



2025

BALTIMORE BUSINESS REVIEW

A MARYLAND JOURNAL



CFA Society
Baltimore



TOWSON
UNIVERSITY

Baltimore Business Review A Maryland Journal — 2025

Produced jointly by the CFA Society
Baltimore and the Towson University
College of Business and Economics

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This publication is available online at
www.baltimorebusinessreview.org

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JUDY HARRIS, PH.D., is Interim Dean in the College of Business and Economics at Towson University, having previously served as Chair of the Department of Marketing and Associate Dean. She earned her doctorate in Business Administration from the University of Houston. Judy's academic research focuses on buyer behavior from a social psychological perspective, utilizing theories of cognition and persuasion to answer theoretical and applied questions concerning how consumers respond to price and promotional variables. Her work has been published in the *Journal of Consumer Affairs*, *Journal of Consumer Research*, *Journal of Retailing*, *Journal of the Academy of Marketing Science*, *Journal of Advertising Research*, *Psychology and Marketing*, *the Journal of Applied Social Psychology* and others. Judy's professional experience is in the field of marketing research. She has experience with a variety of classroom formats and has taught honors, mass section, distance learning, seminar, and project-centered courses at the undergraduate, MBA, and PhD levels. In 2014, Judy was awarded the University System of Maryland Board of Regents' Faculty Award for Teaching, which is the highest honor presented by the Board of Regents to exemplary faculty members within the University System of Maryland.



Message from the Dean

TOWSON UNIVERSITY, COLLEGE OF BUSINESS AND ECONOMICS

Dear Colleagues and Friends,

I am proud to announce the sixteenth issue of the *Baltimore Business Review: A Maryland Journal*. Every year the *Baltimore Business Review* displays a collaboration that illustrates the relative strengths of the College of Business and Economics (CBE) at Towson University and the Baltimore CFA Society, generating a terrific publication highlighting the Maryland business communities and beyond.

Building on last year's issue and continuing to support our vision, this edition of the *Baltimore Business Review* discusses a variety of interests that encompass the perspectives of scholars, students, and practitioners. The five articles by TU contained in this year's BBR examine real and significant issues to our area and beyond.

This issue explores a variety of topics relevant to the region. One article employs machine learning models to predict crime types in the Baltimore area, offering important policy implications for public safety. Another article, using a sample of banks headquartered in Maryland, shows that banks may benefit from joining a banking group by gaining liquidity and capital support from the affiliation. Two articles focus on the mutual funds based in Maryland. One examines whether Maryland-based mutual funds differ from other U.S. mutual funds due to the state's proximity to the nation's political center, Washington D.C., and financial center, New York. The other evaluates the performance of actively managed equity mutual funds headquartered in Maryland. Lastly, a survey conducted by the student-run Towson University Investment Group presents student perceptions of artificial intelligence (AI).

I would like to express my appreciation to everyone that contributed to this issue of the *Baltimore Business Review*. Their time and effort make this publication possible. We thank all of the readers for joining us, and as always, we look forward to hearing any feedback.

Best regards,
Judy Harris, Ph.D.

Interim Dean, College of Business and Economics



Message from the President

CFA SOCIETY BALTIMORE

Dear Friends and Colleagues,

I congratulate the editorial and design staff of the *Baltimore Business Review* on another outstanding publication—its 16th! I also express my sincere gratitude to the authors of the articles in this publication. Having written an article for the *Baltimore Business Review* a few years ago, I know the commitment of time and effort it takes to produce 1,500 words of original thought on a topic of interest to readers. Thank you for your efforts. The *Baltimore Business Review* continues to be a shining example of the way that an academic institution (College of Business and Economics at Towson University) and an organization focused on improving society through financial service and education (CFA Society Baltimore) can work together to bring attention to the great things happening in the Baltimore business community. Below are a few of the initiatives underway rooted in this strong relationship between academia and business in Baltimore:

Financial Literacy

CFA Society Baltimore's University Outreach & Community Engagement Committee has joined forces with the Living Classrooms Foundation to plan a financial literacy program for the community that Living Classrooms serves, which ranges from inner city high school students to individuals on their way to becoming productive members of society. This financial literacy program will provide opportunities for students of Loyola University, Towson University, and Morgan State University to provide instruction, under the direction of professors and volunteer CFA charterholders, on practical tools that individuals can use to budget, manage cash flow, and invest their hard-earned money.

Collaboration Between Baltimore, the District of Columbia, and Philadelphia

In 2023, Bill Scott, the CEO of CFA Society Washington, D.C. (the D.C. Society), participated in CFA Society Baltimore's first annual golf tournament at The Woodlands Golf Course in Windsor Mill, Maryland. We also collaborated with the D.C. Society in 2023, as we do each year, on the CFA Institute's Research Challenge, which is an opportunity for college students pursuing a degree in finance to analyze the financials of a publicly traded company. The subject of this year's Research Challenge is Franklin Resources, Inc. Additionally, CFA Society Baltimore is in discussions with CFA Society Philadelphia to host a joint wealth management conference in Philadelphia in 2025. The benefit of such collaborations is that CFA charterholders can hear the perspectives of CFA charterholders from outside their region.

Significant Upcoming Events

The society is honored to welcome David Rubenstein, majority owner of the Orioles and CEO of The Carlyle Group, as the keynote speaker at CFA Society Baltimore's annual dinner on Jan. 29, 2025, at the Center Club in downtown Baltimore. On April 24, 2025, CFA Society Baltimore will host the CFA Eastern Regional Conference, at which board members who serve on CFA societies from Boston to Washington, D.C., will meet for a one-day workshop to share ideas and best practices on how their society's initiatives add value for their local CFA charterholders. Each year, the CFA Institute, which is headquartered in Charlottesville, Virginia, and oversees CFA societies around the world, organizes a Society Leadership Conference (SLC). The purpose of the SLC is to elicit feedback from society leaders on initiatives proposed by the CFA Institute to add value to CFA charterholders. In 2025, the CFA Institute selected CFA Society Baltimore to host the SLC and its approximately 300 attendees from Sept. 11 to Sept. 12, 2025. On behalf of CFA Society Baltimore, thank you to all who contributed to this year's *Baltimore Business Review*.

Michael Shaw, ESQ



MICHAEL SHAW, ESQ is the founder and Managing Partner of The Shaw Law Group, which advises clients on business transactions, compliance and risk management, and regulatory enforcement defense. He previously served as Managing Director at Certified Financial Planner Board of Standards, Inc. ("CFP Board"). Michael held several positions of increasing responsibility at FINRA, including as Director and Assistant Corporate Secretary, and Senior Counsel, Regulatory Policy. Michael earned a Juris Doctor degree from the Columbus School of Law at Catholic University, and a B.S. in Economics from Marquette University.

Top 10 Employers of CFA Society Baltimore Members

1. T. Rowe Price Group
2. Brown Advisory
3. Stifel Financial
4. Franklin Templeton
5. PNC Financial Services Group
6. Morgan Stanley
7. Maryland State Retirement Agency
8. WMS Partners
9. 1919 Investment Counsel
10. Aegon Asset Management



Is it beneficial to be part of a banking group?

Michaël Dewally

Professor of Finance at Towson University

Yingying Shao

Professor of Finance at Towson University

Maryland's proximity to Washington, D.C., and its robust economy contribute to a dynamic financial services sector. The banking landscape in Maryland is diverse with a mix of national banks, regional banks, credit unions, and community banks. Some of the major national Banks such as Bank of America, Wells Fargo, Chase Bank, and PNC Bank have a significant presence in Maryland. They offer a wide range of services including personal and business banking, mortgages, investments, and wealth management. Sandy Spring Bank and M&T Bank are among the prominent regional banks headquartered in or operating heavily in Maryland. They provide community-oriented banking services with a focus on local businesses and residents. Howard Bank is another notable regional bank that focuses on serving the Baltimore metro area and surrounding regions. Community banks like Harford Bank, Old Line Bank, and Revere Bank also cater to local businesses and consumers. These banks are often praised for personalized customer service and local decision-making, which can be advantageous for small businesses and community members.

In addition to traditional banks, Maryland has numerous credit unions, such as SECU Maryland, NASA Federal Credit Union, and Tower Federal Credit Union. Credit unions typically offer competitive rates, lower fees, and a community-focused approach compared to traditional banks. They provide a full range of services, from savings and checking accounts to loans and credit cards. There is also a growing fintech sector, with companies leveraging technology to offer innovative banking, lending, and investment products.

Behind these similarities in services offered and the differences in market footprint, banks also differ in their ownership structures. While some banks chose to be standalone and remain independent, many banks belong to a banking group. Based on the recent data from regulatory reporting of banks headquartered in Maryland, there are about 11 standalone banks and 19 banks belonging to a banking group, as listed in Tables 1 and 2 respectively.

In general, standalone banks distinguish themselves as small community banks focused on serving local communities and small businesses. For example, Harford Bank has been independently operating in Maryland since 1964 and continues to celebrate its longevity, legacy, loyalty and its impact in Harford County. Bank of Ocean City is an independent bank serving Southern Maryland since 1916. These banks are known for their personal customer service, decision-making at a local level and

Table 1. Standalone Banks

Name	# of Employees	Total Assets (\$M)
Homewood Federal Savings Bank	6	62
Glen Burnie Mutual Savings Bank	5	107
Jarrettsville Federal Savings and Loan Association	13	155
First Shore Federal Savings and Loan Association	66	358
Eastern Savings Bank Federal Savings Bank	89	384
Woodsboro Bank	60	422
Arundel Federal Savings Bank	69	458
Farmers Bank Of Willards, The	69	563
Bank of Ocean City	74	611
Harford Bank	87	678
Rosedale Federal Savings and Loan Association	149	1,326
Average:	62	466

Table 2. Banks Belongs to a Banking Group

Name	# of Employees	Total Assets (\$M)
Chesapeake Bank & Trust Company	19	124
Cecil Bank	31	236
Peoples Bank, The	81	304
Harbor Bank Of Maryland, The	75	365
Bank of Glen Burnie, The	84	370
Queenstown Bank of Maryland	95	715
Hebron Savings Bank	131	721
Farmers and Merchants Bank	100	794
Calvin B. Taylor Banking Company of Berlin, Maryland	112	862
Bayvanguard Bank	112	884
Presidential Bank, FSB	304	963
Middletown Valley Bank	166	1,064
First United Bank & Trust	318	1,890
Capital Bank, National Association	293	2,276
CFG Bank	288	5,058
Shore United Bank, National Association	606	5,819
Forbright Bank	482	6,866
Eaglebank	449	11,562
Sandy Spring Bank	1,095	13,884
Average:	255	2,882

Figure 1: Loan Portfolio

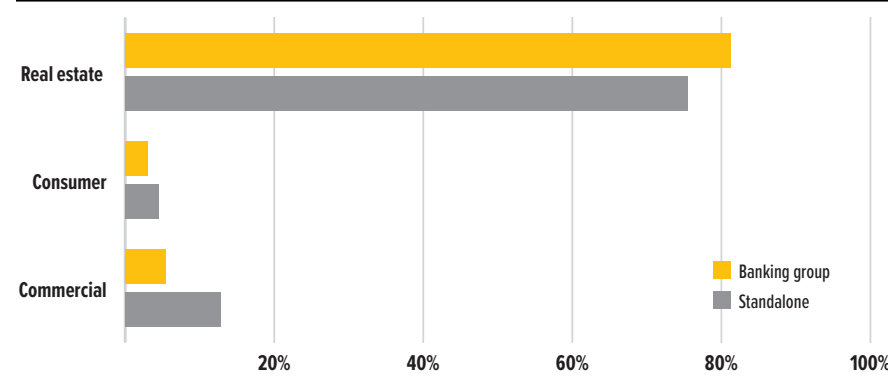
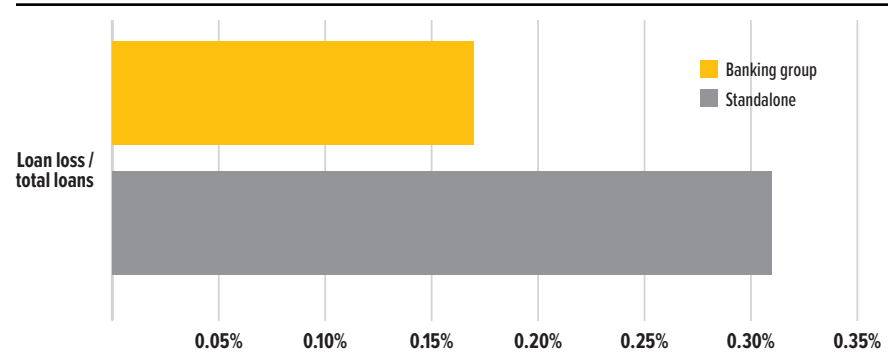


Figure 2: Loan Loss/Total Loans (%)



involvement in local community development. Meanwhile, banking groups operate in diverse geographic locations through subsidiaries. The advantage of operating within a banking group lies in the availability of liquidity and capital support from other members of the group or from the parent bank when needed. As such, while the outward appearance of a bank belonging to a banking group is not different from a standalone bank to the public's eye, their operations are different.

On average, standalone banks hold a similar loan-to-deposit ratio compared to banks belonging to a banking group. This means that both sets of banks display a similar risk profile. However, a deeper look into their loan portfolios reveals some marked differences. We explore these different lending structures in Figure 1. We find that standalone banks prefer issuing real estate loans and lend relatively less in consumer loans and commercial and industrial loans than banking group banks. Since these latter types of loans are generally viewed as riskier than real estate loans, standalone banks distinguish themselves in limiting their risk. This finding is confirmed in Figure 2 in which we report the banks' loan loss ratios. We see that banking group banks in Maryland prudently account for a higher potential for losses. This matches with their larger exposure to riskier types of loans. It also implies that standalone banks expect fewer non-performing and defaulting loans, an indication of better credit risk management and loan monitoring and higher quality of loans.

In a similar way that, on the surface, these two types of banks' lending portfolios are identical, both types of banks exhibit similar deposit-to-assets ratio of about 83%. This means that their equity capital bases are equal, providing each type about 17% of their assets. However, here again we observe differences in their various funding sources. Figure 3 compares the deposit structures of standalone banks to those of Maryland-based banks belonging to a banking group. It shows that standalone banks use more time and saving deposits in their total funding basis and rely more on traditional deposits such as interest bearing and non-transaction deposits for funding purposes. This is largely due to liquidity concerns because standalone banks do not have the alternative funding channel like the subsidiaries of banking groups, who may receive internal capital and liquidity support from other members or from the parent banks when facing liquidity constraints.

With different lending portfolios and different funding sources, our two groups' profitability will differ. We know that banks belonging to a banking group have access to cheaper capital and invest in riskier loans. We expect therefore those banks to be more profitable. Figure 4 compares the performance of standalone banks to those Maryland-based banks belonging to a banking group. Standalone banks tend to underperform relative to their competitors belonging to a banking group.

We take a deeper look at banks' income generating activities in Figure 5. We see that standalone banks have unique characteristics in their earning generating profiles. Compared to banks belonging to a banking group, standalone banks rely more on interest income than on non-interest income. Standalone banks have an Interest income/Assets at 4.51% and a non-interest income ratio at 0.29%, thus the interest income is 16 times of noninterest income. Whereas for banks affiliated with a banking group, the interest income is only 6 times to the noninterest income. Regarding the expenses, both types of banks have similar interest expense-to-assets ratio, but standalone banks are doing a better job of controlling non-interest expense than banks belonging to a banking group.

This in fact leads to an improvement for standalone banks in overall banking efficiency, which is defined as $\text{Non-interest Expense} / (\text{Interest Income} - \text{Interest Expense} + \text{Non-interest Income})$, as shown in Figure 6.

