

# The Exchange

NEWS FROM THE FINANCIAL ECONOMICS INSTITUTE AT CLAREMONT MCKENNA COLLEGE

VOLUME 26, WINTER 2018

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## Director's Report

by Joshua Rosett



Joshua Rosett

FALL 2018 WAS a good semester for the FEI. From all evidence, we see continued strong interest in all our programming, and we have several interesting events lined up for this year.

Over the Summer, we had five students doing internships full-time in the FEI Lab. Apart from one student who was stung by a bee on the way to the Lab on the first day of work, it went very well. Students worked on project topics including executive compensation, commodity pricing across the business cycle, the global financial effects of the 1962 Cuban missile crisis, and measuring systemic financial risk using data from the Great Depression.

At the start of the Fall Semester, the FEI video was finished and appeared on the front page of the CMC main website, where it remained for most of the semester. Though it was finally replaced with other videos late in the semester, it remains available on the FEI website. If you have not had a chance to view the video, we hope you will do so, as we think it presents a good summary of the value of the FEI to our students and the broader CMC community.

In the first week of classes, we had a table at the activities fair, and a large number of first year students stopped by to find out about the FEI. The following week, over

40 students, mostly first years, showed up for our annual information session. We then received a record high number of applications in recent years for RA positions. Overall, we received 68 applications, including 15 returning students and 6 BMGI Fellows. Out of this pool, we hired 22 for the semester, and with a promise to one additional student to start in the Spring.

By another measure, students pursuing degrees in finance continued at a good clip. In the Fall semester, 12 FES and BAMA students defended Senior Theses, and we expect roughly 13 more to do so at the end of the Spring semester. Once again, we expect close to 10% of the graduating class to get a degree with a finance component.

The Fall meeting of the FEI Associates featured an excellent presentation by the Student Investment Fund (SIF) leadership, and their executive team has pushed hard on improving the internal operations of the fund. This year, fund members interviewed every student applying to the fund who showed considerable effort in the application process, irrespective of their background in finance, and they provided feedback sessions for all applicants not accepted into the fund. The SIF also worked to improve the effectiveness of the training for the new fund members, took significant steps to increase diversity, and instituted new mechanisms to enhance the cohesiveness and professional culture of the fund. It was observed at the

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FINANCIAL ECONOMICS  
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CLAREMONT MCKENNA COLLEGE

## Financial Economics Institute

### Fall 2018 Student Research Analysts

During the Fall 2018 semester, twenty-one student Research Analysts were hired to work at the FEI. The following is a list of students, their faculty advisors, and a brief description of the research projects in which they were involved or the type of tutoring they provided:

► **PATRICIO AGUILAR '19** worked with Professor Matthew Delventhal on a project involving trade between Spain and the U.K. during the 19th century. Specifically, this involved transferring import and export records taken from Spanish government books into Excel.

► **AHMED BILAL '19** worked with Professor George Batta on estimating accounting conservatism using structural modeling techniques by analyzing executive compensation at firms and doing a literature review on recent empirical studies on Credit Bubbles and International Corporate Spread data.

► **SHU BIN '19** worked with Professor Paul Zak on a project that investigates the neuroactive hormone oxytocin's effects on consumer-brand relationship, consumers' perception of brand competence, and willingness to pay.

► **LINYUE (EVELYN) CHEN '19** worked with Professor Yun Liu (KGI) to study the role of social networks in executive markets, innovation, and corporate governance. She conducts initial data analysis and literature review to analyze trends and correlations. She is also the Excel tutor in the FEI Lab.

► **ROMA FOREST '19** worked on a project with Professor Eric Helland that created a database of civil court cases at the county court level. In the future, this database can be used for future research into a wide variety of litigation topics as well as assist other students with their litigation / policy research projects or theses.

► **REEVE GROBECKER '19** worked with Professor Eric Helland to examine the effect of shifting cases from district courts to the SEC. In particular, the project focused on the impact of Dodd-Frank and the SEC's enhanced authority in administrative courts in regard to civil penalties.

► **YUTAO (JAMES) JIANG '19** is the Bloomberg tutor in the FEI Lab.

► **ETHAN KURZ '20** worked with Professor Eric Helland to create a "sourdough starter" dataset of all civil cases from county electronic document filing systems.

► **WILLIAM LI '21** (Terri Van Eaton Fellow) performed literature review for research studying the effects of international diversification on firm value under Professor William Lincoln.

► **JIA JIAN (BLAZE) LI '19** (BMGI) is the Capital IQ tutor in the FEI Lab.

► **JENNIFER MACE '19** (BMGI) worked on a project with Professor

Fan Yu to match DRD default records to corporate bond data and analyze bond trading around the time of default. She will also be using the data for her thesis to compare bond trading for firms with CDS to those without CDS around default events.

► **ALEXANDER MCKENNA '20** (BMGI) worked with Professor Julio Garin on a project titled "On the Welfare Effects of Phasing Out Paper Currency". The paper uses a quantitative model to assess the costs and benefits of currency suspension proposals around the world. He is also the Stata tutor in the FEI Lab.

