smaller headways in trade with the U.S. largest single-country trading partner. Regardless of the outlook on the situation, the region’s response to the announcement was muted.

Table 2: Stock market reaction for the MD-DE-PA-VA sample for Manufacturing and Non-Manufacturing firms

Non-Manufacturing		
	Mean	Median
CRR	-2.6%	-2.9%
CAR	0.0%	-0.6%
Manufacturing		
	Mean	Median
CRR	-3.8%	-3.7%
CAR	-0.8%	-1.2%

Observations from the disruption of supply chain from and potential impairment of sales to China suggest that firms involved in Manufacturing sectors would suffer a stronger response to the trade war announcement than firms in Non-Manufacturing sectors. We next investigate the causes of the market reaction in relation to industry distributions. Table 2 splits the regional sample into two sub-samples. It is clear from this table that Manufacturing firms suffer the most from the announcement. Manufacturing firms in the region experienced an average loss of 3.8% whereas Non-Manufacturing firms lost only 2.6%. In abnormal returns term, the Non-Manufacturing sector showed no reaction (0.0% on average) while the Manufacturing sector lost 0.8%.

How do stocks of firms in Maryland react?

Were Maryland firms affected differently than their counterparts in the region? Table 3 reports similar statistics to the previous tables. In Table 3, we focus entirely on Manufacturing firms, those firms most

Table 3: Stock market reaction for the MD-DE-PA-VA and MD samples for Manufacturing firms

MD-DE-PA-VA		
	Mean	Median
CRR	-3.8%	-3.7%
CAR	-0.8%	-1.2%
MD		
	Mean	Median
CRR	-2.8%	-2.1%
CAR	-0.2%	1.8%

affected. We separate the Maryland group from those for the entire region. Maryland Manufacturing firms in general experienced a smaller stock market decline than firms in the region. The average CAR for Maryland firms was only -0.2% compared to -0.8% for the region.

Variations nationwide and within the region are certainly attributable to the distribution of sector activities in each state. In order to control for these variations in aggregate, we use Huang et al. (2020)'s methodology and introduce an industry level measure of Chinese Import Penetration (IP). Defined as the ratio of Chinese Imports in the industry to the sum of the industry's Shipment Value plus Imports minus its Exports, the IP measure captures the industry's "direct trade exposure" by measuring "the perceived reduction in import competition from and exports to China." Huang et al. (2020) find a positive relationship between IP and CAR: firms in an industry where Chinese imports are prevalent will benefit from the enactment of tariffs as the reduced competition from Chinese products will boost domestic companies' profits.

We compute the IP for firms in our sample at the 3-digit SIC level¹. For example, SIC Code 211 for the Cigarettes industry has a low IP of -0.19 as the industry faces little competition from Chinese imports. Meanwhile, the IP of SIC Code 282 for Plastic Materials is a high 0.43 as the industry faces severe competition from Chinese imports. On balance, given the values in Table 3, we would expect the aggregate IP of Maryland firms to be higher than the region's aggregate IP as the MD CARs are higher than the region's. Our computation shows an IP for the MD firms of 0.09 while the IP for firms in the other 3 states is 0.12. A further look at the distribution of Manufacturing in Maryland versus the region shows that only 3 out of 17 (18%) MD firms have an IP over 0.1, while, in the rest of the region, 34% (13 out of 38) have an IP in excess of 0.1. That is, firms in the region are in industries that face more competitive pressures from Chinese imports. These findings are the opposite of those from the general regression results in Huang et al. (2020). This shows that using industry aggregated levels of exposure to Chinese competition, while helpful on a large scale, can hide variations within the industry itself.