One important indicator of earnings generating power is the net interest margin (NIM). A bank's net interest margin (NIM) reflects the difference between interest income generated on loans provided and interest paid out to lenders (notably on deposits), both relative to the bank's (interest-earning) assets. Studies have shown that there is a positive but non-linear relationship between interest rates and banks' net interest margins: the impact of low interest rates on banks' net interest margins is significantly higher than the impact of high interest rates (Argimon et al. 2023).

Figure 7 plots the time series of net interest margins of Maryland-based banks from 2001, along with the federal fund rate over the same period. One can see that overall, the NIM is relative stable over the past two decades. The volatilities in the NIM are in line with the changes in the federal fund rate over time. When the Fed raised interest rate during the 2007-2009 financial crisis in executing the quantitative easing policy, banks in general experienced

Figure 3: Deposit Structure

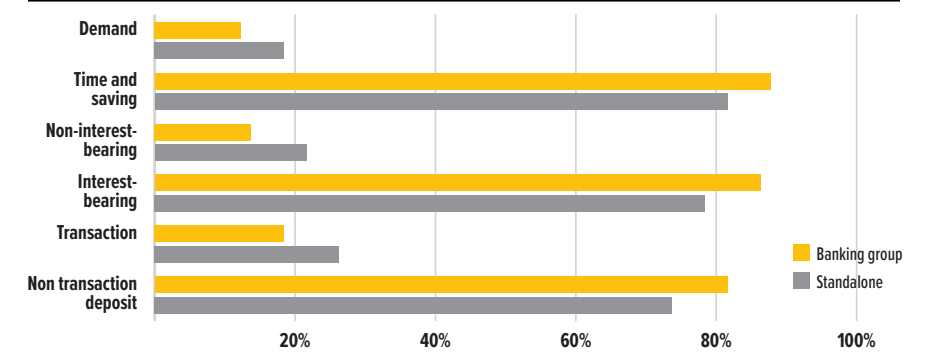


Figure 4: Bank Profitability (%)

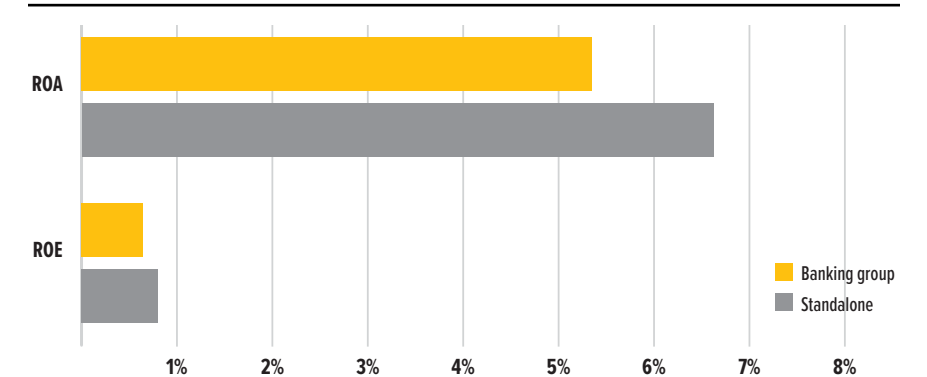


Figure 5: Bank Income Mix (%)

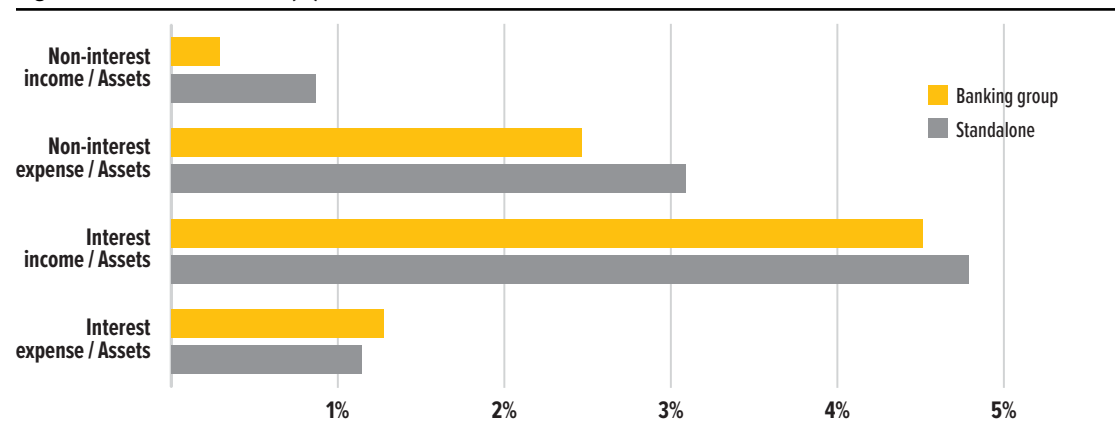


Figure 6: Efficiency Ratio (%)

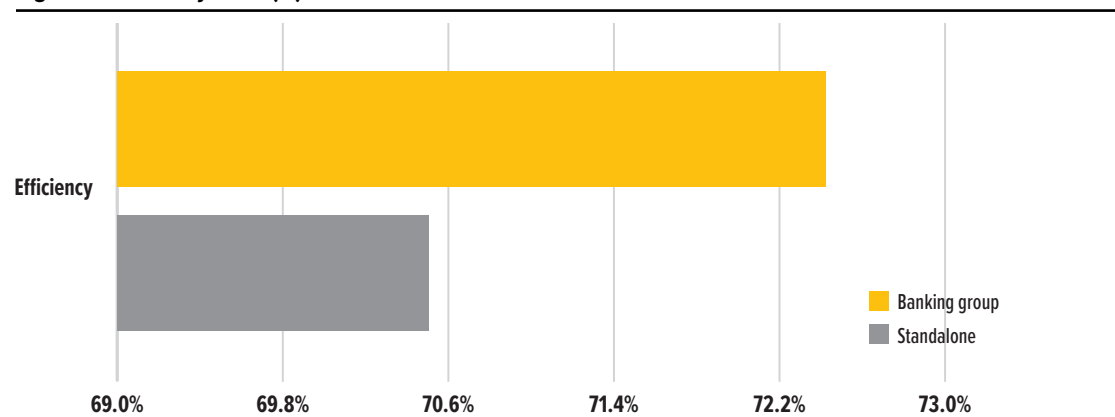


Figure 7: NIM vs Fed Fund Rate (%)

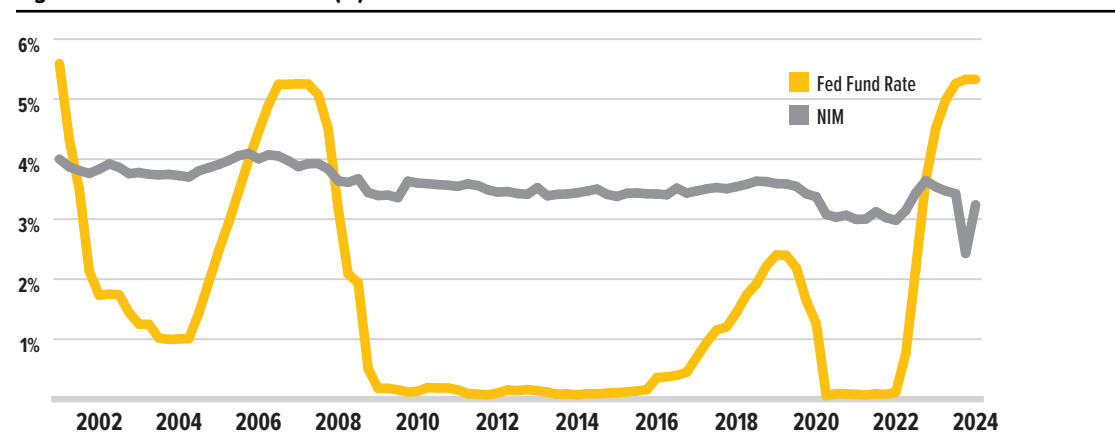
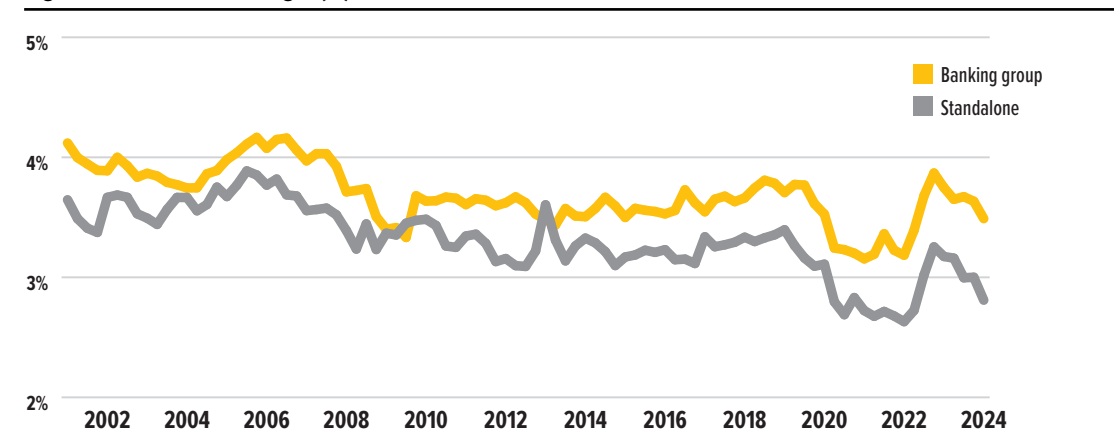


Figure 8: Net Interest Margin (%)



an increase in NIM. The NIM dropped following the cut in the interest rate and remained stable when the Fed maintained the interest rate at a low level, until the Pandemic. The quick spike in the interest rate in the aftermath of Pandemic has triggered significant volatility in the recent NIMs.

Figure 8 plots the net interest margins of these two types of banks. Clearly, banks' NIMs differ across our two ownership structure groups. Standalone banks in general have relatively lower NIMs yet higher volatility (0.3%) compared to those banks belonging to a banking group (0.2%).

The different effect of bank ownership structure (belonging to a group vs. standalone banks) reveals that the drops in interest rates will have less impact on the NIMs of banks belonging to a banking group. It is possible that in a low-interest rate environment, banks experience negative capital shocks and so internal capital markets become operationally beneficial, whereas standalone banks are lack of such alternative funding source.

Like much of the U.S., banks in Maryland face challenges related to regulatory compliance, cybersecurity threats, and competition from fintech companies. In addition to external factors such as the state's healthy economy, growing population, and supportive business environment offering opportunities for growth, it is worth noting that banks may also benefit from joining a banking group and receiving the internal liquidity and capital support when needed. ^{TU}

Reference

Isabel Argimon, Jayson M. Danton, Jakob de Haan, Javier Rodriguez-Martin, Maria Rodriguez-Moreno, Low interest rates and banks' interest margins: Does belonging to a banking group matter?, *Journal of Banking & Finance*, Volume 154, 2023, 106966, ISSN 0378-4266, <https://doi.org/10.1016/j.jbankfin.2023.106966>.



Are Maryland-Based Banks on a Sound Capital Footing?

Jack T. Ciesielski, CPA, CFA

Silicon Valley Bank's rapid demise shook faith in the banking system in early 2023. Could something similar happen here in Maryland? We look at what went wrong at Silicon Valley Bank, the steps that would have detected problems, and how to apply these steps to the eight publicly traded Maryland-based banks.

The Flash-Failed Bank

SVB Financial Group, better known as Silicon Valley Bank, received an unqualified opinion from its auditor, KPMG, and filed its audited 2022 Form 10-K financial statements filed on Feb. 24, 2023. On March 10—a mere fourteen days later—California regulators closed the bank and put it into receivership with the Federal Deposit Insurance Company. How could the bank fail so quickly after its auditor's positive report?

Nothing in Silicon Valley Bank's 10-K filing rang clear alarm bells. A regulatory measure of capital adequacy, the common equity tier one (CET1) percentage of risk-weighted assets for the bank holding company was 12.05% at the end of 2022, and the measure was 15.26% for the bank itself. The required minimum percentage at either the holding company or bank level was only 7.0%.

Unfortunately, Silicon Valley Bank's apparent capital adequacy was deceptive. In retrospect, it's clear that the bank had made a poor choice of accounting policies. It selected a held-to-maturity (HTM) accounting treatment for its debt securities, meaning the fluctuations in the value of the holdings would not be recorded. They would simply be held at their amortized cost until redemption at the end of their term. This approach sounds good in theory: The bank's capital would not be affected by the vicissitudes of the bond market. There was no need for expensive hedging because there were no fluctuating values to be hedged.

The only problem with HTM accounting: If the bank were to sell even some of its HTM holdings before maturity, the entire HTM portfolio would have to be treated as "available for sale" securities and presented at fair value. That would have introduced volatility into its reported capital while triggering additional consequences. The bank would be denied future use of the HTM treatment for up to two years; it might face greater regulatory oversight; and its investor credibility would be damaged. As a result, when the bank faced an urgent need for substantial liquidity in 2023, it was unable to sell its HTM holdings without facing these negative repercussions. The bank attempted to address the situation by selling other non-HTM assets, but these

Table 1: SVB Financial Group's Key Assets at Reported and Fair Values

Item	Reported Value	Fair Value	Difference
Loans held for investment	\$73.6 billion	\$74.6 billion	+\$1.0 billion
HTM securities	\$91.4 billion	\$76.2 billion	-\$15.2 billion

alternative sales proved insufficient. Ultimately, Silicon Valley Bank failed to meet its pressing liquidity demands.

Silicon Valley Bank wasn't solely to blame for its crisis. The rapid rise in interest rates that decreased the value of the company's bond holdings also stoked liquidity demands of an anxious horde of large, connected depositors outside of the bank's control. The tech community organized a flash run on the bank while the bank's large holdings of liquid assets were under duress.

Investor View versus Regulatory View

While Silicon Valley Bank was apparently caught by surprise by the developments that brought it down, savvy investors could have anticipated the potential problems by taking a different perspective on the bank's capital. Unlike regulators, investors face no constraints on how they look at capital. They are limited only by their creativity, logic, and the information provided in the financial statements—including fair value disclosures, which indicate the amount that buyers would be willing to pay for financial assets in an orderly market. "In an orderly market" means in a market with no financial duress on the part of the seller.

While regulators relied on specific capital metrics, investors could have obtained a starkly different view of the bank's capital using the 10-K's fair value disclosures, as shown in Table 1:

Adjusting the year-end loans and HTM securities to fair value, after applying a 21% tax rate, would have revealed:

- A reduction in common stockholders' equity from \$12.6 billion to \$1.5 billion (88% decrease)
- Tangible common equity of *negative* \$2.7 billion
- A decrease in common equity tier 1 capital from \$13.7 billion to \$2.5 billion (82% reduction)

The fair values suggest that the bank was economically insolvent. Faced with such a different capital picture, rational investors would likely have fled from SVB Financial Group's stock before the bank run occurred. However, apparently, not many investors noticed—or cared.