► **NIKOLAS PAPAGEORGIOU '19** worked with Professor Eric Helland on a project that involves collecting and analyzing data on civil court cases.

► **JOSEPH SCHEUER '19** (BMGI) worked with Professor Eric Hughson conducting research on the impact of monetary policy on United States security prices from 1926 to 1938.

► **JULIA SCHULMAN '21** worked with Professor Matthew Delventhal on a project involving trade between Spain and the U.K. during the 19th century. Specifically, this involved transferring import and export records taken from Spanish government books into Excel.

► **TANISHA SHETH '20** (BMGI) worked with Professor Angela Vossmeier to examine criminal behavior in banking. Specifically, of interest is whether or not criminal activities are contagious across linked financial institutions and how the misbehavior of an institution alters the network of systemic risk.

► **XUBIN (HAVEN) SHI '21** worked with Professor Richard Burdekin on a project that inspects the global financial effect of 1962 Cuba Crisis. She collected and interpreted 9 international market indices monthly data in the 1960s. She also analyzed the influence of US market on other international markets using regression and correlation tools.

► **SETH TAYLOR-BRILL '20** (Terri Van Eaton Fellow) worked with Professor Benjamin Gillen on a project concerned with testing a strategy that used subset optimization to develop portfolios that would otherwise encounter problems of dimensionality.

► **WIN LEI LEI TUN '19** worked with Professor Eric Hughson on researching discount and interest rates in various cities in which the



**Fall RAs from page 2**

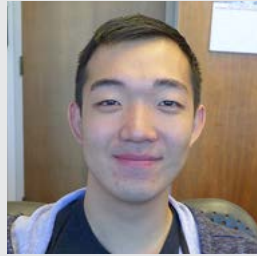
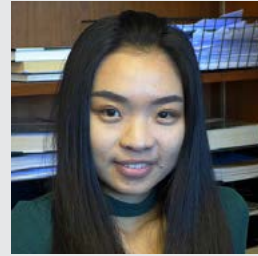
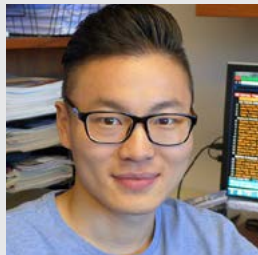
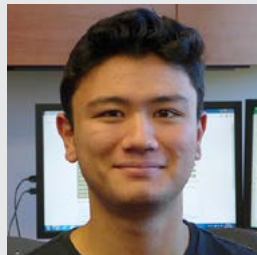
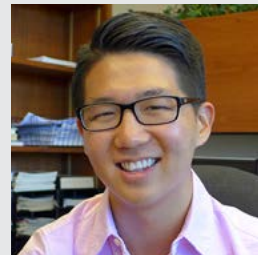
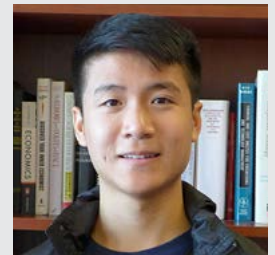
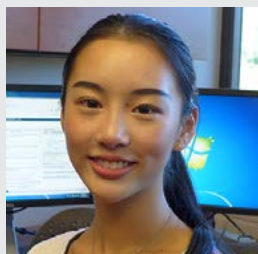
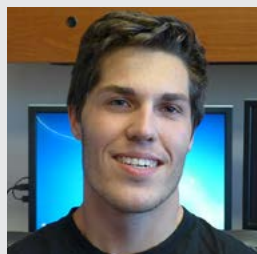
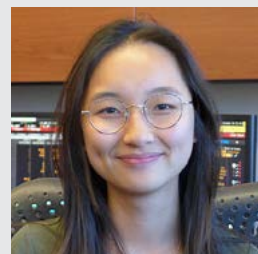
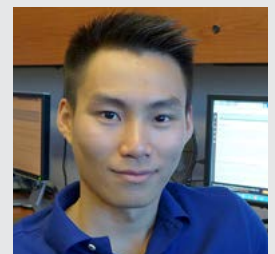
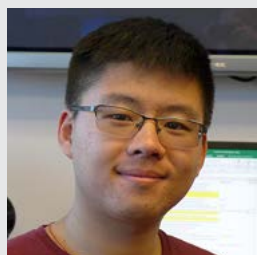
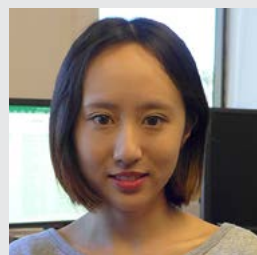
Federal Reserve banks and their branches are located.

► **SHUJIE (JOHN) XIA '19** worked with Professor Jeffery Flory on a project that examines the impact of access to financial services on reducing poverty using a field experiment data set on Malawi.