Given the limitations of the IP measure exposed above, we turn to individual stock's reactions on the day of the announcement. In particular, we focus on those firms' recorded exposure to the Chinese markets. In Maryland, we contrast the market reactions of U.S. Silica and W.R. Grace. On the one hand, U.S. Silica had a +2.2% raw return over the 3-day period. U.S. Silica does not report any international sales nor international suppliers in its most recent annual report. The nature of U.S. Silica's business leaves the company insulated from any direct impact from the trade war. On the other hand, W.R. Grace's stock price dropped 6.2% over the same time period. W.R. Grace's exposure to China is manyfold. W.R. Grace maintains both production and credit facilities in China. W.R. Grace's revenues from Asia-Pacific represents nearly 25% of its \$1.93 billions in sales for 2018. As such, W.R. Grace was primed to suffer from the trade war. Universal Security Instruments is similarly exposed to Chinese imports as it has a joint venture in Hong Kong supplying it with components. Universal Security Instruments's stock price dropped 3.2% on announcement. In the region, United States Steel in PA experienced the steepest drop of 12%. The surprise announcement of the new tariffs reiterated the administration's resolve in its new trade policies and dealt a new blow to the steel manufacturer.

More than the direct adverse impact to companies' stock prices, the trade war imposed a concern for the State of Maryland. According to Trade Partnership Worldwide's white paper on the projected impact on the U.S. economy of the trade war, over 800,000 jobs in Maryland are supported by trade. Of these, 18,800 are threatened by the trade war. The enacted tariffs impacted 3% of the Port of Baltimore's annual tonnage. In December 2018, a survey by the Maryland Chamber of Commerce revealed that 54% of its members reported that current trade policies negatively affected their businesses. While the COVID-19 pandemic has slowed down trade talks with China, unresolved issues around trade remain a threat to Maryland businesses.

Reference

- ¹Data source: https://sompks4.github.io/sub_data.html
- Landler, Mark and Tankersley, Jim, Trump Hits China with Stiff Trade Measures (March 22, 2018), The New York Times.
- Huang, Yi and Lin, Chen and Liu, Sibao and Tang, Heiwai, Trade Networks and Firm Value: Evidence from the US-China Trade War (April 30, 2020). Available at SSRN: <https://ssrn.com/abstract=3227972> or <http://dx.doi.org/10.2139/ssrn.3227972>
- Maryland Chamber of Commerce - <https://mdchamber.org/maryland-chamber-talks-tariffs/>
- Trade Partnership Worldwide, LLC, Estimated Impacts of Tariffs on the U.S. Economy and Workers (February 2019), <https://tradepartnership.com/wp-content/uploads/2019/02/All-Tariffs-Study-FINAL.pdf>



TUIG BBR 2020: What Do Towson University Students Know About Retirement?

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Introduction

The Towson University Investment Group (TUIG) conducted a survey concerning the extent to which Towson University students have knowledge of retirement and financial planning concepts. Basic demographic and education-related information was first queried, followed by retirement planning and respondents' knowledge of available financial instruments. In total, we had 26 respondents. With the existing macroeconomic backdrop as it currently stands - divergence between the S&P 500 and SMID cap equities, and treasuries at an all-time low after accommodative actions by the Fed - retirement planning, we surmised, is especially important for new college graduates. Key questions in the survey included: When do you want to retire? How much do you need to retire? What percent of your income do you save for retirement each year? How much money do you expect to live on each year while in retirement?

Towson University is composed of the following colleges: College of Business & Economics (CBE), College of Health Professions (CHP), Jess & Mildred Fisher College of Science & Mathematics (FCSM), College of Liberal Arts (CLA), College of Fine Arts & Communication (COFAC), and College of Education (CE). The students questioned were segmented by college. Allowing for inter-college and intra-college comparisons. In addition to segmenting students by college, we also segmented students by major. We conducted the survey in October 2020. With the results of the survey, we were able to show how Towson University students are preparing for retirement, and their overall knowledge of retirement.

Participant Background

The demographics data from our respondents indicates no particular skew to any given population; 53.6% of our participants are between 20-21, while 53.6% are male. In terms of ethnic distribution, respondents were 28.6% Black/African American and 32.1% Caucasian, with the remainder being distributed between Hispanic, Asian, and Native American ethnic groups. We saw a moderate skew towards older students, with more than 80% of respondents having more than 60 credits (Junior and Seniors), which we believe is more applicable to our initial goal of evaluating college graduates' knowledge of retirement planning concepts.