Table 2: Publicly Traded Maryland-Based Banks

(\$ in 1,000,000s)	Symbol	Total Assets	Common Stockholders' Equity	Tangible Common Equity	Common Equity Tier One Capital
Sandy Spring Bancorp Inc.	SASR	\$14,008.3	\$1,599.0	\$1,205.5	\$1,316.0
Eagle Bancorp Inc.	EGBN	11,302.0	1,169.5	1,169.3	1,332.4
Capital Bancorp Inc.	CBNK	2,438.6	267.9	267.9	283.0
Farmers & Merchants Bancorp Inc.	FMAO	3,322.6	322.7	236.3	NA
Shore Bancshares Inc.	SHBI	5,864.0	522.8	416.6	435.2
First United Corp.	FUNC	1,868.6	164.2	141.2	NA
BV Financial	BVFL	897.2	205.5	190.1	166.8
Glen Burnie Bancorp	GLBZ	355.7	17.5	17.5	36.9

Table 3: Fair Values of Loans Receivable and Held-To-Maturity Securities

(\$ in 1,000,000s)	Loans Receivable			Held-to-Maturity Securities		
	Fair Value	Reported Value	Difference	Fair Value	Reported Value	Difference
Sandy Spring Bancorp	\$10,522.6	\$11,358.1	(\$835.4)	\$187.4	\$226.2	(\$38.8)
Eagle Bancorp	7,632.7	8,001.7	(369.0)	856.3	983.0	(126.7)
Capital Bancorp	1,961.3	1,990.8	(29.4)	-	-	-
Farmers & Merchants Bancorp	2,507.5	2,534.5	(27.0)	-	-	-
Shore Bancshares	4,454.8	4,637.7	(183.0)	440.2	499.4	(59.3)
First United	1,329.8	1,404.7	(74.9)	143.0	174.2	(31.2)
Glen Burnie Bancorp	185.1	198.9	(13.7)	-	-	-
BV Financial	679.7	693.8	(14.1)	9.0	10.1	(1.0)

NA – Not available.

The bank's lightning-fast failure commanded the world's attention for a while, with help from several other banks. Silvergate Bank announced its voluntary liquidation just before Silicon Valley Bank failed. Signature Bank failed two days after Silicon Valley Bank, and First Republic Bank was controlled by regulators and sold to JPMorgan Chase several months later. Outside the U.S., Credit Suisse underwent a crisis of its own and was acquired by UBS. Eventually, calm reigned, and "it can't happen here" thinking took hold among the populace and investors. After all, Silicon Valley Bank dealt with technology companies; Silvergate Bank and Signature Bank were both deep into the world of cryptocurrency, and Credit Suisse was facing enormous outflows after a string of high-profile incidents that included its backing of Archegos Capital and Greensill Capital. Banks that dealt with boring, traditional banking activities couldn't destroy themselves—could they?

Are Maryland Banks Vulnerable?

The state has previously experienced problems with its savings institutions. In 1985, Old Court Savings and Loan and Merritt Commercial Savings and Loan became insolvent and depleted the Maryland savings institution insurance fund. Other state insurance funds collapsed in Ohio and Arizona, and eventually, the Federal Savings and Loan Insurance Corporation fell as well. The nation's savings and loan crisis continued into the early 1990s. Given the speed with which Silicon Valley Bank disappeared, it's worth asking if banks are vulnerable—in Maryland and everywhere else.

Remember that the regulatory capital measures did not reveal the true capital status of Silicon Valley Bank, but the fair value disclosures were more illuminating. Using that fair value lens and the information from their June 30, 2024, Form 10-Q reports, the capital status of eight Maryland-based banks is reviewed in Table 2 above, where they are listed in descending order of total assets, along with basic financial information drawn from their June 30, 2024, 10-Q filings. Several banks did not disclose their

Table 4: Fair Value Effect Percent Change in Bank Capital Measurements

(\$ in 1,000,000s)	After-Tax Fair Value Adjustment:			% Change in:		
	Loans	Held-to-Maturity Securities	Combined	Common Equity	Tangible Common Equity	Common Equity Tier One Capital
Sandy Spring Bancorp	(\$660.0)	(\$30.7)	(\$690.7)	-43.2%	-57.3%	-52.5%
Shore Bancshares	(144.5)	(46.8)	(191.4)	-36.6%	-45.9%	-44.0%
Glen Burnie Bancorp	(10.9)	-	(10.9)	-62.2%	-62.2%	-29.4%
Eagle Bancorp	(291.5)	(100.1)	(391.6)	-33.5%	-33.5%	-29.4%
Capital Bancorp	(23.2)	-	(23.2)	-8.7%	-8.7%	-8.2%
BV Financial	(11.2)	(0.8)	(12.0)	-5.8%	-6.3%	-7.2%
Farmers & Merchants Bancorp	(21.3)	-	(21.3)	-6.6%	-9.0%	NA
First United	(59.2)	(24.7)	(83.9)	-51.1%	-59.4%	NA

CET1 in the 10-Qs, so, where possible, it was drawn from their Bank Holding Company Performance Report on file with the Federal Reserve Board.

The amounts in Table 2 are the amounts reported at (or based on) historical costs in the banks' balance sheets. In Table 3, the fair values for the loans held for investment and for the securities reported on a held-to-maturity basis are compared to their historical reported values.

Notice that three of the banks—Capital Bancorp, Farmers & Merchants Bancorp, and Glen Burnie Bancorp—did not use the held-to-maturity securities accounting that contributed to Silicon Valley Bank's downfall.

Table 4 shows the combined effect of reporting loans and held-to-maturity securities at fair value after applying a 21% tax rate and the combined effect on the three different capital measures. The table is sorted in descending order of the effect that fair value recognition would have on the CET1 regulatory capital measure.

The regulatory measure is severely affected by the fair value effect, but it is even more pronounced in terms of the tangible common equity measure—an "acid test" measure favored by bank analysts during the Great Financial Crisis of 2007–2008.

It is unnerving that three of the four banks with double-digit cuts to the CET1—Sandy Spring Bancorp, Shore Bancshares, and Eagle Bancorp—are among the largest Maryland-based banks. Furthermore, while First United's CET1 was not disclosed, its fair value negative effect on common stockholders' equity and tangible common equity were even more severe than those for the larger banks.

Maryland Banks versus Silicon Valley Bank

While the banks discussed here have some reasons for concern, they are not nearly as capital-impaired on a fair value basis as Silicon Valley Bank was before its demise. On a fair value basis, Silicon Valley Bank's common stockholders' equity would have shown an 88% decrease; tangible common equity would have become a negative \$2.7 billion; and CET1 would have suffered an 82% reduction. None of the Maryland banks were close to those disastrous measures. In addition, Silicon Valley Bank's lack of liquidity was due to being hampered by not accessing its held-to-maturity securities; only Eagle Bancorp has the deepest commitment to this accounting selection.

The loans are the biggest contributor to Maryland-based banks' fair value declines, and, to some degree, this is attributable to higher general interest rates. Some of the declines could also be attributable to the credit quality of the loans, but unfortunately, such disclosures for the footnoted fair value amounts are not required.

While Maryland-based banks have some serious capital effects once the fair value of their assets is considered, almost all of them would benefit from a more substantial common stockholders' equity base. The fair value mark-downs are not great on an absolute basis—but comparing them to a low capital base is what makes the reductions in capital so striking. 🌪️



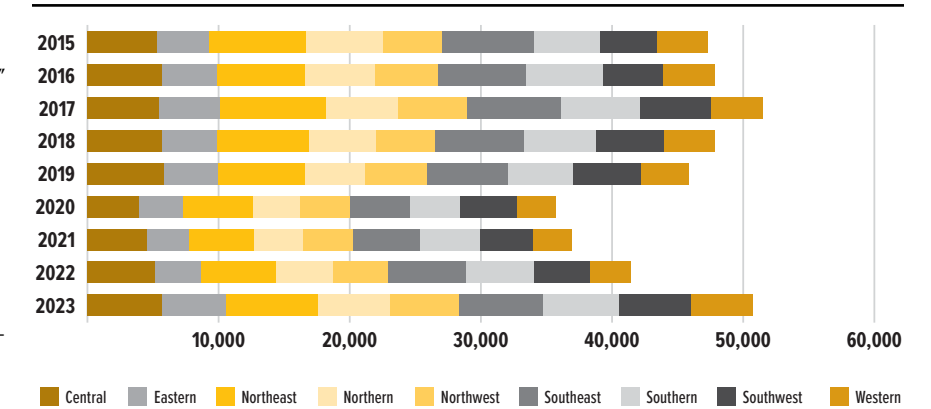
Developing a Predictive Policing Model using Machine Learning: A case of Baltimore City

Nhung Hendy
Professor of Management at Towson University

Predictive policing, defined as an “application of analytical techniques, particularly quantitative techniques, to identify targets for police intervention and prevent crime or solve past crimes by making statistical predictions” (Perry et al., 2013, p. xiii) has been used widely in the U.S. since 2011 with the LASER (Los Angeles’ Strategic Extraction and Restoration) program implemented by the Los Angeles Police Department (Lau, 2020). One reason for the increased popularity of predictive policing models with complex algorithms is their effectiveness in terms of improved crime prediction and reduced crime rates (Lee et al., 2024). A review of extant literature in criminology reveals four popular policing strategies including standard policing (i.e., foot patrol), community-oriented policing, problem-oriented (a.k.a. hot spot or geographically focused) policing, and offender-focused policing (Braga et al., 2019; Braga et al., 2024). Of these strategies, community-oriented policing and problem-oriented policing were found to significantly reduce violent crimes based on meta-analyses of randomized controlled field experiments in various U.S. cities (e.g., Braga et al., 2019; Gill et al., 2014; Braga et al., 2024). In addition, offender-focused policing was shown to reduce violent crimes by 42% based on a randomized controlled field experiment in the city of Philadelphia (Groff et al., 2015) while standard policing such as foot patrolling was found to have no significant effects on violent crime reduction. However, foot patrolling was found to reduce certain property crimes as reported in New York City (e.g., Bilach et al., 2022).

Despite the growing coming of age prediction techniques based on Big Data/Machine Learning or artificial intelligence (AI) there has been a scarcity of research conducted to validate the predictive policing model(s) in general (Jenga et al., 2023), and Baltimore City in particular given the city’s crime rate being among the highest in the U.S. In her doctoral dissertation, Singh (2022) validated several regression models in which the number of drug arrests together with demographic characteristics including age, gender, and race, were found to be significant predictors of various crime categories in Baltimore City during 2013-2018 period. Recently, Momtaz and colleagues explored the consumer price index (CPI) as a correlate of crimes in Baltimore City using various machine learning models (Momtaz et al., 2024). However, CPI fluctuation was not a significant predictor of crime as shown in the study. One issue that was eschewed in the above two studies is the transparency of algorithms in predictive policing models. Critics have raised concerns about the risks of relying on predictive policing models such as lack of transparency that might perpetuate or introduce biases

Figure 1: Crimes by District



based on demographic characteristics such as age, race, and gender of the offender, leading to the public distrust of the police. Nationwide, public confidence in the police was at an all time low in 2023 (43%) vs. 64% in 2004 per Gallup poll. In Baltimore City, recent survey data conducted by Morgan State University showed residents expressed a very low level of agreement with the police in the areas of working well with the communities and being effective in reducing crimes and solving crimes (Cornarck, 2023). The purpose of this study was to develop a predictive policing model using machine learning and deep learning to guide future policy making in proactive policing aiming at crime reduction and prevention in Baltimore City.

Methods

Baltimore City is the largest city in Maryland, with a population of 565,239 as of July 1st, 2023, according to the U.S. Census Bureau¹. Incident-level data on recorded crime arrests from 2015 to 2023 were retrieved from the Baltimore City Police Department and publicly available through [Open Baltimore](https://data.baltimorecity.gov/datasets/baltimore::part-1-crime-data/explore)². After cleaning data for missing cases and out of bound values, the final sample consisted of 348,135 incidents. The outcome variables are the type of crime as a multiclass variable and binary variable. Specifically, the original description of crime

¹ This is a 3.5% decline in the city of Baltimore population compared to 585,708 on April 1, 2020

² <https://data.baltimorecity.gov/datasets/baltimore::part-1-crime-data/explore>

Table 1. Crimes Broken Down by Type and Year

Crime Type	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Larceny/robbery/burglary	34,795	34,503	35,926	33,042	30,911	22,007	21,913	24,915	34,003	272,015
Aggravated/common assaults	11,724	12,626	14,683	14,078	14,150	12,847	13,827	15,162	15,375	12,4472
Homicide/shooting	974	981	1,042	985	1,114	1,053	1,072	1,023	892	9,136
Arson	292	267	266	127	115	105	120	117	152	1,561
Rape	287	297	381	366	319	300	293	226	201	2,680
Total	48,072	48,674	52,298	48,598	46,609	36,312	37,225	41,453	50,623	409,864

Table 2 – Crime Prediction Accuracy based on Machine Learning Models

Machine learning model	Multi-class crime					Binary crime	
	Assaults	Larceny, theft	Arson	Homicide	Rape	Moderate	Violent
Logistic Regression	47.9%	86.5%	0%	0%	0%	82%	82%
Artificial Neural Network (ANN)	74.8%	78.3%	57.8%	94.5%	96.2%	88%	88%

included nine categories, which were combined into five types to avoid redundancy and analysis simplification. The five types of crime include (1) larceny, burglary, robbery and theft; (2) common assaults and aggravated assaults; (3) homicide/shooting; (4) arson; and (5) rape. The binary dependent variable includes two classes: violent crime³ (collapsing aggravated assaults, homicide/shooting, arson, and rape) and moderate crime (combining common assaults and larceny, burglary, robbery, and theft). The predictor variables include (1) the district where the incident occurred. The 9 districts were dummy coded including Northeast, Southeast, Central, Northern, Southern, Southwest, Northwest, Eastern, and Western. The type of weapons illegally possessed was another predictor. The 25 types of weapons listed in the crime database were reduced into three categories (gun/firearms; weapon other than gun/firearms; and unknown weapon) for data analysis simplification. Demographic variables of race and sex of the offender are the third and fourth predictors. Age was not included as a predictor because of too many out of bound values.

³ According to the Federal Bureau of Investigation, violent crimes include homicide, shooting, rape, robbery, and aggravated assault.

Results

Table 1 shows the distribution of Part 1⁴ crimes broken down by type during the period of 2015 through the end of 2023. As shown in the Table, the number of crimes was the highest in 2017 reaching 52,298, and lowest in 2020 with 36,312 total offences recorded. However, the trend in crimes appears to go up after the pandemic with a recorded total of 50,623 at the end of 2023, near the record level of 2017. Figure 1 shows the distribution of crimes by policing district. As shown in the Figure, the Northeast district consistently had the highest level of crimes while the Western district had the lowest level of crimes. This pattern of findings was consistent with anecdotal evidence featured in local news about Baltimore City’s neighborhoods associated with violent crimes (e.g., George, 2016).

Next, binary logistic regression and multinomial logistic regressions were conducted to predict crimes as binary and multi-class crime variables respectively. The results showed that policing district was not a significant predictor, evidenced by the fact that removing this variable did not significantly reduce model fit nor the prediction accuracy of binary and multi-class crimes. Two demographic variables, race and sex of the offender, were found to add negligible incremental value (less than 2%) to model fit in explaining variation in binary crimes and multi-class

⁴ According to the Federal Bureau of Investigation, the Uniform Crime Reporting program (<https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/topic-pages/offense-definitions>) includes Part 1 and Part 2 crimes data in which Part 1 crimes refer to serious offenses that are cleared by arrest and the age, sex, and race of persons arrested for each of the offenses whereas Part 2 crimes are cleared by arrests only.

crimes using logistic regression as shown in Table 2. Most importantly, the sole predictor of weapon type possession contributed substantial explanatory power to both binary and multi-class crimes. Specifically, having a gun or firearm compared to having no weapon at the time of the arrest increased the likelihood of committing a violent crime by 63%.