► **HAOHAN ZHANG '21** worked on a project with Professor Eric Helland that constructed a database containing all available civil case

reports on a county court level. In particular, the study aims to provide evidence for any future research or independent project related to civil case litigation process.

► **LANGNING (LORRAINE) ZHAO '21** worked with Professor Angela Vossmeier on a project involving systemic risk and network structure to trace the evolution (destruction and rebuilding) of the banking correspondent network system during the Great Depression and make comparisons to the recent structure. ▲

**PATRICIO AGUILAR '19****AHMED BILAL '19****SHU BIN '19****LINYUE (EVELYN) CHEN '19****ROMA FOREST '19****REEVE GROBECKER '19****YUTAO (JAMES) JIANG '19****ETHAN KURZ '20****WILLIAM LI '21****JIA JIAN (BLAZE) LI '19****JENNIFER MACE '19****ALEXANDER MCKENNA '20****NIKOLAS PAPAGEORGIOU '19****JOSEPH SCHEUER '19****JULIA SCHULMAN '21****TANISHA SHETH '20****XUBIN (HAVEN) SHI '21****SETH TAYLOR-BRILL '20****WIN LEI LEI TUN '19****SHUJIE (JOHN) XIA '19****HAOHAN ZHANG '21****LANGNING (LORRAINE) ZHAO '21**



## Financial Economics Institute 2018 Summer Research Analyst Internship Projects



Left to right: Yujia (Eugia) Yao '19, Shu Bin '19, Langning (Lorraine) Zhao '21, Ahmed Bilal '19 and Xubin (Haven) Shi '21

### AHMED BILAL '19

**Faculty Advisor:** Professor George Batta, Professor Mary Evans

**Project:** CapIQ Executive Compensation; NRA ties daily returns event study

- Worked on estimating accounting conservatism using structural modeling techniques by analyzing executive compensation at firms
- Conducted an event study to examine daily stock returns of firms after recent announcements to sever ties with the National Rifle Association (NRA).
- Used county-level panel data to examine the causal effects of opioid prescriptions on foster care outcomes

### SHU BIN '19

**Faculty Advisor:** Professor Pierangelo De Pace

**Project:** Movement between Cryptocurrency Prices; Tail Behavior of Commodity Price Returns over the Business Cycle

- Analyzed test statistics of eight major cryptocurrencies to pinpoint the existence of cryptocurrency price bubbles
- Researched and summarized a comprehensive literature review on cryptocurrency's price movements, price bubbles, and policies
- Examined simulation results of commodity price returns tail behavior to find the optimal tail cutoff points with minimum biases

### XUBIN (HAVEN) SHI '21

**Faculty Advisor:** Professor Richard Burdekin

**Project:** Global Financial Effect of 1962 Cuba Crisis

- Collected and organized 9 international market indices monthly data from 1960 to 1965 and daily data in 1962.
- Interpreted the data series and analyzed the influence of US market on other international markets using regression and correlation tools

### YUJIA (EUGIA) YAO '19

**Faculty Advisor:** Professor Laura Grant

**Project:** A unique quasi-experimental program, with a panel of monthly household electricity billing, to test these fundamental hypotheses about demand response.

- Collected and organized weather data
- Cleaned and appended additional electricity data
- Matched household characteristics using string matching, and assisted with econometric methods

### LANGNING (LORRAINE) ZHAO '21

**Faculty Advisor:** Professor Angela Vössmeyer

**Project:** Systemic Risk and the Great Depression

- Assisted in building a novel data set capturing linkages between all U.S. commercial banks.
- Examine the network structure of the American financial system and construct measures of systemic risk before and after the banking crises of the Great Depression.
- Measure how predisposed the entire network of American financial system was to risk, where risk was concentrated, and how the failure of nearly 10,000 banks altered risk in the network. ▲

## CMC's Student Investment Fund

By: Roma Forest '19, Chief Executive Office (2018-2019)

FULFILLING SIF'S DUAL MANDATE OF RETURNS AND education is a continuous process, and thanks to the previous work of past leadership, the structure of managing SIF's portion of the endowment was largely in place before the start of the fall 2018 semester. Current leadership was able instead to focus on the culture of the Fund. The executive team and portfolio managers aimed to build a strong culture of trust with an emphasis on analyst's personal development. To build connections outside of industry groups, the Fund hosted several social events (such as laser tag, pictured below). Portfolio managers also began providing in-depth performance and goal-oriented feedback with analysts throughout the semester to ensure that each analyst was continually learning.

The cultural differences have been subtle, but will significantly help leadership in meeting future, more ambitious goals. Almost all of the first-year analysts have asked questions in the

Fund-wide meetings or have given pitches with their industry group. A majority of the Fund also participates in optional social events, including our semi-annual cultural event and holiday party. SIF leadership is excited to see how our culture continues to develop as a place where members are comfortable not only to experiment with new investment ideas, but also build new relationships.