In seeking to evaluate the sources of retirement planning knowledge, and the potential impact of education by parents, we asked respondents the extent of their parents' education. More than 80% of respondents' parents have earned undergraduate degrees or gone on to complete post-graduate education, while only 15% of respondents' parents had high school diplomas. As graduates of higher education make, on average, more income than those having only graduated high school, we concluded that respondents had a clear skew towards belonging to middle to higher income households. As for respondents' employment, more than 70% were employed or interning in some capacity. Of the 70% employed, the majority were employed for wages, either salaried or paid by the hour.

While students from every college were among the respondents (save Education), there was a preponderance of students from the College of Business & Economics (CBE). Over 15 students from CBE answered our survey, the majority of which are majoring in Finance or Financial Planning. The average GPA for respondents was 3.25, with a range between 2.1 and 4.0.

Retirement Planning

Of our samples, 21.4% of respondents stated they plan to retire at the age of 65. The average and median planned retirement age, 55 and 60 years old, respectively, indicated that, on average, students planned to retire five years or more before the full retirement age. Despite the full retirement age for individuals born after 1960 increasing to 67, TU students plan to retire, on average, at 55 years of age. TU students' average planned retirement age is also 7 years before they are entitled to begin receiving social security payouts. At age 62, the earliest that an individual can receive social security benefits, only 70% of the social security benefits are received. By retiring early, the accumulation period is reduced while the distribution period is increased, creating the real risk that a retiree will outlive their retirement savings. Table 1 presents a comparison between the ideal scenario for retirement planning and the situation based on our survey.

Table 1 Comparison between Ideal Scenario for Retirement and Survey

Description	Ideal scenario	Survey
Average age of survey	21	21
Retirement	67	60
WLE	46	39
Life expectancy	85	85
RLE	18	25
Income	\$64,000	\$64,000
Savings rate	12.0%	6.5%
Dollar saved per year	\$7,680	\$4,185
PV of retirement savings	\$1,292,326	\$461,948
Savings at retirement	\$3,213,512	\$1,000,000
Distribution during retirement	\$277,830	\$73,057
PV of distribution	\$111,730	\$33,749

Table 2 Summary Statistics on Key Survey Questions

	When do you want to retire?	How much money do you need to retire?	What percent of your income do you save for retirement each year?	How much money do you expect to live on each year while in retirement?
Average	55	\$13,259,615	17.0%	\$125,313
Median	60	\$1,000,000	12.0%	\$50,000
STD	13	\$48,669,531	20.4%	\$238,510
High	65	\$250,000,000	70.0%	\$1,000,000
Low	25	\$500,000	0.0%	\$5,000

We report the summary statistics of key survey questions in Table 2. The median and average savings respondents indicated as being sufficient for retirement were \$1,000,000 and \$13,300,000, respectively. As far as yearly cash flow needed in retirement, on average respondents stated that they would need \$125,000 in retirement. These numbers conclude that students need to make sure they create or have a long-term retirement plan created that is updated and monitored for them to achieve retirement success.

Towson University's Financial Planning coursework teaches basic calculations required for retirement planning. If a person states to save early in life for retirement, with an appropriate savings rate, they can accumulate enough savings for a comfortable retirement. The ideal scenario's saving rate for a person in their early twenties is 11%-13%.

With answers varying from \$500,000 to \$20,000,000, students have a wide range of expectations for savings required to retire. The majority of the respondents said they will save \$1,000,000 in preparation for retirement. With the assumption of 2% inflation and 8% annual return on the investment, this gives inflation adjusted return of 5.88% during their retirement. Based on the previous assumptions, if they save \$1,000,000 by the time they retire, individuals will have \$73,057 of annual distributions from their portfolio during retirement. The present value of the expected annual spending is \$33,749. This return is based on aggressive investing even during retirement. These calculations should be reviewed with consideration that a modest change in inflation, retirement life or return on the portfolio will have dramatic effect on the disposable income of a retiree.