Several artificial neural networks (ANN) models were run to explain binary and multi-class crimes. One advantage of ANN models over logistic regression models is that the former is more flexible such that the assumption of linearity is relaxed. ANN modeling resembles how the human brain works in two respects (a) knowledge acquisition is through a learning process and (b) synaptic weights are used to store the learned knowledge, used to predict the likelihood of future events. Given the above advantages, ANN models are expected to be superior to logistic regressions in their prediction accuracy. As shown in Table 2, ANN models were better than binary and multinomial logistic regressions in explaining binary crimes and multi-class crimes based on prediction accuracy and area under the receiver operating characteristic (ROC) curve. Specifically, ANN models reached near perfect accuracy prediction level of 96.2% for rape and 94.5% for homicide/shooting while being moderately accurate for other crimes such as common and aggregated assaults and larceny/burglary/robbery/theft (74.8% and 78.3% respectively) with arson being the least accurate (57.8%). ANN models also outperformed logistic regression models in binary classification prediction of crimes. The area under the ROC curve or the true positive rate of predicting binary crimes, i.e., moderate crime and violent crimes was at 88% for both, considered good prediction accuracy level (Mandrekar, 2010). Overall, this study showed a pattern of findings consistent with what Momtaz and colleagues (2024) revealed such that ANN models were superior in predicting crimes with binary crimes being more accurate than multi-class crimes.

Discussion and Conclusions


The results of this study provide some light at the end of the tunnel amidst calls for defunding police and police reform across the U.S. First, the policing district was not a significant predictor in explaining crimes when other variables were in the equation. Second, demographic characteristics of offender offered very little, albeit statistical significance, explanation in binary and multi-class crimes when weapon possession was in the equation. Taken together, the study findings hopefully might dispel some concerns about the possible perpetual bias based on race

and sex as well as racial disparities in arrests from using predictive policing algorithms (Lau, 2020). Weapon type as the most significant predictor of crimes across machine learning models carries two important policy implications for policing programs. First, better gun control policies and enforcement thereof may prevent violent crimes from taking place, especially considering the difficulty of tracing ghost guns in Maryland. Community and problem-oriented policing approaches should be considered in Baltimore City in this regard as they were found to be more effective at crime prevention than foot patrolling



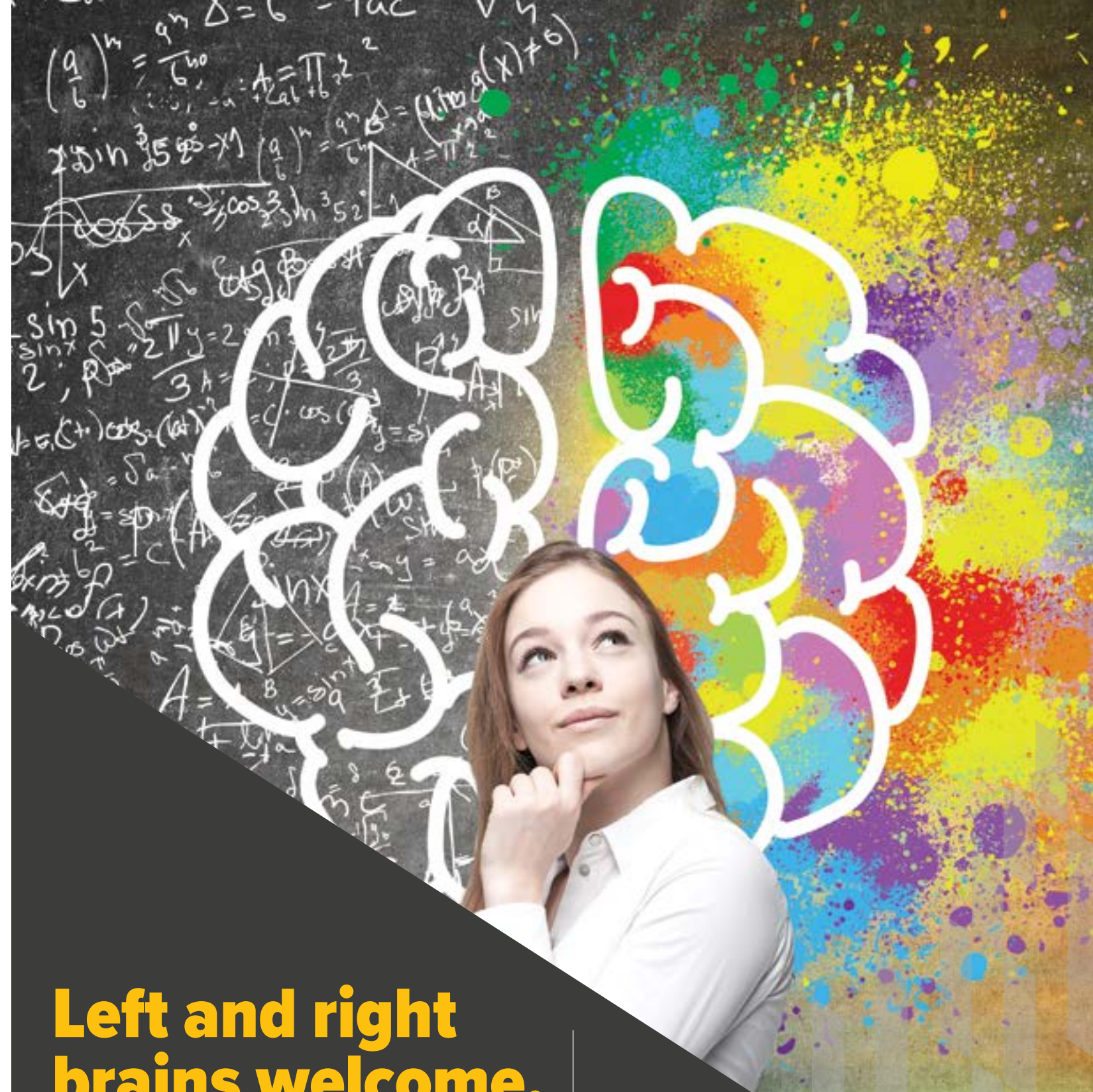
Critics have raised concerns about the risks of relying on predictive policing models such as lack of transparency that might perpetuate or introduce biases based on demographic characteristics such as age, race, and gender of the offender, leading to the public distrust of the police.

approach. Second, by working with the communities to solve the problem of illegal weapon possession, public trust in the police could be restored in Baltimore City to improve public perception of over-policing and under-policing (Braga et al., 2024). This study provides an initial attempt at using machine learning and deep learning models to explain various types of crimes in Baltimore over the period of 2015 to 2023. Several limitations of

this study should be noted. First, due to privacy concerns, the crime incidents were assumed to be independent although it is possible to have repeated offenders in the dataset. Second, the validity of the predictive policing model can only be as good as the dataset used in the training and testing of such models. Efforts were made to clean the dataset to improve clarity and accuracy, but it is possible that input errors still exist in the dataset. These limitations raise an alarm about the importance of establishing an oversight mechanism for predictive policing models to make algorithms more transparent and enable human interventions if needed. This study calls for more transparency and accuracy in archiving data for public safety research - a first step in the right direction to support the city of Baltimore and the state of Maryland to prevent crime and improve justice for better safety and security of Marylanders. 

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The Supreme Court Decision on the Connelly Case and Its Impacts on Business Valuation and Succession Planning

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The Supreme Court’s June 2024 decision on *Connelly v. United States* held that valuations of private companies must include life insurance proceeds received by the company in the event of shareholder death. Furthermore, the court decided that the obligation to repurchase the deceased shareholder’s shares does not constitute a liability that offsets the proceeds, thereby increasing overall company value. This decision will potentially raise company valuations and taxes. Going forward, company owners may need to revise their estate plans and repurchase agreements.

Facts of the Case

On June 6, 2024, the Supreme Court upheld the lower court’s decision in a federal estate tax refund case regarding a dispute over the fair market value of Crown C Supply Inc. Crown C, a privately held company, had obtained life insurance policies on its two shareholders—two brothers, Michael Connelly Sr. (77.18% shareholder) and Thomas Connelly (22.82% shareholder)—totaling \$3.5 million per owner. Additionally, the shareholders had entered into a stock repurchase agreement in 2001, which stipulated that in the event of a shareholder’s death, the company was obligated to repurchase the deceased shareholder’s stock if the remaining shareholder elected not to do so. The repurchase would then be funded by the proceeds of the life insurance policies.

After Michael Connelly Sr.’s passing in 2013, his son Michael Connelly Jr. and his brother Thomas entered into an amended and restated stock purchase agreement in which they valued the company at about \$3.86 million, thereby making Michael Sr.’s 77.18% interest worth approximately \$3 million. Crown C then used the life insurance death benefit proceeds to fulfill its obligation to redeem all of the shares at approximately \$3 million, which was paid to Michael Sr.’s estate.

Issue in Question

Michael’s estate paid approximately \$1.19 million in taxes from the sale proceeds. However, the Internal Revenue Service (IRS) audited the return, arguing that Crown C should have been valued at \$6.86 million, thereby increasing the taxes owed.

Below is a breakdown of each party’s calculations:¹

Table 1: Valuation Breakdown

Valuation Aspect	Estate’s Valuation (\$ million)	IRS Valuation (\$ million)
Base Value of Company	\$3.36	\$3.36
Life Insurance Proceeds	\$3.50	\$3.50
Offsetting Redemption Obligation	(\$3.00)	--
Total Valuation	\$3.86	\$6.86
Michael Sr.’s Estate Share (77.18%)	\$2.98	\$5.29
Estate Tax Liability on Shares (40%)	\$1.19	\$2.12

Ruling

The Supreme Court ruled that Crown C’s obligation to redeem its deceased shareholder’s shares did not reduce the value of those shares and thus should not have offset the life insurance proceeds.

Unlike the prior standards set by *Blount v. Commissioner*, in which both the life insurance proceeds and the redemption obligation were considered (offsetting each other), this case gave weighting to the proceeds alone. Justice Thomas stated that “because a fair-market-value redemption has no effect on any shareholder’s economic interest, no willing buyer purchasing Michael’s shares would have treated Crown’s obligation to redeem Michael’s shares at a fair market value as a factor that reduced the value of those shares.”²

Impacts on Business Valuation and Succession Planning

The Supreme Court’s ruling is likely to affect the business valuation of privately held businesses as they relate to planned buyouts using life insurance proceeds.

There are three generally accepted methodologies for valuing private businesses: the asset, income, and market approaches. The asset approach focuses on the tangible assets of the business and is considered a floor value. The income approach focuses on the income generated by operations. Finally, the market approach focuses on comparable businesses and transactions. Regardless of the method used, the Connelly decision will increase the value of the company in the following ways.

¹ Carol Warley, Andy Swanson, Amber Waldman, Michael Reeves, RSM (June 19, 2024). <https://rsmus.com/insights/tax-alerts/2024/connelly-supreme-court-ruling-what-it-means-for-your-business.html>

² Connelly, as Executor of the Estate of Connelly v. United States, 602 U.S. 6 (2024).



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- **Asset approach:** Inclusion of life insurance proceeds on the company's balance sheet.
- **Income approach:** Addition of life insurance proceeds as a non-operating asset after considering the present value of earnings.
- **Market approach:** Addition of life insurance proceeds as an adjustment to comparable multiples.

Additionally, the date of the business valuation may need to be reexamined. Before the Connelly case, the valuation date had to be immediately before the date of death to avoid negatively affecting the business due to the death of a shareholder or key person. However, the inclusion of the insurance proceeds means considering an event that occurred after the date of death, thereby causing timing issues for valuations and potentially overstating the value of a business.

Accordingly, privately held companies may need to reconsider their redemption agreements, and shareholders may need to revisit their estate plans. In fact, the Supreme Court agreed that the opinion will make succession planning more difficult for closely held corporations. However, there are alternative strategies. A few alternatives and their drawbacks are discussed below.

Alternative Strategies

Cross-Purchase Agreements

A cross-purchase agreement relies on a life insurance policy of the shareholders; however, it requires the shareholders, rather than the company itself, to purchase the policy and pay the premiums. Therefore, the death benefits would go directly to the shareholder, thus avoiding increasing company value. However, this agreement forces the remaining shareholder to repurchase the shares without the ability to opt out. It also adds the risk that one (or all) of the shareholders may be unable to pay the premiums, so they let the policy lapse. Finally, this method is more difficult to use if there are many owners because a life insurance policy would need to be taken out on each one.

Irrevocable Life Insurance Trust (ILIT)

Another option is an ILIT—a trust designed to hold the life insurance policy and receive the proceeds. In this case, each shareholder's trust would be separate from the company and thus would not have an impact on the company's value. However, similar to the cross-purchase agreement, there is a risk of the policy lapsing, and ILITs are complex to do with more shareholders. Additionally, once an ILIT is in place, it cannot be modified without the approval of the beneficiaries and/or grantors.

Special-Purpose LLC

Similar to a cross-purchase agreement or an ILIT, a special-purpose LLC serves as a vehicle to hold the life insurance proceeds to avoid increasing the value of the business (and, therefore, the tax liability).

Buy-Sell Agreement

While the Connelly brothers did have a buy-sell agreement in place, certain requirements needed to be met to set a valuation for share redemption. Thus, owners of a closely held business can create or modify their buy-sell agreements in accordance with the IRS Section 2703 to ensure that:³


1. It is a bona fide business arrangement.
2. It is not a device to transfer such property to members of the decedent's family for less than full and adequate consideration in money or money's worth.
3. Its terms are comparable to similar arrangements entered into by persons in an arms'-length transaction.

Shareholders may also structure their agreements so that they are not contingent on shareholder death but rather are partially executed every year.

Maryland-Specific Implications

As of 2024, Maryland's estate tax exemption is \$5 million, and estates above that threshold will be subject to estate taxes that range from 0.8% to 16%.⁴ While Maryland does not have a gift tax, the federal lifetime gift exemption is set to decrease from \$13.61 million to \$7 million by the end of 2025.⁵

Conclusion: Owners Should Review Their Succession Planning

The Connelly case highlighted the importance of properly structured buy-sell agreements and business valuations in succession planning. Small-business owners should review their agreements, seek tax and valuation advisors, and structure their estate and succession plans to properly transition ownership. 

³ "Internal Revenue Code Title 26, Section 2703," U.S. Department of the Treasury (2582).

⁴ Comptroller of Maryland, Estate and Inheritance Tax Information (2024). <https://marylandtaxes.gov/individual/estate-inheritance/estate-inheritance-tax.php>

⁵ Merrill Lynch, "Get your estate ready for potential gift tax changes. Here's how" (2024). <https://www.ml.com/articles/estate-gift-tax-exemption-sunset.html#:~:text=This%20exemption%20has%20helped%20affluent,to%202017%20levels%20in%202026>.



Are Maryland Mutual Funds Different from Other U.S. Mutual Funds?

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By the end of 2019, the total net assets under management by U.S. mutual funds reached \$21.3 trillion, with households holding 89 percent of the \$21.3 trillion. About 45.5 percent (58.5 million) of U.S. households owned mutual funds in 2019 for retirement, education, and various financial goals.¹ The mutual fund industry has been a cornerstone of financial research, with a focus on evaluating the effectiveness of active management. Early seminal studies, such as Jensen (1968) and Carhart (1997), shaped the conventional wisdom that most actively managed funds underperform their passive counterparts after accounting for fees. These findings were reinforced by studies like Wermers (2000), which demonstrated that while the stocks held by active managers might outperform benchmarks, the associated fees often negate this advantage. More recent research, however, has begun to challenge this view. Cremers, Fulkerson, and Riley (2019) argue that active managers can exhibit significant skill in certain market conditions, particularly in high-volatility environments. Moreover, geographic considerations, such as local information advantages, have been shown to impact fund performance, as highlighted by Coval and Moskowitz (1999). Located between the country's political center, Washington D.C., and financial center, New York, Maryland has a unique informational advantage that could be beneficial to investments. This article investigates whether mutual funds based in Maryland differ from other U.S. mutual funds.