With a stronger community, SIF leadership now aims to expand the Fund's education into new territory. Terms such as ESG, SRI, and impact investing are becoming trendy in finance. To best prepare SIF members for careers in finance, the Fund has established a committee to investigate whether and how to incorporate these considerations into our investment process. We are also planning to host our first pitch competition for 5C students not in an investment club to share our experiences with the 5C community and encourage more students to explore investing. ▲



### Director's Report from page 1

meeting that they had set a very high bar for future years.

We continue to work closely with the Student Investment Fund. We are currently working with the fund on an initiative in SRI/ESG. We thank Advisory Board member Maureen Downey for her help with this, and for her time and expertise shared with students interested in the topic. We also are providing support, such as sponsoring coffee chats, for the SIF efforts to broaden diversity and do other forms of outreach to the broader community.

During the Fall the FEI worked with the Soll Center and Robert Day Scholars program to plan the January 2019 New York City Networking Trek. Ultimately 18 students were chosen to attend the trip from

January 13-17. The next newsletter will include a write-up of the trip by two of the students who participated.

Also during the Fall, we started planning for Spring semester events, including the Student Investment Fund Finance Conference and the BMGI Pitch event. The Conference was scheduled for February 15, and featured Professor Bradford Cornell as the keynote speaker. The next newsletter will include an article about the Conference. The BMGI Pitch event is now scheduled for Thursday, April 4. During the Spring semester we will also jointly sponsor (with the Center for Innovation and Entrepreneurship and the Lowe Institute of Political Economy) an Athenaeum talk by NYU Finance Professor David Yermack, scheduled for March 28.

Finally, we are very pleased to announce

that William Li '21 and Seth Taylor-Brill '20 are the first Terri Van Eaton Fellows. As noted in our previous newsletters, the Terri Van Eaton Fellowships were established to honor Terri Van Eaton for her long and storied work at the FEI, and was funded as part of our endowment drive last year. The students are chosen based on their academic records, the quality of their work as Research Assistants in the FEI Lab, and contribution to the spirit of collegiality as a member of the FEI community. William is working with Professor Lincoln, and Seth is working with Professor Gillen.

At the start of the Spring semester, we had 23 RA's and students working in the Lab, and we are looking forward to another busy and productive semester. ▲



## 2018-2019 BMGI/Michael Larson Asset Management Fellows

The BMGI/Michael Larson Asset Management Fellowship Program offers financial support and research experience for juniors and seniors at Claremont McKenna College who are interested in careers involving asset management and investment management. The recipients of this year's scholarships are:



### ***John Everett '19***

John is a senior at CMC from Dallas, Texas, majoring in Economics and Government with a Financial Economics Sequence. On campus, John is involved on the Varsity Swim Team,

swimming butterfly and individual medley events, as well as the Student Investment Fund. After graduation, John will join Moelis & Company as an investment banking analyst in the firm's San Francisco office, where he will work on transactions across the technology sector. In John's free time, he enjoys watching sports and Seinfeld reruns, traveling, and spending time with friends and family.



### ***Roma Forest '19***

Roma is a senior at CMC pursuing her Bachelor's in Economics and Master's in Finance through the Robert Day Scholar Program. On campus, Roma is the CEO of the Student Investment

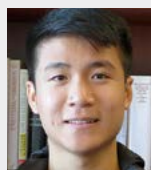
Fund and a research analyst for Professor Helland. Last summer, Roma interned at Bank of America Merrill Lynch as an investment banking analyst. In her free time, Roma enjoys finding good boba places and playing piano.



### ***Reeve Grobecker '19***

Reeve is a senior at CMC majoring in Economics and PPE (Philosophy, Politics and Economics). Originally from Monterey, CA, Reeve decided to come to CMC to play Softball for CMS and receive

a prestigious liberal arts education. On campus, Reeve is a captain of the CMS Softball team and a member of both the Claremont Consulting Group and the Claremont Women in Business Club. During her freshman year summer, Reeve worked for the Jimmy Panetta for Congress Campaign. After becoming a Girls Who Invest Scholar, during her sophomore summer, Reeve worked for Charles Schwab Investment Management in San Francisco, CA. Last summer, Reeve worked for Dodge & Cox, a private mutual fund also located in San Francisco, CA. After graduation, Reeve will return to Dodge & Cox as a Fixed Income Research Associate. In her free time, Reeve enjoys playing sports, going to the beach and spending time with her friends and family.



### ***Jia Fian (Blaze) Li '19***

Blaze is a senior from Shanghai, China pursuing a Bachelor's degree in Economics and History. In addition to being a BMGI/Michael Larson Asset Management Fellow and a Robert Day Scholar, he

is the President of the Claremont Consulting Group and a Portfolio Manager for CMC's Student Investment Fund. Last summer, he

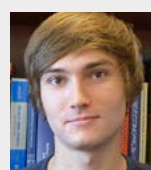
interned in Goldman Sachs' investment banking division in New York City and will be returning there upon graduation. In his free time, he enjoys reading classics, watching sports, and traveling.