Additionally, 10.7% of students have not saved anything for retirement. Since reviewing the survey results and expectations of retirement income, we see that most students are not seriously preparing for retirement. Standard guidelines of financial planning state that, in order to retire, one must save at least 10% of their annual income.

In addition to consistently saving income, retirement account strategies should be considered while planning for retirement. We surveyed students on their expectations regarding tax rates and their knowledge on the relation between tax and social security. Overall, students predict an increase in taxes due to inflation and the overall long-term impacts of Covid-19. Students at Towson University have a broad understanding of how this government funded retirement program works, perceiving it to be the following¹: "Social Security is government provided disability and retirement income. For most citizens, after the age of 75, one can receive social security. Before then, social security taxes 6.2% are taken out of each paycheck for employed individuals. It is a form of compensation for older citizens, citizens with disabilities, and citizens that are widow(er)s." Social security benefits, in actuality, can be received as early as 62 (with penalties), and by 67 without penalties. Each individual's social security benefits vary depending on how much they earned and how long they contributed to social security. 14 out of 26 respondents (53.9%) were able to correctly answer basic questions regarding Social Security, while the remaining had no knowledge or with misconception.

Though many students do not have a complete knowledge of retirement, nor have they adequately planned for retirement, 76% of students indicated that they will seek financial planning advice in the future. Seeking the advice of a Financial Professional will help to ensure that one will be able to enjoy their golden years and possibly extend the number of golden years an individual may enjoy. The answers provided by students demonstrate that those who are studying finance related subjects have an excellent understanding of Social Security, Retirement Planning, and Alternative Investments. The survey conducted by the Towson University Investment Group finds that Towson University is producing individuals who are capable, well educated, and aware of the current economic and financial market conditions. Towson University is producing individuals who can network and rely on each other to meet the demands of knowledge that all aspects of life require, including financial planning and retiring.

¹Definition was created by compiling the correct or partially correct answers from respondents.



Towson University Investment Group Disclosure:

TUIG is a student run organization that was created as a forum for highly driven, like minded students to gain real-world experience through quantitative and qualitative research. We offer students a professional environment to discuss, learn, and connect with real-world financial experiences. TUIG maintains professional relationships with a widespread network of integrated local Maryland businesses in order to provide members with the opportunity to create interpersonal relationships with mentors and potential future employers.

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Contributors

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Towson University is Maryland's university of opportunities. With more than 150 years of experience pushing possibilities, TU is recognized as one of America's top regional public universities and a leader in academic excellence, research and discovery. As the largest university in Greater Baltimore and Maryland's fastest-growing university, Towson University's momentum is always accelerating with more than 22,700 current students and more than 100 bachelor's, master's and doctoral degree programs in the liberal arts and sciences and applied professional fields. Located amid one of the East Coast's cultural and economic epicenters, TU is a beacon and powerful catalyst in the Mid-Atlantic region partnering with hundreds of businesses and organizations, impacting communities and fueling change. Towson University is currently ranked as a leading regional university by both Princeton Review and U.S. News & World Report. TU is also one of only a handful of institutions where graduation and retention rates are the same for all students, a result of a deeply inclusive culture with a focus on equity among all students, faculty and staff.



About CFA Society Baltimore



CFA Society Baltimore is a local member society of CFA Institute, which has over more than 168,000 CFA charterholders worldwide in 164 markets and regions. CFA Society Baltimore is over 750 members strong, draws from a diverse cross section of local investment firms, financial and educational institutions, and government agencies.

CFA Society Baltimore leads the investment profession locally by promoting the highest standards of ethics, education, and professional excellence for the ultimate benefit of our community. CFA Society Baltimore also seeks to encourage and aid the education of persons engaged in the investment profession, and to provide members of the society with opportunities to exchange ideas and information amongst their peers.



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