Data on U.S. mutual funds was obtained from the Center for Research in Security Prices (CRSP) Survivor-Bias-Free U.S. Mutual Fund database. This database provides information on assets under management, monthly net-of-fee returns, inception dates, and other fund characteristics, such as turnover and expense ratio at the share level. All the share-level variables are aggregated to fund level using MFLINKS and share level assets. Mutual fund locations are identified from the contact information of the funds in CRSP database.

Figure 1 presents the number of funds and assets under management by mutual funds across the U.S. in 2019, with state holding more assets shown in darker shades. The five states with the largest total net assets are California, Pennsylvania, Massachusetts, New York, and Maryland. Mutual funds headquartered in California managed approximately \$5.4 trillion in 2019. Pennsylvania held

¹ These statistics are from the 2020 Investment Company Fact Book, which is available at https://www.ici.org/doc-server/pdf%3A2020_fact-book.pdf

Figure 1. Number of Funds and Assets Under Management by Mutual Funds, 2019

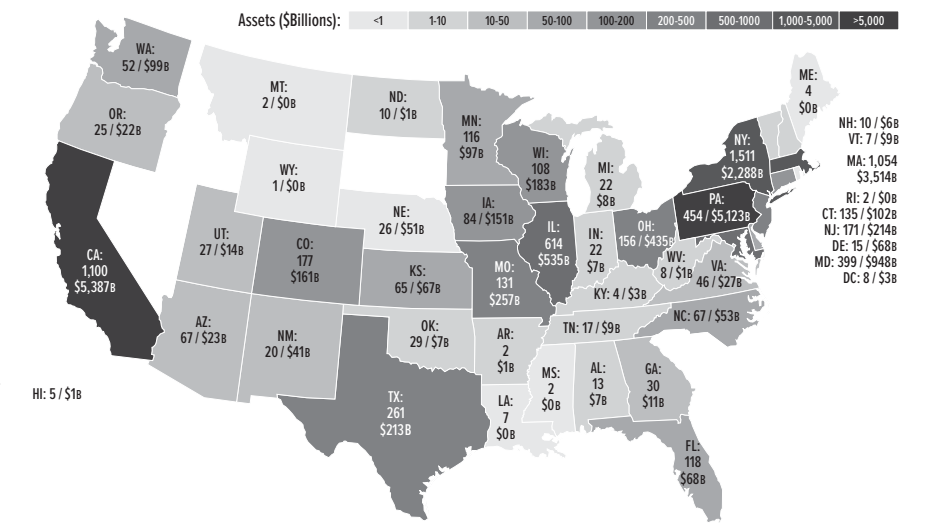


Figure 2. Growth of Maryland Mutual Funds from 1991 to 2019

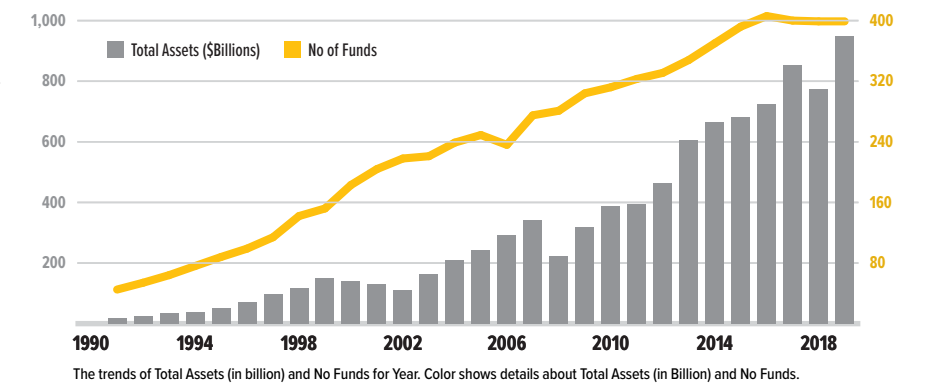



Table 1. Differences in the Mean Characteristics Between MD Funds and Non-MD Funds

	MD Funds	Non-MD Funds	Difference	t-stat.
Asset (million)	1484.59	1757.85	-273.26	[-1.28]
Return	0.01	0.01	0.00	[1.31]
Volatility	0.05	0.04	0.01	[6.04]
Age (month)	146	153	-7	[-1.13]
Expense	0.0115	0.0108	0.0007	[2.13]
Turnover	2.00	0.85	1.15	[4.99]

\$5.1 trillion, Massachusetts \$3.5 trillion, and New York \$2.3 trillion, with Maryland ranking fifth at \$948 billion in assets under management. In terms of the number of mutual funds, New York leads with 1,511 funds. The other top states include California (1,100 funds), Massachusetts (1,054 funds), Illinois (614 funds), and Pennsylvania (454 funds). Maryland ranks sixth with 399 mutual funds.

Figure 2 shows the growth of Maryland-based mutual funds from 1991 to 2019. Assets managed by Maryland mutual funds increased from \$18.6 billion in 1991 to \$947.7 billion in 2019, with an average annual growth rate of 15.07%. The number of mutual funds in Maryland grew from 45 in 1991 to 399 in 2019, marking a 789% increase over 28 years, or an average annual growth rate of 8.11%.

Table 1 reports the differences in average characteristics between Maryland mutual funds and other U.S. mutual funds during the 1991-2019 period. The average size of Maryland funds is \$273.26 million smaller than that of non-Maryland funds, though this difference is not statistically significant. The average monthly return is similar between Maryland and non-Maryland funds. However, the volatility of monthly returns is 1% higher for Maryland funds, a difference that is statistically significant. The average age of Maryland funds is around 12 years (146 months), which is 7 months younger than the average age of non-Maryland funds; however, this difference is also not statistically significant. The average expense ratio of Maryland funds is 1.15%, compared to 1.08% for non-Maryland funds, with the 0.07% difference being statistically significant. Finally, Maryland funds have an average turnover of 2.00, which is 1.15 higher than that of non-Maryland funds.

From 1991 to 2019, Maryland mutual funds experienced substantial growth in both the number of funds and assets under management. This study shows that Maryland-based funds do not significantly differ from other U.S. funds in average asset size, monthly returns, or age. However, on average, Maryland funds have higher volatility, higher expense ratios, and higher turnover rates than non-Maryland funds. 

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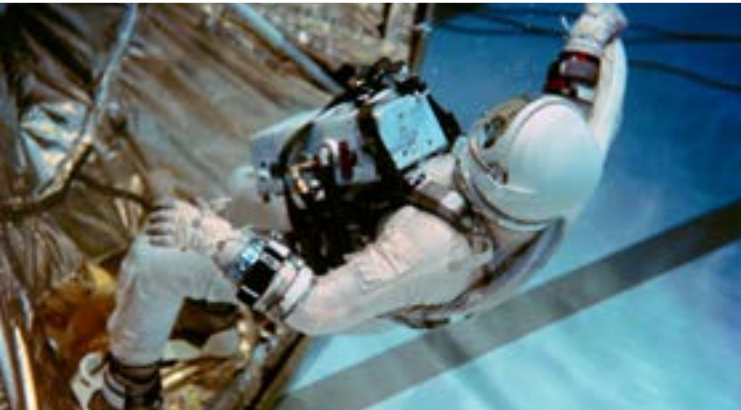
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Renaissance in Maryland's Aerospace Industry

By Niall H. O'Malley, MBA
Portfolio Manager, Blue Point Investment Management

Images left to right: A-10 Warthog in the 175th Wing of the Maryland Air National Guard, NASA Parker Solar Probe, NASA Webb Space Telescope, Atmospheric Modeling at the NASA Goddard Space Flight Center, the NASA Gemini spacewalk being practiced in the McDonough School pool, and Textron Systems Aerosonde UAV.

Flight has fundamentally changed transportation and how we look at the world. Flight and air superiority brought an end to World War II and has become a cornerstone of our national defense. The space part of aerospace has allowed us to observe and explore our world from above. The extent of Maryland's historical and current contribution to aerospace is remarkable. And, rather than receding, the state's role in the industry is actually expanding.

Historical Perspective The Value of Intelligence

During the Civil War, Union soldiers sought to understand the strength of the Confederate force. A barge on the Potomac was converted to a balloon carrier to observe troop strengths from the air at different vantage points.

First Powered Flights

In 1909, Wilbur Wright, along with his brother Orville, flew demonstration flights in College Park, Maryland, and the first aircraft built in Maryland flew in Owings Mills, Maryland. In 1911, realizing the importance of powered flight, the Army Signal Corps Aviation School was founded at the College Park Airport, which became the first U.S. military airbase. In August 1918, the first U.S. postal airmail flight left the College Park Airport.

In addition to being the location of these early flights, Maryland was deeply involved in the technology development and manufacturing of aircraft. The American Propeller and Manufacturing Company in Baltimore produced three-quarters of the propellers used by U.S. forces during World War I. From 1927 to 1933, the first radio navigation aids were developed at College Park Airport to help pilots land aircraft in low visibility.

The Lindbergh Lift

Charles Lindbergh's historic nonstop flight across the Atlantic on May 21, 1927, sparked enormous growth and development in aircraft manufacturing. In 1928, Baltimore alone attracted four aircraft manufacturing plants and advertised itself as the "New Capital of Aviation." While the stock market crash of 1929 forced many of Maryland's aircraft companies to merge or go out of business, Glenn L. Martin Company became a leading aircraft producer in Middle River, Maryland.

In 1935, Pan American Airways took delivery of its first of three Glenn L. Martin "boat planes" for transpacific flights. Paying homage to the clipper sailing ships of the 1800s, the aircraft were named China Clipper, Philippine

Clipper, and Hawaii Clipper. The boat planes provided transpacific flights for 43 passengers and seven crew members. The Glenn L. Martin Company Clippers developed radio navigation and seaplane bases that opened up the Pacific to air traffic.

World War II

In 1938, Fairchild Aircraft, located in Hagerstown, Maryland, won an Army Air Corps order to train pilots for the PT-19, which became the primary Allied training aircraft during World War II. A short takeoff and landing plane, the Fairchild 24, was also produced to support the U.S. Army Air Corps and the Royal Air Force. During World War II, the General Motors plant in Baltimore made the tail section of the Grumman F4F Wildcat, a carrier-based aircraft, and the Avenger Torpedo Bomber, which first saw action in the Battle of Midway in 1942.

Before World War II, the Glenn L. Martin Company built a number of bombers and naval patrol boats for the Allies. In 1943, Glenn L. Martin Company was Baltimore's largest employer, with over 52,000 employees supporting aircraft production in Middle River. One of the company's most successful aircraft was the B-26 Marauder, which helped the Allies end Hitler's invasion of Europe.

In 1942, the father of American spaceflight, Robert Goddard, moved to the Naval Engineering Experiment Station in Annapolis, Maryland. His team developed rockets for jet-assisted takeoffs and variable-thrust rocket motors that were later used on the Bell X-2 rocket plane.

The Plane Anyone Could Fly

A few miles from the College Park Airport, the single-engine Ercoupe aircraft was built by Engineering Research Co. (ERCO) in the 1940s and 1950s. These airplanes were designed to be "the plane anyone could fly." The twin tail and lack of rudder pedals helped stabilize the aircraft and prevent stalled spins. Amazingly, 359 of the well-designed Ercoupe aircraft still fly today.

Table 1: Aircraft Built in Maryland

Maryland's Largest Aircraft Manufacturers	Notable Aircraft	Number Built*
Glenn L. Martin	B-26, Flying Clippers, B-57	8,698
Fairchild - Republic	Fairchild PT-19, Flying Boxcar and A-10	8,068
Engineering and Manufacturing Co. (ERCO)	Ercoup single engine stall resistant aircraft	5,050
Other aircraft manufacturers		348
	Total	22,164

* Aircraft built totals adjusted for aircraft not built in Maryland.

Modern-Day Developments in Maryland

Rockets, Missiles, and Crewed Space Flight

In 1955, Glenn L. Martin Company's Titan rocket won the Air Force's intercontinental ballistic missile program contract. All Gemini space flights in the 1960s were on Titan rockets that were integrated and tested in Middle River before being sent to Cape Canaveral. The first Gemini spacewalk was practiced in the pool of the McDonogh School in Owings Mills. The headquarters for the successor company Lockheed Martin is based in Bethesda, Maryland.

In 1979, the Maryland National Guard started receiving A-10 aircraft, affectionately known as Warthogs, straight from the Fairchild Republic Hagerstown, Maryland, aircraft factory. The twin-tail A-10 aircraft were designed around a 30 mm Gatling-style cannon for close air support of ground troops. However, aircraft production ended in Hagerstown in 1984.

The Goddard Space Flight Center in Greenbelt, Maryland, supports NASA's earth and planetary science missions and designs and supports satellites for the National Oceanic and Atmospheric Administration and the National Weather Service. Our understanding of the universe has been furthered by the Hubble, Webb, and soon Roman Space Telescopes. Goddard's planetary missions include lunar and asteroid missions, the Parker Sun Probe, and the upcoming DaVinci mission to Venus. The space science missions are supported by the Johns Hopkins Applied Physics Lab in Laurel, Maryland, and the Space Telescope Science Institute in Baltimore.

Maryland's Naval Air Station Patuxent River is home to the Naval Air Systems Command and the Naval Test Pilot School and serves as the operating base for naval fixed-wing and rotary-wing test aircraft. Recent test aircraft have included P-8 Poseidon maritime patrol aircraft, the extended-range version of Reaper drones, and the Marine One replacement rotary craft. Naval Air Station Patuxent River is home to program offices for each naval aircraft, rotary craft, and weapons system.

Joint Base Andrews in Camp Springs, Maryland, is home to Air Force One, two 747-200 aircraft, the U.S. vice president's aircraft, and aircraft that support congressional and Department of Defense leadership missions through the U.S. Air Force 89th Airlift Wing and the 316th Helicopter Squadron. In all, 14,000 service members support Joint Base Andrews operations.

The Aberdeen Proving Ground in Aberdeen, Maryland, is home to Chinook and Black Hawk rotary craft associated with the 126th and 224th Aviation Regiment of the Maryland Army National Guard. It is also home to rotary craft engine research performed by the U.S. Army Research Lab.

Table 2: Top Maryland Aerospace Employers

Maryland Based Research Centers 2024	Employees
Applied Physics Lab	8,700
Goddard Space Flight Center	10,000
Naval Air Station Patuxent River	20,000
Space Telescope Science Institute	500

Sensors and Navigation

Northrop Grumman's Mission Systems division is based in Linthicum, Maryland, which is heavily involved in producing sensors and radars. Radar sensors are cryogenically frozen to almost 460 degrees below zero to improve sensitivity. In the last two years, Northrop Grumman opened a second space integration facility and a hypersonic research and production center in Elkton, Maryland. Collins Aerospace in Annapolis supports aircraft navigation and awareness systems.

Crewless Aircraft Production and Development

Textron Systems in Hunt Valley, Maryland, makes uncrewed aerial vehicles (UAV) that support the U.S. Army. Its new vertical takeoff and horizontal Aerosonde UAV recently finished collaborative tests with Andruil Industries. The Textron Shadow has over 1.2 million flight hours. SURVICE Engineering in Belcamp, Maryland, is partnering with Malloy Aeronautics to manufacture lift UAVs for the U.S. military that can carry 250 pounds of cargo. Platform Aerospace in Hollywood, Maryland, is producing the Vanilla UAV that recently set an eight-day world record for continuous operations.