### ***Jennifer Mace '19***

Jennifer is a senior at CMC from Boston, Massachusetts, pursuing a Bachelor's degree in Economics with a Sequence in Financial Economics and Data Science Concentration. In addition to

being a BMGI/Michael Larson Asset Management Research Fellow and a Robert Day Scholar, she is the Portfolio Manager of the Consumer Group in the Student Investment Fund, an Executive Board Member of the Claremont Consulting Group, and a co-founder of the Claremont Women in Business. Jennifer has spent her past two summers at Goldman Sachs—her sophomore summer in Private Wealth Management in Boston and last summer in High Yield Credit Research within the Global Investment Research Division in New York City. Jennifer will start at Boston Partners, a fundamental and quantitative equity and alternatives investment management firm, after graduation this summer. In her free time, Jenn loves running, cooking, hiking, photography, and spending time with friends and family.



### ***Alexander McKenna '20***

Alexander is a junior at CMC majoring in Economics with a sequence in Finance. In addition to being a BMGI/ Michael Larson Asset Management Fellow, he is a consultant for The Claremont Consulting Group, a research analyst at the Financial Economics Institute, and a peer tutor for Econometrics/Accounting. Last summer, he interned in the investment banking division of Stifel Nicolaus, and is an incoming analyst at Moelis & Co. in their technology M&A group. In his free time, he enjoys fly-fishing, fantasy football, and traveling.



### ***Joseph Scheuer '19***

Originally from Southern California, Joseph is a senior studying economics with a concentration in financial economics at CMC. In addition to being a two-time BMGI/Michael Larson Asset

Management Fellow, he is also a Robert Day Scholar. On campus, Joseph is the Fund Manager for Sagehen Capital Investment, a student-run hedge fund based at Pomona College, and is a teaching assistant for econometrics. Joseph has worked in various sectors of finance, including private equity, investment banking, investment

## Fall 2018 Financial Economics Sequence and BA/MA Oral Defense Presentations

THE FINANCIAL ECONOMICS Sequence and BA/MA in Finance are both parts of the Robert Day School of Economics and Finance at Claremont McKenna College. These curricula are designed for students interested in pursuing careers in the financial sector and/or subsequent graduate education in economics, finance, and related fields.

The Sequence has a rigorous quantitative focus and is designed to complement majors in economics, economics-accounting, and mathematics, as well as dual majors having an economics component. In addition, the Sequence is complementary to the coursework required for the undergraduate Robert Day Scholars Program. Under the auspices of the Financial Economics Institute (FEI), students complete the Sequence, which is noted on the transcript, thereby attesting to their solid understanding of the discipline.

The BA/MA provides additional depth in finance that results in the awarding of the Masters degree as well as the BA after the student completes their four years of study at CMC. After completing prerequisite courses in economics, corporate finance and accounting, students complete 9 units of Masters-level finance along with a seminar in research methods, and they write and defend a finance thesis. Students admitted to the BA/MA program are Robert Day Scholars.

The following is a list of the students who passed their presentations this semester

along with the titles of their senior theses and the Abstracts of their theses:

### **PATRICIO AGUILAR, FES**

#### ***The Nature of Latin American Markets in the Presence of Credit Events***

"In the past two decades the Latin American region has experienced a number of credit crises stemming from large sovereign debt levels and sharp currency devaluations. This study aims to discover whether or not the sovereign credit default swaps (CDS) in the Latin American region lead equity markets prior to these sovereign credit events. Through a sample of the seven largest Latin American economies and daily return data from 2001 to 2018, I try to empirically test this question through a Generalized Least Squared model. The paper finds little significant evidence of CDS leading equity markets in price discovery prior to sovereign credit events. Additionally, the paper observes a potential momentum effect present amongst Latin American equity market returns. However, this effect is more likely serial correlation amongst equity market returns due to the illiquidity of these equity markets."

### **HANNAH BERG, FES**

#### ***Liquidity Risk and Mutual Fund Manager's Stock Choice***

"Liquidity risk is a large issue faced by mutual funds. Large funds typically trade

in size, and these large sizes often have a significant impact on prices. My hypothesis is that large funds will not invest in illiquid assets as much as smaller funds due to the price sensitivity of illiquid assets. While this seems obvious, the results from this study are not in agreement with this hypothesis. My paper finds that as the illiquidity of a stock increases, so does the probability that a large fund invests in the stock."

### **MACKENZIE BRADFORD, BA/MA**

#### ***To Rely or Not to Rely? A Study of how Analyst Earnings Forecast Error Changes Leading up to Recessions***

"There are a large number of investors and companies reliant upon analyst earnings forecasts. Missing analyst forecasts can have a massive impact on share price and investors often look to these values to make decisions regarding future investment decisions. However, there has been a great deal of speculation about these forecasts and especially the error associated with them. With the threat of an impending recession, it is important to know the reliability of forecasts during times leading up to recessions. More specifically, this study aims to see how the level of error associated with analyst earnings forecasts change leading up to recessions and whether or not they should be relied upon as heavily during these times."

### **NICHOLAS DEGALLIER, BA/MA**

#### ***Venture Capital Investment Duration: Asia, Europe, and North America***

"I apply survival analysis to model the factors that influence venture capital (VC) investment duration. Specifically, I fit a parametric survival model to plot the probability of venture capital exit over time. Given a small number of initial public offering (IPO) exits in the collected sample, the analysis focuses exclusively on exits through mergers and acquisitions (M&A). I fit a Cox proportional hazards model and a parametric model under the generalized Gamma distribution with financing, entrepreneurial firm, and VC

### **BMGI/Larson Fellows from page 6**

management, and alternative investments research. Following graduation, Joseph will be working as an investment banking analyst in financial restructuring and special situations advisory at Miller Buckfire & Co. in New York City.



### ***Tanisha Sheth '20***

Tanisha is a junior from Mumbai, majoring in Mathematics and Economics with a sequence in Financial Economics. In addition to

being a BMGI/Michael Larson Asset Management Fellow, she is also President of Kinship, a research analyst at the FEI, and an Economics tutor. Tanisha spent her previous two summers working at Edelweiss Group, a financial services firm, and DSP BlackRock, a mutual fund based in Mumbai. During her junior summer, Tanisha will be interning in the investment banking division of Bank of America Merrill Lynch in Los Angeles. In her free time, she enjoys traveling, watching films and showing off her Taekwondo skills. ▲

### Oral Defense Presentations from page 7

firm characteristics. For the first time in the VC investment duration literature, I investigate the time to exit with data of Asian entrepreneurial firms and VC firms. The empirical analysis first draws comparisons between Asian, European, and North American venture capital, and then focuses the analysis to North America. I find that venture capital investments in North America are most likely to exit through M&A, followed by European VC investments and then by Asian VC investments. The region of the VC firm has no effect on the likelihood of an M&A exit.”

### YUTAO (JAMES) JIANG, BA/MA

#### *Leveraged Buyouts: The Predictive Power of Target Firm Characteristics*

“This paper utilizes a hazard model to predict the probability of leveraged buyout transactions for public firms. Rather than testing specific hypotheses, this paper incorporates all plausible predictors identified in existing literature to better delineate the effects of different characteristics. Largely confirming past results, I find that LBO transactions are more likely to occur for companies with more stable cash flows, less market visibility, lower market valuation, lower ownership concentration and lower costs of financial distress. By including LBO transactions from 1980 to September 2018, I find preliminary evidence that since the financial crisis of 2008 – 2009, private equity firms have modified their selection criteria when sourcing LBO deal targets.”

### JAMES KENEALLY, FES

#### *Modeling Returns on Carbon Emission Allowances: An Application to RGGI*

“This thesis attempts to model the returns on Regional Greenhouse Gas Initiative (RGGI) allowances using logged monthly returns from 2011–2018. This asset, shown to be a useful diversifier in portfolios, has been identified by previous literature to behave similarly to commodities. I used autoregressive, GARCH, and Markov regime switching models to analyze the returns because the returns displayed changing volatility. These models were comparatively analyzed both in and out-of-sample. In this limited data analysis, the Markov model

outperformed both alternatives in-sample. The Markov and Garch models displayed similar predictive power out-of-sample, however neither were particularly effective.”

### JACK LORI, FES

#### *The Growth of Socially Responsible Investing in U.S. Equity Markets and Abnormal Sin Stock Returns*

“In my Senior Thesis, I explore the growth of socially responsible investing (SRI) practices in U.S. equity markets and abnormal sin stocks returns. I analyze the historical performance of socially responsible ETFs and portfolios of current sin stocks—alcohol, tobacco, gaming, and aerospace & defense stocks. I propose that as socially responsible investing practices continue to grow in U.S. equity markets, more industries will eventually be deemed sinful—such as sugary beverages, fast food/sugary food, biotech & pharmaceuticals, and tech/social media. I examine two sinful industries—alcohol and tobacco—by comparing the performance of these sinful portfolios before and after their industries were widely perceived as sinful.

I explored these topics for a few key reasons. First, socially responsible investing practices in U.S. equity markets have exploded in popularity over the last decade. Every year, we see increasing amounts of money screened for environmental, social and governance (ESG) factors. Despite its increase in popularity, many people have claimed that socially responsible investing isn’t financially responsible investing—it underperforms as compared to common benchmarks such as the S&P 500. On the other hand, existing literature has supported the claim that investing in sin stocks generates abnormal returns for investors. I hypothesize that these two areas of portfolio management are connected—as socially responsible investing practices continue to grow, more industries will eventually be widely perceived as sinful. If the sin stock anomaly does exist and portfolios of sin stocks do generate abnormal returns, individuals and institutions can benefit from an immediate and long term investment strategy by investing in these “future” sinful industries now.