Rocket Building Returns to Middle River

Rocket Lab is returning Middle River to its rocket-building roots. It has started to build carbon fiber segments of its new medium-lift Neutron rocket, which is designed to be reusable and compete with Space X's Falcon 9 rocket. There is significant demand for low-earth-orbit lift capability. The 140-foot by 21-foot rocket is so big that larger sections will have to be transported by barge to its Wallops Island, Virginia, launch facility.

General Aviation

The Aircraft Owners and Pilots Association (AOPA) is based in Frederick, Maryland. AOPA and its 200 employees work to ensure the logistics and infrastructure are in place to continue the growth of general aviation and pilot training. Also based in Frederick is Avemco Insurance, a leading aviation insurance underwriter. Commercial pilot school activity is expanding as airlines provide more financial incentives for student pilots to become commercial pilots.

Commercial aviation is an important part of the Maryland economy, with Baltimore/Washington International (BWI) Airport ranked number 23 in the nation in 2023, handling 12.8 million passenger boardings. The Maryland Aviation Administration has \$1.2 billion of improvements planned between 2023 and 2028. BWI will get the lion's share of the improvements, but some of the most noticeable improvements are to regional airports. Martin State's runway is being lengthened to 8,100 feet so it can support fighter jets and more commercial operations. The regional airports in Easton, Hagerstown, and St. Mary's, Maryland, are receiving significant airport upgrades as well.

Maryland's aerospace history is celebrated at the College Park Aviation Museum, Glenn L. Martin Aviation Museum, Hagerstown Aviation Museum, Massey Air Museum, Patuxent River Naval Air Museum, and the NASA Goddard Space Flight Center.

175th Wing of the Maryland Air National Guard

Martin State Airport is receiving comprehensive improvements, so it can continue to support the 175th Wing of the Maryland Air National Guard. After training missions, A-10 flyovers during Orioles and Raven games inspire Maryland's next generation of aviators. From a deterrence perspective, the 175th Wing of Maryland's Air National Guard supports Estonia during NATO forward deployment missions. The State of Maryland is appealing the U.S. Air Force's decision to retire the 175th Wing of 21



Neutron Rocket half fairing photo courtesy of Rocket Lab USA, Inc.

Table 3: Publicly Traded Maryland Aerospace Employers

Fiscal Year 2023	Lockheed Martin	Northrop Grumman	RTX	Rocket Lab	Textron
Stock ticker	LMT	NOC	RTX	RKLB	TXT
Revenue	\$67,571	\$39,290	\$68,920	\$225	\$13,683
% change	2.4%	7.3%	2.8%	6.4%	6.8%
Gross profit	\$8,479	\$2,537	\$8,888	\$51	\$1,053
% change	2.3%	-29.5%	18.3%	170.5%	19.3%
Net income	\$6,920	\$2,056	\$3,195	(\$181)	\$921
% change	20.7%	-58.0%	-38.5%	34%	7.0%
Cash Flow from Operations	\$7,920	\$3,875	\$7,883	(\$99)	\$1,266
% change	1.5%	33.6%	10.0%	-7.0%	-14.9%
Backlog	\$160,567	\$84,230	\$196,000	\$1,046	\$13,899
% change	7.0%	7.9%	12.0%	107.7%	4.8%
Maryland employees	2,600	13,000	N.A.	65	1,000

\$ in millions

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A-10s at Martin State Airport, which affects 1,500 support personnel. If the A-10 Warthogs are retired, Maryland would be the only state in the country without an Air National Guard flying mission. Having training paths for aircraft mechanics and pilots is critical to retaining the knowledge base.

Conclusion: Maryland's Aerospace Industry is Growing

As can be seen in Table 3, all the large publicly traded aerospace employers in Maryland are experiencing revenue and backlog growth. Rocket Lab more than doubled its order backlog in 2023. The opportunities to support Maryland's defense companies, research centers, military branches, and commercial aerospace activities are growing, bolstering Maryland's leading role in the aerospace industry. 

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Performance of Actively Managed Equity Mutual Funds in Maryland

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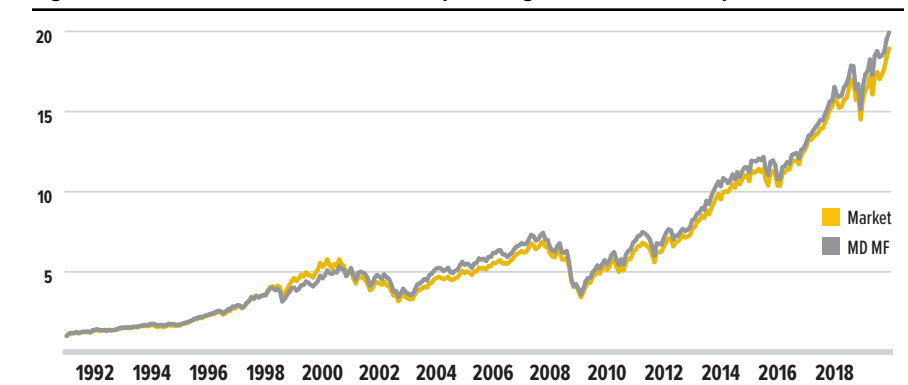
By the end of 2019, U.S.-registered mutual funds have reached \$21.3 trillion in total net assets.¹ However, the value of actively managed mutual funds has been subjected to debate given the growing popularity of index mutual funds. The evaluation of mutual fund performance has long been a subject of intense academic scrutiny. Seminal studies such as Sharpe (1966) and Jensen (1968) laid the foundation by introducing measures like the Sharpe ratio and Jensen's alpha, which quantify fund performance relative to risk-adjusted benchmarks. These methodologies have since been extended and refined to incorporate multifactor models, notably the three-factor model by Fama and French (1993) and the four-factor model by Carhart (1997), which introduced the momentum factor. Empirical evidence has often highlighted the challenges faced by actively managed funds in consistently outperforming market benchmarks. For example, Carhart (1997) found that, on average, actively managed funds failed to generate positive alpha net of fees, supporting the conventional wisdom that active management adds little value. However, more recent studies, such as Cremers and Petajisto (2009), suggest that measures like "active share" can identify funds with higher likelihoods of outperforming their benchmarks. The debate over active versus passive management continues, with some research emphasizing the role of fund characteristics in performance. For instance, Wermers (2000) demonstrated that while stocks held by actively managed funds may outperform, the associated costs often erase these gains. In contrast, studies like Kosowski et al. (2006) and Berk and van Binsbergen (2015) highlight instances of managerial skill and value creation, especially in certain market conditions or fund types. Geographic factors have also been explored in mutual fund performance literature. Coval and Moskowitz (1999) identified an informational advantage for managers investing in geographically proximate firms, suggesting that fund location may play a role in performance differentials. Located between the country's political center, Washington D.C., and financial center, New York, Maryland may have a unique informational advantage on investments. This article focuses on evaluating the performance of the actively managed equity mutual funds based in Maryland.

¹ These statistics are from the 2020 Investment Company Fact Book, which is available at https://www.ici.org/doc-server/pdf%3A2020_fact-book.pdf

Table 1: Summary Statistics

	Mean	SD	p10	p50	p90
Asset (million)	3242.11	6940.90	54.30	456.80	9410.39
Return	0.01	0.05	-0.05	0.01	0.06
Age (month)	203.21	169.39	57.00	155.00	403.00
Expense	0.01	0.00	0.01	0.01	0.02
Turnover	0.78	0.78	0.17	0.59	1.54

Figure 1: Cumulative Dollar Returns on Equal-weight Portfolio of Sample Funds



Sample of actively managed U.S. equity mutual funds is constructed using CRSP Survivor-Bias-Free U.S. Mutual Fund database. Sample funds are screened with CRSP objective codes EDCI, EDCS, EDCM, EDYI, EDYB or EDYG and are required that the funds invest at least 70% of their assets in common stocks. Lipper, Strategic Insight, and Wiesenberger investment objective codes are applied to exclude the funds not following a long-only strategy. To address incubation bias (Evans, 2010), a given fund is not included until it is at least two years old and until it first reaches at least \$20 million assets. All the share-level variables are aggregated to fund level using MFLINKS and share level assets. Mutual fund locations are identified from the contact information of the funds in CRSP database.

Table 1 provides the summary statistics of asset, monthly returns, age, expense ratio, and turnover. The average asset per fund is \$3,242.11 million, with a standard deviation of \$6,940.90 million. The 10th percentile is \$54.30 and 90th percentile is \$9,410.39 million and the mean is much higher than the median, showing a highly skewed distribution. The average monthly return is 1%, with a standard deviation of 5%. The average age of the sample

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Table 2: Risk-Adjusted Performance

VARIABLES	(1) RET_RF	(2) RET_RF
MKTRF	1.00*** [61.83]	0.97*** [63.94]
SMB		0.16*** [7.29]
HML		0.05** [2.19]
UMD		-0.04*** [-3.05]
Alpha	0.25 [0.39]	0.33 [0.59]
Observations	348	348
R-squared	0.95	0.97

funds is about 16.93 years, and ranges from 10th percentile 4.75 years to the 90th percentile 12 years. The average expense ratio is 1% with negligible variation, suggesting that expense ratios are consistent across observations. The average turnover of the sample funds is 0.78 with a standard deviation also at 0.78.

The analysis of the performance of actively managed equity mutual funds headquartered in Maryland begins with raw returns. Figure 1 shows the cumulative dollar returns on the equal weight portfolio of actively managed equity mutual funds based in Maryland and the cumulative return of the market index.² A one dollar investment made at the beginning of 1991 in the portfolio of the Maryland funds at the end of 2019, would be worth \$19.93. In comparison, the portfolio of the market, at the end of 2019, reached \$18.92.

² Market return is download from Ken French's website: https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

To evaluate risk-adjusted performance, next section uses CAPM and French (1993) and Carhart (1997) four-factor model to measure the alphas of the equal weight portfolio of the sample funds for the 1991 to 2019 period. Alpha from CAPM is 0.25% per annual but not statistically significant. Alpha from French (1993) and Carhart (1997) four-factor model is 0.33% per annual but not statistically significant.

To summarize, the performance of the equal weight portfolio of actively managed equity mutual funds headquartered in Maryland closely mirrors market performance during 1991 to 2019.

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Claimants Face Obstacles to Recovery in Francis Scott Key Bridge Collapse

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The fate of claims filed in response to the 2024 collapse of the Francis Scott Key Bridge is important to Maryland, given the significance of the Port of Baltimore to the state. However, unique aspects of maritime law will pose obstacles to the success of both direct and indirect claims.

The Port and the Bridge Collapse

The Port of Baltimore has long been number one in the nation in roll-on/roll-off cargo. In 2023 alone, the port was responsible for handling over 55 million tons of cargo, over 20,000 direct jobs, more than \$1.6 billion in personal income, over \$3.8 billion in business revenue, and state and local taxes of over \$647 million. The related, indirect impacts of this local economic engine on Maryland's economy cannot be overstated.

All of this was put at risk on March 26, 2024, when the Francis Scott Key Bridge collapsed upon being struck by the 984-foot, 95,000 gross-ton containership M/V Dali. Six bridge maintenance workers were killed, and two were injured. The federal deep-water channel into and out of the port and adjacent state waterways were blocked by the disabled ship and many tons of bridge debris. Cargo aboard the ship was damaged and delayed. Most port operations stopped. However, a host of federal and state agencies participated in a blindingly fast cleanup, and the channel was fully reopened to shipping traffic by June 12.

Claimants—Direct and Indirect

Unsurprisingly, this disaster caused injuries and damages estimated to run into the billions of dollars. The cost to rebuild the bridge alone is estimated to be \$1.9 billion. Claimants directly injured as a result of this disaster—which we refer to as direct claims—include (1) personal injury and death claimants; (2) federal, state, and local agencies that fronted response and cleanup costs; (3) the Maryland Transportation Authority (the bridge's owner); (4) cargo claimants; (5) owners of nearby utility infrastructure that was damaged or temporarily taken out of service; and (6) claims related to vehicles and equipment on the bridge when it collapsed.

In addition to the direct claims, there are indirect claims. Other persons and entities not directly physically injured have suffered real damages, such as (1) loss of business and related income; (2) increased commuting, fuel, and labor costs; (3) loss of tax and toll revenue; (4) increased wear and tear and maintenance costs related to infrastructure; and (5) interruption in the use and enjoyment of roadways, waterways, and property. These types of damages are frequently referred to as economic losses.

Impact of 1851 Limitation of Liability Act on Claimants' Prospects for Recovery

What are the prospects for actual recovery by these claimants? The answer will depend—in large part—on unique rules in maritime law, which are designed to be consistent with international law and facilitate international commerce.

One of those unique rules is the 1851 Limitation of Liability Act, which may permit the Dali's owner and manager to limit liability to the post-incident value of the ship plus pending freight (the revenue from the cargo aboard at the time).



If negligence or unseaworthiness is proven, the burden shifts to the owner to show that it had no "privity or knowledge" of the negligence or unseaworthiness.

Under the act, a limitation action starts when a shipowner files a petition seeking exoneration or limitation in federal court. These courts have original and exclusive jurisdiction over limitation actions. Importantly, there is no right to a jury trial in a limitation action. Once a limitation action is filed, the owner is required to post security in the amount of the post-incident value of the ship plus 6% interest, which is known as the "limitation fund." Claimants have a right to challenge the value of the limitation fund. Once the court accepts the security, it enters an injunction against any litigation (with few exceptions) against the vessel interests arising from the incident other than in the limitation action.

Next, the court sets a date by which claims arising from the incident must be filed, and there are a number of requirements related to notices that are sent to known claimants and published in a local newspaper of general circulation. There is a filing deadline that's often 30 days from the date of the notice, although that can be extended. Claims not filed before the court-ordered deadline will likely be barred.

Trial in a limitation action is typically divided into a liability phase and a damages phase. In the liability phase, it will be the burden of the claimant(s) to prove that there

was negligence or that the vessel was unseaworthy. If no negligence or unseaworthiness is shown, the owner is exonerated from liability.

If negligence or unseaworthiness is proven, the burden shifts to the owner to show that it had no “privity or knowledge” of the negligence or unseaworthiness. What constitutes privity or knowledge for purposes of a limitation action is a fact-intensive, case-by-case analysis. It may be somewhat surprising that the privity or knowledge of the Dali’s master (or captain) is not likely sufficient for purposes of overcoming limitation. This is perhaps more understandable when considering the lack of communication between ships and shore-based owners in the 1850s. How high up the managerial ranks the privity and knowledge must go to defeat the limitation action is frequently hotly contested in a limitation action.



Interestingly, the city of Baltimore adopted an ordinance shortly after the Dali allision that specifically provides it with a right to recover economic losses arising from the incident.

If the owner proves it had no privity or knowledge, the limitation is upheld and claimants must prove their damages, capped by the limitation fund. If the limitation fund is insufficient to cover all claims, damages are awarded pro rata and based on the priority of claims. If the owner fails to establish that it had no privity or knowledge, the limitation is “broken,” and the claimants may seek to prove all of their damages against the vessel interests.

Not surprisingly, on April 1, less than seven days after the bridge collapsed, the Dali’s Singapore-based owner (Grace Ocean Private Limited) and vessel manager (Synergy Marine PTE LTD) filed a petition for exoneration from or limitation of liability under the act. The petition calculates the limitation fund to be \$43.67 million, which comprises the value of the ship (\$90 million) before the start of the voyage minus the estimated costs of repairs of \$28 million, the estimated salvage costs of \$19.5 million, and the pending freight of \$1,170,000. The federal court in Maryland issued an injunction and order requiring

claims arising from the incident to be filed in the limitation action on or before September 24, 2024 (however, certain claims for environmental damage are not subject to limitation of liability). The court has allowed a narrow class of cargo claimants additional time to file claims but has indicated it is not likely to grant additional extensions.