Using three distinct capital asset pricing

models—the Fama-French 3 Factor Model, the Fama-French 3 Factor Model plus Momentum, and the Fama-French 5 Factor Model—I come to four main conclusions. First, investing in socially responsible ETFs does not generate positive abnormal returns; in some instances, it generates statistically significant negative abnormal returns. Second, across the Fama-French 3 Factor Model, the Fama-French 3 Factor Model plus Momentum, and the Fama-French 5 Factor Model, portfolios of sin stocks from 1977–2018 generate statistically significant positive abnormal returns. Third, during the same time horizon, portfolios of future sin stocks exhibit similar levels of abnormal returns, especially portfolios of biotech & pharmaceutical stocks and portfolios of tech/social media stocks. Finally, portfolios of alcohol and tobacco stocks generated statistically significant abnormal returns after being widely perceived as sinful as compared to before they were widely perceived as sinful.

My research has implications for practicing portfolio managers. First, socially responsible investing isn’t financially responsible investing. Second, portfolio managers should consider how the growth of socially responsible investing practices will impact perceptions of what is sinful. Anticipating which industries will become sinful can yield a profitable investment strategy. Third, I promote a profitable investment strategy in the short- and long-term time horizon. The results are clear: go long on sin and short on SRI.”

### LOGAN MILLER, FES

#### *California, the Land of Opportunity Zones: Using the Real Estate Market to Evaluate a New Tax Program*

“This study uses real estate data and a distress index to test the success of the “Opportunity Zone” program in California. Part of the Tax Cuts and Jobs Act that was passed on December 22, 2017, this program offers sizeable tax incentives to investors who reinvest their capital gains into distressed neighborhoods across the country. I analyze changes in home values and monthly rents to determine if designated opportunity zones have seen increased investment as a result

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of the program. Additionally, I use a distress index to examine whether this tax program has merely encouraged investment into already-gentrifying areas or if its benefits have extended to the most distressed and low-income communities. My study concludes that within California, opportunity zone real estate has successfully seen a boost in investment and that this increased investment has extended to even the most distressed areas in the state.”

**CHARLES NOVOGRADAC, BA/MA*****An Evaluation of a Simple Merger Arbitrage Strategy in Middle-Market Mergers and Acquisitions***

“I investigate a simple merger arbitrage strategy with a focus on middle-market companies. I estimate  $[-1, 1]$  buy-and-hold abnormal returns (BHARs) and long-run BHARs of prospective middle-market acquirers after they announce an acquisition and test whether  $[-1, 1]$  BHARs are predictive of subsequent long-run holding period returns (HPRs) and long-run BHARs. The  $[-1, 1]$  BHARs are calculated for 57 acquiring companies, and then separated into two equal-weight portfolios: one of positive  $[-1, 1]$  BHARs (referred to as the long portfolio) and one of negative  $[-1, 1]$  BHARs (referred to as the short portfolio). I then calculate the HPR and long-run BHARs over the following time horizons:  $[2, 22]$ ,  $[2, 43]$ ,  $[2, 64]$ ,  $[2, 127]$ , and  $[2, 253]$ . I perform a Student’s  $t$ -test comparing the means of the HPRs of the two portfolios and find that the long and short  $[2, 22]$  and  $[2, 64]$  HPRs have statistically different mean returns. Similarly, I perform a Student’s  $t$ -test comparing the means of the BHARs of the two portfolios and find that the difference in the means are not statistically significant. I also regress the different long-run BHARs on  $[-1, 1]$  BHARs, adjusted  $[-1, 1]$  BHARs, and normalized  $[-1, 1]$  BHARs. Adjusted  $[-1, 1]$  BHARs are adjusted for the effects of known predictive factors found in prior literature such as the type of payment. For example, if the type of payment is cash, 2.40 percentage points of the  $[-1, 1]$  BHAR is attributed to the cash payment. Normalized  $[-1, 1]$  BHARs divide each  $[-1, 1]$  BHAR by each security return’s

standard deviation over the following trading days:  $[-22, -2]$ . I find  $[-1, 1]$  BHARs and adjusted  $[-1, 1]$  BHARs of middle-market lack statistically significant effects on long-run BHARs over the  $[2, 22]$ ,  $[2, 43]$ ,  $[2, 127]$ , and  $[2, 253]$  horizons.  $[-1, 1]$  BHARs and adjusted  $[-1, 1]$  BHARs of middle-market firms have statistically significant effects on  $[2, 64]$  BHARs. Therefore, a possible merger arbitrage strategy may exist for predicting BHARs for the  $[2, 64]$  horizon. The strategy consists of an investor going long on all acquirers that have a positive  $[-1, 1]$  BHAR and short on all acquirers that have a negative  $[-1, 1]$  BHAR over the following trading days:  $[2, 64]$ . After the  $[-1, 1]$  BHARs are normalized, however, the normalized  $[-1, 1]$  BHARs are no longer statistically significant when predicting any long-run BHAR. On the whole, I find the Efficient Market Hypothesis – which states that the market efficiently prices the information released into the market after an acquisition announcement – is correct, at least with respect to the information contained in  $[-1, 1]$  BHARs.”