If the limitation is upheld in this case, the limitation fund will be woefully insufficient to cover the costs of the direct claims, much less the indirect claims.

Impact of Carriage of Goods at Sea Act on Direct Claims

Other maritime law doctrines will also affect the prospects of recovery for some of those claims. For example, the Dali’s cargo is probably subject to the Carriage of Goods at Sea Act, under which, unless a cargo owner declared a higher value, the potential recovery is likely limited to \$500 per “package” (which may be determined to be a container).

Perhaps more painful for the cargo owners, however, in the case of a marine casualty, the owner of cargo aboard a ship may be required to pay its pro-rata share of certain losses incurred to avoid or related to the casualty. This is a procedure called “general average.” The reasoning behind the general average is that, but for the salvage, the cargo would have been lost entirely. It is in this case, unsurprisingly that the Dali’s owners have declared general average.

Impact of Maritime Laws on Death and Injury Claims

The claims of the personal injury and death claimants are direct claims, which must be presented in the limitation proceedings. The general maritime law recognizes causes of action for the estates and families of the bridge workers who were killed and for the bridge workers and ship’s crew who were injured. The conceivable claims of the estates include conscious pain and suffering, which will be argued to be significant because the bridge workers are alleged to have died by drowning. The families of the deceased workers will pursue economic losses (such as loss of income) related to the death of their family member along with their own non-economic damages, including loss of companionship, loss of society, and loss of consortium.

The injured crewmember’s claims will be decided under a federal statute known as the Jones Act. The injured bridge workers will argue for general tort damages, including reimbursement of medical and psychological treatment, lost wages, and pain and suffering.

The Limitation Act has a special procedure applicable to personal injury and death claims in the event the limitation fund is insufficient to cover all claims. When this happens, the limitation fund is equitably increased for the injury and death claims so at least \$420 per gross ton of the ship is available to satisfy those claims only. If this provision is triggered in the Dali’s case, the equitable increase in the limitation fund available only to injury and death claimants would be in the range of \$39 million.

Impact of Robins Dry Dock on Indirect Claims

As anticipated, numerous direct claims were filed in the limitation action, including to recover for personal injury and death; direct costs incurred responding to the collapse of the Key Bridge; lost/delayed cargo; loss of business revenue resulting from deceased employees and loss of long-term contract revenue; lost vehicles and business equipment; workers’ compensation benefits; insurance covering the destruction of the bridge; and insurance covering cargo losses.

Various indirect claims were also presented, including class action claims brought by companies and longshoremen seeking compensation for lost revenue, wages, etc. and by a number of companies to recover for a wide variety of flavors of business disruption (some of these companies are local and have obvious port connections, while others are far afield and have little or no obvious connection to the port).

While those with direct claims will receive pennies on the dollar if limitation against the owners is upheld, those with indirect claims will face additional hurdles to recovery. This is because of a doctrine established by a 1927 U.S. Supreme Court case known as *Robins Dry Dock*. There, the court held that a time charterer could not recover lost profits against the dry dock owner when the negligence of the dry dock owner delayed repairs, preventing the time charterer from putting the vessel back into service.

The derived from *Robins Dry Dock* is that if a party does not suffer a direct physical injury or loss as a result of conduct by a wrongdoer, then that party generally cannot recover against the wrongdoer for damages resulting from the harm. This doctrine is sometimes referred to as the economic loss doctrine, and it is not unique to maritime law. This may seem unfair, particularly when the damages are real and quantifiable, e.g., the increased cost of fuel incurred in driving a longer route as a result of the collapse of the bridge and lost business and associated revenue.

The premise of the doctrine is that there must be some reasonable limit on to whom and for how much one might be liable for a negligent act. This doctrine will make it difficult to establish a right to recover for claims that result from, for example, the loss of business income and related revenue because of interruption in port operations.

Exceptions to Robins Dry Dock

There are, however, recognized exceptions to *Robins Dry Dock*, including the following, which are implicated in the case of the Dali:

Proprietary Interest Doctrine

Under the “proprietary interest” doctrine, one may recover for damages arising from a collision if that person has a sufficient property interest that was affected. The Fifth Circuit Court of Appeals uses a three-factor test to evaluate whether a person has such an interest. The factors are (1) actual possession or control, (2) responsibility for repair, or (3) responsibility for maintenance of the damaged property. Failure to meet one of the factors is not fatal to a claim if the other factors weigh in favor of the claimant. It appears that a number of the Dali claimants will attempt to invoke this doctrine. It will be interesting to see whether they are able to demonstrate a sufficient proprietary interest to survive anticipated motions by Dali’s owners.

Bridge strikes and port blockages are, unfortunately, not without precedent. Decisions in various courts have held that certain categories of claimants seeking economic damages arising from loss of use of a bridge or access to a waterway are not recoverable. At least one court declined to dismiss claims by a port for economic losses caused after a collision caused significant pollution damage and closed a channel. Whether this reasoning will permit such claims by non-government claimants will be litigated in the case of the Dali.

Many decisions have precluded recovery to claimants seeking damages related to the closure of waterways. Although these cases are generally decided on a case-by-case basis and depend heavily on the specific facts, such decisions mean that Dali claimants will have to work hard to distinguish the facts of this case from such decisions.

Interestingly, the city of Baltimore adopted an ordinance shortly after the Dali allision that specifically provides it with a right to recover economic losses arising from the incident. There is no doubt that this retroactive ordinance will be challenged by the vessel interests, potentially within and outside the limitation action. It will be very interesting to see if this particular tactic is successful to overcome *Robins*.

General Average Claims

Claims related to the declaration of general average can be recovered by cargo owners and cargo buyers for injuries to cargo onboard the vessel. As noted above, however, these claims will also likely be subject to the Carriage of Goods at Sea Act.

Pollution Claims

Robins Dry Dock contains an exception for a number of direct and indirect claims by commercial fishermen. In addition, laws like the Oil Pollution Act of 1990, Comprehensive Environmental Response, Compensation, and Liability Act, and state laws may permit recovery for pollution-related damages by a broader class of claimants that would otherwise be foreclosed by *Robins Dry Dock*. At least two containers went overboard, and initial reports indicated a sheen around Dali following the incident. And some of the Dali claimants appear to be invoking this exception. The Court will likely engage in a fact-intensive inquiry to determine whether such economic losses actually arise from the pollution or whether they arise from the closure of the waterway generally.

In addition to working to fit their claims within established exceptions to *Robins Dry Dock*, some claimants aim to undermine the entire premise of the case. One of the lead arguments in this vein is that *Robins Dry Dock* was decided (not on the basis of foreseeability) before a seminal decision by Judge Benjamin Cardozo (later Supreme Court Justice Cardozo) that expressed the limits of the protection of tort law in terms of foreseeability, so *Robins Dry Dock* should be reinterpreted through the lens of foreseeability if not entirely reconsidered.

Recent Developments

On October 18, 2024, the Department of Justice announced that it reached a settlement with the vessel owner and manager for just under \$102 million to resolve the United States' costs for disaster response and removing the Dali from the channel. Although the U.S. filed these claims in the limitation action, a negligent vessel owner cannot limit its liability for such costs under the Limitation Act. This settlement may signify that vessel interests believe the primary issue to be litigated in the limitation action is whether they can prove lack of sufficient privity and knowledge, so that the limitation of liability will be upheld.

The Court recently indicated that if it denies both exoneration and limitation, then it will dismiss the limitation action. This will permit the claimants to pursue their remedies against the vessel, her owner, and her operator

in the court of their choice pursuant to the Congressionally granted 'savings to suitors' clause. While this will not change the applicable law, it will provide many claimants with a right to a jury trial - an important benefit not available in a limitation action.

Stay Tuned!

The Baltimore business community and maritime interests worldwide will closely watch the course of the Dali limitation proceedings. The court indicated it intends to bifurcate the litigation. The first phase will consist of discovery and a determination of whether Dali's owner and manager are entitled to exoneration from or limitation of liability. The second phase will consist of discovery and determinations related to the damage claims.

It is anticipated that the vessel owners will ask the court to dismiss many of the claims that have been asserted under *Robins Dry Dock* or other applicable doctrines to reduce both the number of claimants and the types of damages claims that have to be defended.

Given the number of claimants involved, the Dali litigation will likely continue for many years. Issues in this case may well be decided by the Supreme Court and, regardless, will reverberate for decades to come. 🌀

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The Future of Finance: TUIG's Perspective

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PART ONE: About TUIG's portfolio

The Towson University Investment Group (TUIG) has seen significant growth in its portfolio over the past year, with a YTD (9/30/24) performance of 14.95%, driven by strategic investments in high-growth companies. The diversity of the portfolio has been instrumental in achieving this success, with major holdings spanning across various sectors, including technology, healthcare, and financials.

Eli Lilly and Co., accounting for 10.16% of the portfolio, is the largest holding and a significant contributor to this year's strong performance. The company's leadership in pharmaceutical innovation and its successful drug launches have driven a surge in its stock price. Eli Lilly's impressive 55.51% YTD return reflects its continued dominance in healthcare and biotechnology. Apple Inc. and Alphabet Inc. comprise 6.32% and 6.36% of the portfolio, respectively, as long-standing tech giants consistently delivering solid returns. Both companies are at the forefront of technological innovation, particularly in AI and machine learning. Apple's recent AI advancements in Siri and camera technologies and Alphabet's leadership in AI-driven search and assistant products continue to solidify their roles in our portfolio with a 17.85% and 24.49% YTD return, respectively. United Rentals, accounting for 6.95% of the portfolio, is another significant holding, showing significant returns in the industrials sector. Its YTD performance of 36.36% has made it a critical driver of portfolio growth. As one of the largest equipment rental companies, it benefits from strong industrial demand and favorable market conditions.

Portfolio Spotlight: Marvell Technologies (NYSE: MRVL)

In 2021, TUIG invested in Marvell Technologies, a semiconductor company that develops integrated circuits for data infrastructure. Focusing on the intersection of AI and infrastructure, Marvell provides advanced semiconductor solutions that enable AI applications across various industries, particularly in the data center space. Marvell's innovative solutions support AI processes by delivering high performance and energy efficiency. While the full scale and profitability of AI and data center solutions have yet to be fully realized, we are excited about the opportunity to invest early in an industry that will likely transform the world as we know it. Although there are numerous semiconductor companies producing chips for various industries, we feel as though Marvell is at

the forefront of the most vital application: data centers. Therefore, we are confident in MRVL's future outlook and ability to produce value for its shareholders. We will likely add to our position incrementally.

In the past year, the Towson University Investment Group (TUIG) Executive Team has introduced two new programs, the Equity Research Program & M&A Program, designed for members interested in furthering their understanding of equity markets, financial analysis, and corporate transactions.

Equity Research Program:

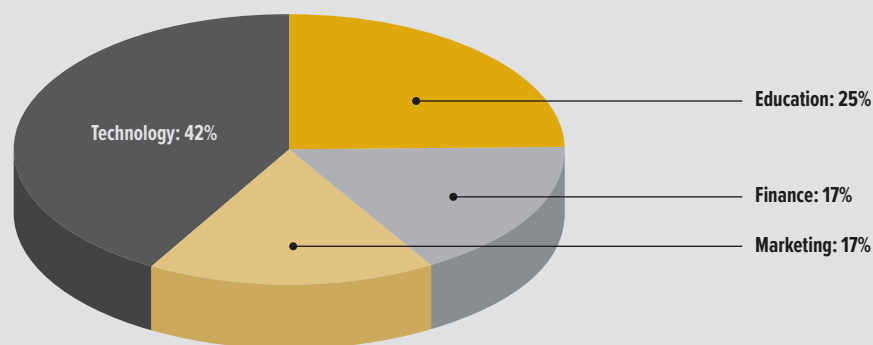
The Equity Research Program allows members to act as junior analysts, incorporating fundamental analysis, industry research, and financial modeling to support investment decision-making. Our analysts work with Portfolio Managers and Senior Analysts to produce comprehensive stock reports through a nine-week process. They make recommendations to buy or sell U.S. large-cap equities and present their findings to other members and industry professionals. This hands-on experience builds practical skills in valuation techniques, financial modeling, and market analysis, equipping participants for future careers in finance. TUIG will focus on finding companies that will pave the way for implementing emerging technologies in the future. Given the long-term focus of the portfolio, it is paramount that we capitalize on the opportunities in front of us, especially considering that many of these technologies are in their early stages.

Team Leads: Alexander Edmond, '25 and Max Emde '25;
Senior Analysts: George Smith, Brandon Arnold, and Nick Norman;
Analysts: Iannis Chulos, Jeronimo Gutierrez Crespo, Alex, Tomas Martinez, Logan, Ziv Merin, Martin Eader, Brian, Drew Cignatta, Lucas Leichter, Ange Tchamani, Rebecca, Serena Yohannes, Jason Li, Emmanuel Ndoungar, Catherine Hall, and Jake Foreman.

Mergers & Acquisitions Society:

The TU Investment Group is introducing an investment banking-focused organization to Towson University for the first time with its addition of the Mergers and Acquisitions (M&A) Society. The group is designed to prepare members for careers in investment banking, private equity, corporate finance, and other related fields. Thanks to the support of advisors and TU alumni, the inaugural class of M&A analysts has been able to gain valuable insights into the field. Founding members Henry Heneghan and Kevin Cabrera speak about their experience as analysts in the group. Henry states, "The M&A Society has given me

Figure 1: Which Industry Will Experience the Most Disruption from AI?



the opportunity to learn and hone skills that I might not have acquired otherwise, and that I will continue to use as I enter the industry and progress in my career.” Kevin claims, “The M&A Society is really opening up doors for the finance majors to grow in the finance realm. It’s a group where you learn a lot no matter your experience level.”

Throughout the semester, the members will learn about key financial components involving investment banking, conduct mock interviews, and effectively network with professionals in the space. In addition, the group has been split into two teams and each construct a confidential information memorandum to simulate the real-world M&A environment.

Team Leads: Alexander Burke '24 and Andrew Polun '25; Analysts: Sosina Abreha '27, Kevin Cabrera '26, Henry Heneghan '27, Nolan Jablecki '28, Rajan Khadka '27, Matthew Stroble '26, Javier Zerpa '24; Advisors: Gedion Haddis '18, Matthew Hagerty '18, Joseph O'Brien '09.

PART TWO: AI's long-term impact on the economy

AI is the new craze. By 2030, the global market value of Artificial Intelligence related tech is projected to reach \$826 Billion¹. AI is another example of a technology that has ever extended its influence on the worldwide economy. It is the backbone of innovation and serves as a foundation to reach new levels of human efficiency.

Startups like Open AI and Cerberus are just examples of companies looking to push groundbreaking technologies and solutions that challenge the status quo. Additionally, with over 80% of startups reporting at least one cross-

¹ Statista.com

border activity, this innovative ecosystem has become increasingly global. It has attracted international investments and will hopefully boost economic activity in both developed and developing economies.

Even with AI on the way, it is still not fully stabilized as a new technology. Startups have the potential to generate immense wealth and innovation, but they also introduce a degree of economic volatility. We are seeing some companies near speculative valuations, fueled by rapid growth. But what happens from there? Will the growth continue enough to justify valuations or diminish with an equally rapid decline. The “unicorn” phenomenon, where startups reach billion-dollar valuations before turning a profit, raises concerns about market stability.

As a shareholder, it is important to understand that with drastic innovation, valuations can become inflated. When they are inflated, bubbles can form and burst. This can lead to economic downturns that affect investors, employees, and local economies tied to startup success. Now, we do not know where this life-changing technology will be in 10 years but is important to always weigh valuation versus opportunity.