**MARK SUI, BA/MA*****Do There Exist Industry-Specific Predicators of Deal Failure in Technology M&A?***

“This study investigates two variables, number of investors and an intangible assets/revenue ratio, that are potential industry-specific predictors of deal failure in technology M&A. I document that number of investors has a significant ability to predict deal failure in all M&A transactions: an increase in number of investors decreases deal failure rates. However, I find that neither variable is able to significantly predict deal failure differently for transactions involving technology targets and those involving non-technology targets. Broadly, my findings suggest that technology M&A and non-technology M&A may share more similarities than previously expected in the ultimate goal of properly evaluating them.”

**KRYSTAL SUNG, FES*****Are Women Executives Hurting Firm Performance? An Examination of Gender Diversity on Firm Risk, Performance, and Executive Compensation***

“In order to assess the continuing imbalance of top executives between genders, I examine the effects of gender diversity

within top management teams on firm risk, performance, and executive compensation. Capitalizing on previous analysis, I apply three unique differentiators. First, I utilize current data from 2012 to 2017 from Compustat, CRSP, and ExecuComp. Second, I provide a unique subset view on a firm and individual performance of female CEOs to examine executive compensation. Third, my scope of analysis expands to S&P Composite 1500 companies. I use separate models to estimate the effect of gender diversity on firm risk by examining a firm’s beta and standard deviation of daily returns, on firm performance by examining a firm’s Tobin’s  $Q$ , and lastly on executive compensation by examining an executive’s natural logarithm of total compensation. My findings suggest gender diversity among executives appears to have an immaterial effect on a firm’s risk and performance. In turn, I also find that female executives continue to receive less compensation than their male colleagues. However, I find an average female CEO receives a higher level of compensation than an average male CEO. Lastly, I find as gender diversity increases among executives, specifically CEOs, the compensation differences between genders decreases.”

**SHUJIE (JOHN) XIA, BA/MA*****IPO Underpricing: The Role of Expected Future Business Conditions***

“In this paper, I explore whether the expected economic condition plays a role in determining the degree of IPO underpricing. My hypothesis is that given the current condition, the IPO underpricing is higher when the expected economic condition is worse. I test the hypothesis on the aggregate level and the industry level. I find no evidence that supports my hypothesis on both levels. On the aggregate level, I find the “hot” market, a period when the underpricing is significantly higher than other periods, exists when both the current and expected economic conditions are good. On the industry level, I find that the underpricing pattern of technology industry IPOs prior to the dot-com crash is consistent with my hypothesis. It seems that insiders see signs of imminent bubble burst and they rush to take companies public by accepting higher underpricing.” ▲

## SPRING EVENTS

### New York City Networking Trip

**January 13–17, 2019**

Eighteen CMC sophomores visited prestigious firms in NYC to gain exposure to various job opportunities in the financial markets and to establish relationships with CMC alumni working at these companies. The goal is for these relationships to evolve into summer internship and full-time job opportunities for student attendees. In addition to the company visits, the trip included various evening events with financial services professionals and CMC alumni. Visits this year included Rothschild & Co., Moelis, Alger, J.P. Morgan, UBS, Wells Fargo Securities, Duff & Phelps, Atalaya, Greentech Capital Advisors, AllianceBernstein, D.E. Shaw, Deutsche Bank, Jane Street, Goldman Sachs, Spruce House Investment Management, Morgan Stanley, and Greenhill & Co. The trip is sponsored by the Financial Economics Institute and Robert Day Scholars Program.

### Claremont Finance Conference

**February 15, 2019**

The Executive Committees of the Student Investment Funds of CMC and Pomona College coordinated and hosted the annual finance conference, including an afternoon panel discussion, followed by a guest speaker at the Marian Miner Cook Athenaeum that evening.

### David Yermack at the Athenaeum

**March 28, 2019**

The FEI will jointly sponsor with the Center for Innovation and Entrepreneurship and the Lowe Institute an Athenaeum talk by Finance Professor David Yermack of the NYU Stern School of Business.

### BMGI Stock Pitch Event

**April 4, 2019**

Student Investment teams from CMC, Pomona, Scripps and Harvey Mudd participate in Interactive Pitch Sessions with Michael Larson '80 Chief Investment Officer, BMGI.

*The mission of the Financial Economics Institute is to provide unique research, curricular and extracurricular opportunities engaging the Claremont Colleges in both the theory and practice of financial economics. The FEI administers three programs directed at these objectives. First, the FEI supports collaborative, advanced student/faculty research in financial economics and overlapping disciplines. Second, the FEI oversees the Financial Economics Sequence, a unique curriculum grounded on rigorous quantitative courses in a liberal arts context, preparing students for career opportunities in finance. Third, the FEI sponsors activities for the broader community, including oversight of the Student Investment Fund, provision of databases, space and hardware for multiple purposes, and support for conferences, workshops, internships, networking trips and other events.*



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