In the long term, AI's potential benefits for productivity, decision-making, and cost reduction are profound. Its ability to automate routine tasks and simulate creative thinking allows human workers to focus on more strategic roles, boosting productivity and hopefully economic growth. In finance, software, and manufacturing, AI's data analysis capabilities enhance decision-making, leading to better outcomes. A great example of this is Palantir, a service provider of AI driven solutions and data consolidation working with both the U.S government and major companies such as Airbus and IBM. Moreover, by optimizing operations, AI can help businesses reduce costs, which can translate to lower prices for consumers, and long term reduced cost of scale leading to more employees and jobs created.

That being said, innovation usually brings disruption. In finance, for example, fintech startups have transformed how people bank and invest, creating new access to financial services and forcing traditional banks to adapt to digital platforms. E-commerce startups have reshaped the retail landscape, leading to a decline in brick-and-mortar stores while creating new economic opportunities in logistics and supply chain management. With AI, job fields in a wide range of industries could be disrupted - potentially entire sectors. Jobs in fields like manufacturing, customer service, and even healthcare could be automated or transformed

by AI. We are already seeing roles like customer service management and IT management being replaced with agents through ServiceNow, a software company that helps companies manage digital workflows.

It is likely that AI's long-term impact on the economy will be multifaceted, driving significant growth and innovation, while also creating short-term volatility and leading to long-term job disruption. By proactively addressing these concerns, and preparing for the future, hopefully effective decisions can be made to harness AI responsibly. The ultimate goal for AI is to drive the global economy in a stable upwards trend resulting in a more prosperous, equitable, and sustainable world for future generations.

Real Estate Impact

The real estate business appears to be resilient to the threat posed by the rapid development of AI that many other industries face. Real estate is the business of people, the customer-facing nature and personal attributes of real estate make it difficult to trust into the hands of an unsentimental mechanism. The backbone of this industry is built on trust and deals done on nothing but rectitude and a firm handshake, this cannot be replicated by AI. Real estate investors and professionals must possess a unique skill set to survive such an ever-evolving marketplace and that is adaptability. Much like real estate itself, real estate investors and professionals must be fluid and innovative, constantly assembling perspective in unfamiliar territory.

The commercial real estate industry in particular is in fact fortified by the emergence of AI. AI simplifies the job of a real estate professional by handling mundane and time-consuming tasks such as data analysis, property research, market trend monitoring, and prospecting. This allows the professionals to allocate their time more efficiently to areas that require a higher level of human contact, such as building relationships with clients, negotiating deals, and conducting property showings.

Moreover, AI enables real estate professionals to obtain insights that were previously out of reach. Placer.ai is exemplary of the limitless possibilities of AI within the real estate business. This powerful software not only provides location intelligence and foot traffic data for virtually any commercial asset and region in the US but transforms that information into comprehensive and meaningful reports within seconds².

The software allows users to see how many people visit a

² Ben-Zvi, N. (2022, January 25). *Placer.ai series C - why Placer raised \$100M - placer.ai blog*. RSS. <https://www.placer.ai/blog/placer-ai-series-c>

location, how long they stay, and their visit frequency³. This helps real estate professionals understand the popularity and performance of different properties. Additionally, the tool identifies “True Trade Areas,” showing where customers live and work⁴. This information helps in targeting marketing efforts more effectively and understanding the reach of a property. Placer.ai provides detailed demographic data about visitors, including income levels, gender, and shopping preferences⁵. This helps in tailoring marketing strategies.

Users can compare the performance of their properties against competitors, gaining insights into market share and regional dominance. This feature enables strategic planning and insights into gaining a competitive advantage.

The tool also provides detailed insights into the vicinity of a property, including traffic volumes, crime history, and nearby real estate developments, enabling more informed decision-making.

While the core of real estate remains rooted in human relationships and trust, the integration of AI technologies such as Placer.ai are revolutionizing how real estate professionals and investors make decisions by providing actionable insights and delivering detailed and customizable reports with speed and accuracy. This allows professionals to focus on what truly matters, building connections and fostering trust in an ever-evolving marketplace.

AI Survey

The Towson University Investment Group (TUIG) surveyed the extent to which Towson University students know about AI and its applications in today's economy. We surveyed students among various majors and concentrations to gather data about how often students use AI in their personal lives and their outlook of the impact of AI on the economy. Key questions in the survey included: How familiar are you with AI and its applications in today's economy? How would you describe the impact of AI on the overall economy in the next 5 years? What is the biggest risk you believe AI presents for the economy? Which areas of finance do you think AI will benefit the most from AI? Do you think AI will make financial markets

³ Ben-Zvi, N. (2022, January 25). *Placer.ai series C - why Placer raised \$100M - placer.ai blog*. RSS. <https://www.placer.ai/blog/placer-ai-series-c>

⁴ Ben-Zvi, N. (2022, January 25). *Placer.ai series C - why Placer raised \$100M - placer.ai blog*. RSS. <https://www.placer.ai/blog/placer-ai-series-c>

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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.

AS FAR AS **OPPORTUNITY** IS CONCERNED, **TIGERS**
TAKE THE LEAD

more or less volatile? In your personal opinion, which industry will experience the most disruption from AI?

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 (COE). We questioned the students throughout the entire University to involve a variety of answers and conducted the survey in October 2024. The results helped us conclude how Towson University students perceive the progression of AI and the impact it has on today's economy.

Participant Background

Our survey was distributed to mostly students from the College of Business & Economics, however the data shows a diverse mix of participants. Among them, 75% were female and 25% were male. Among all participants, 58% were seniors and 67% are in the College of Business & Economics. The following Business Administration major concentrations were represented: Business Analytics, Finance, Investments, and Marketing. Other majors represented were English, Mass Communication, and Family and Human Studies.

Survey Questions and Responses

Students have learned about the impact of AI in some business classes and are observant of the growth of AI in our society. Our survey data reflects their level of awareness and their predictions of how this will positively and negatively impact the job market. When asked "How familiar are you with AI and its applications in today's economy?", 25% of students answered "Very familiar", 42% answered "Somewhat familiar", and 33% answered "Not familiar". When asked "Have you ever used AI tools (e.g. ChatGPT, Magnifi, WeFIRE, AI trading platforms, etc.) in your academic, financial, or personal finance work?", 17% answered "Yes, frequently" and 83% answered "Yes, occasionally". Most respondents claimed to use ChatGPT. Other AI tools used include Copilot and Google AI. This means that, 100% of participants have used AI tools before and 67% of those participants are familiar with the application of AI in today's economy.

Although all the students we surveyed use AI tools in their personal life, they recognize the adoption of these tools across many industries, including those they are hoping to enter as employees after graduation. When asked "In your personal opinion, which industry will experience

the most disruption from AI?", 42% of respondents picked "Technology" (see Figure 1). Students also believe that the education industry will be impacted heavily by the progression of AI.

Participants also believe that the progression of AI will impact the job market as 67% of them answered "Lack of jobs" to the question "What is the biggest risk you believe AI presents for the economy?". Although most of our participants are business administration majors, 50% of students we surveyed are also unsure whether they feel comfortable working in an industry that heavily uses AI tools in their business operations and 25% of students are not comfortable.


Despite the perceived risk of the growth of AI expressed by participants, 67% of them claim that this growth will positively impact the economy. When asked why they feel it will impact the economy positively, students answered:

"AI will help improve functions of business by speeding up processes. However, it may eliminate some jobs since it can replicate the functions of many jobs."

"AI can be very expensive to implement in all vast technological devices. But once those advancements are made, they are already reducing the amount of manual labor that was initially required to complete the task, so not as much money in the long-term will be used."

"AI's capabilities are rapidly growing and outpacing human capabilities which will completely alter the job market and as a result we will see a shift in the economy."

Most participants are aware of the risks that are presented by AI but also believe that the speed and reliability of AI tools will help automate business processes, which will positively impact the economy in the long-term.

When asked about how AI will impact the finance industry specifically, 67% of students answered, "More volatile" to the question "Do you think AI will make financial markets more or less volatile?". There was also a strong belief that the following areas of finance will benefit the most from the growth of AI: algorithm trading, risk management, and fraud detections. Despite the growth of AI tools to assist with personal finance, such as YNAB and Wally, there were not many students who believed that this will be the most impacted industry from the growth of AI. 



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Contributors

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JACK CIESIELSKI is an investment professional and accounting analyst based in Towson, Maryland. As the President of R.G. Associates, Inc. since 1992, he has directed research and investment decisions while authoring *The Analyst's Accounting Observer*, an accounting advisory service for over 26 years. With a background in security analysis at Legg Mason Value Trust and degrees in Accounting and Finance from Loyola University Baltimore, Ciesielski holds CFA and CPA certifications. His experience has included memberships in committees such as FASB's Investors Technical Advisory Committee, Emerging Issues Task Force, and the PCAOB's Investor Advisory Group. He is currently a member of the CFA Institute's Corporate Disclosure Policy Committee. Mr. Ciesielski has occasionally contributed articles to *Fortune* and *Barron's* and has testified before the U.S. Senate and the Securities & Exchange Commission on accounting matters. Ciesielski has also published in the *Financial Analysts Journal* and *Accounting Horizons*.



MICHAËL DEWALLY, PH.D., Professor in Department of Finance at Towson University. MS in Chemical Engineering in France, and MBA and Ph.D. in Finance from the University of Oklahoma. After teaching at Marquette University in Milwaukee, he joined Towson University in 2010. Michaël's research interests are in the fields of Investments, Corporate Governance and Banking. His research has appeared in the *Review of Financial Studies*, *Journal of Business*, the *Journal of Banking and Finance*, the *Journal of Corporate Finance*, the *Financial Analysts Journal* among others.



ALEXANDER EDMOND, Assistant Portfolio Manager: Alex is a senior financial economics major also in the honors college. He is a member of the Omicron Delta Epsilon Honors Society, president of the Economics Society at Towson, and assistant portfolio manager for the investment group.



MAX EMDE, Portfolio Manager: Max is a senior accounting major and serves as the portfolio manager for the investment group. He is currently interning for Blue Point Investment Management as an equity research analyst.



JAMES R. JEFFCOAT, JD focuses on civil litigation in federal and state courts, including admiralty and maritime disputes, personal injury claims, and commercial litigation. He has represented vessel owners and operators, terminal operators, marine insurers, and others involved in maritime disputes including collisions, allisions, vessel arrests, maritime liens, personal injury, navigation rules, and maritime regulations. Prior to practicing law, he graduated from Maine Maritime Academy and sailed as an officer on U.S. flag merchant ships on coastwise and foreign voyages. He holds a 1600-ton Master's License.



MAHEEN HABIB, Director of Marketing: Maheen is a senior majoring in business analytics and marketing. She serves as the director of marketing for TUIG and is the co-president of the TU chapter of the American Marketing Association. Maheen is an active business tutor and recently completed a 7 month internship with the Baltimore Orioles as a marketing and advertising intern.



MARIZ HELAL, CVA, is a Senior Associate at Paradigm Forensics, specializing in business valuations for a variety of purposes including transactions, shareholder disputes, and estate planning. Mariz also assists in forensic accounting, fraud investigations, and marital dissolution cases. Additionally, Mariz has a valuation background within the aviation industry, with a focus on intangible assets.



Mariz obtained an undergraduate economics degree from the University of Maryland. Throughout her professional career, she has also obtained the Certified Valuation Analyst (CVA) credential and is currently a Chartered Financial Analyst (CFA) level III candidate.

Outside of work, Mariz enjoys participating in professional development opportunities and volunteering at animal shelters.

HUNG T. HENDY, PH.D., is Professor of Management at Towson University in Maryland, the United States. She holds a Ph.D. in Business Administration with a concentration in human resource management from Virginia Commonwealth University, a Master of Science in Industrial & Organizational Psychology from the University of Tennessee at Chattanooga, and a Baccalaureate in English from Hanoi University, Vietnam. In addition, she is a senior certified HR professional by both the Society for Human Resource Management and Human Resource Certification Institute. She has published more than 50 journal articles and book chapters on a variety of topics in human resource management, business ethics education, and research methods. She also consults with public and private organizations in the U.S.



CARINA HERNANDEZ-SOTO, Treasurer: Carina is a senior accounting and finance major and is the active treasurer of the investment group. She recently completed a fund accounting internship with T. Rowe Price. She has also completed accounting internships with Cohen and Company and Ernst and Young.



VIMBAINASHE MARUFU, Director of Communications: Vimbainashe is an investments and economics student set to graduate in May 2025. She excels as a Brokerage Associate at Lee & Associates and serves as the Director of Communications for the Towson University Investment Group. On campus, she is a Residence Assistant and volunteers at her local church and The Salvation Army. Vimbainashe holds a Maryland real estate license and is a Notary Public. In her free time, she enjoys reading, running, and outdoor activities.



NIALL H. O'MALLEY, MBA, is the Portfolio Manager for Blue Point Investment Management. He leverages a keen understanding of the creative/destructive cycle that governs innovation, 12-years of international experience, and his understanding of the capital markets to seek sustainable growth. Niall has a B.A. in Political Science from Acadia University in Nova Scotia, Canada. He studied for a year at the Institute for European Studies in Vienna, Austria, and received an MBA in Finance and Investments from George Washington University. He passed Level II of the CFA examination. Niall has taught Investments and Equity Security Analysis at the College of Business and Economics at Towson University. He enjoys furthering the professional development of Blue Point's Equity Research Interns and presenting on macroeconomics.



ANDREW POLUN, President: Andrew is a senior accounting major with a minor in finance. He is a CFA Level 2 candidate slated to take the test in November of 2024. He has interned in public accounting, equity research, and investment banking. He is a member of the Honors College, Beta Gamma Sigma, the president of TUIG, and co-founder of the TU M&A Society.



Contributors

YINGYING SHAO, PH.D., CFA, Professor in the Department of Finance at Towson University. Prior to receiving her Ph.D. from the University of Arkansas and joining Towson faculty in 2010, she completed a Master of Science in Finance from the University of Tulsa in 2006, and earned her MBA from the University of Arkansas in 2003. Her research interests include banking, risk management, corporate finance and emerging markets. Her research has appeared in the leading journals in finance such as *Journal of Banking & Finance*, *Journal of Financial Services Research*, *Family Business Review*, and *Journal of Business Research*, among others.



CHARLES L. SIMMONS, JR., JD, A seasoned litigator with extensive trial experience, has led litigation teams in complex maritime, commercial, insurance defense and coverage, and tort cases in every state and federal court in Maryland and the District of Columbia. Rated "Preeminent" by Martindale-Hubbell, he is experienced in maritime, business, commercial, and insurance defense litigation, as well as insurance coverage, intellectual property, and construction law. A member of the Adjunct Faculties at the University of Maryland and the University of Baltimore schools of law, where he teaches maritime law, he is past Skipper of the Mid-Atlantic Mariner's Club, an organization focused on the marine insurance industry. He is a Proctor Member of the Maritime Law Association and regularly lectures on topics of interest to the maritime community.



QING YAN, PH.D., received her Ph.D. in Finance from the University of Arkansas in 2021 and joined the Towson University in the same year. She has been teaching the Principles of Financial Management and the Financial Institutions and Management of Risk at the Towson University. Dr. Yan's research focuses on investments and machine learning. Her research has been published in the *Financial Analysts Journal* and presented at multiple finance conferences including Midwest Finance Association, Eastern Finance Association, and Financial Management Association annual meetings.



About Towson University



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 19,500 current students and more than 200 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 190,000 CFA charterholders worldwide and over 160 societies. CFA Society Baltimore is over 830 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.

SUPPORTING ENTREPRENEURS. CREATING ECONOMIC IMPACT.

TU Incubator supports local, regional, and national member companies, including the largest cluster of edtech companies in Maryland, with the resources, support, and networks needed to succeed.



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