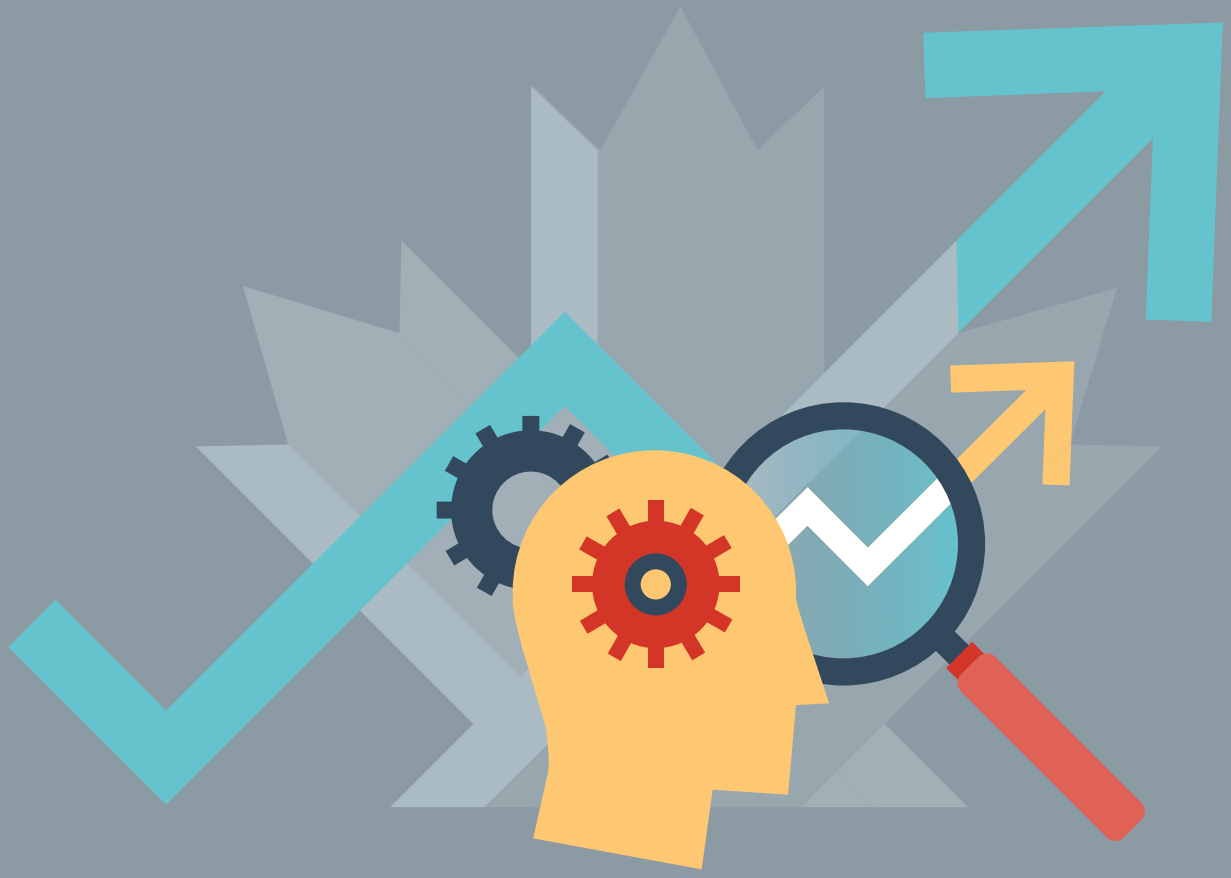
Canadian Securities Institute

RESEARCH FOUNDATION



CSIRF JOURNAL VOLUME II

SUMMARY

Letter From the Chairman

DAVID DOWNIE

On behalf of the Board of the Canadian Securities Institute Research Foundation, I am very pleased to present the latest edition of the Canadian Securities Institute Research Foundation Journal.

The Foundation provides funding for academic research focused on Canadian capital markets. Funded projects strike the difficult balance between rigorous research and institutional relevance and provide thoughtful insights into issues faced by investors and other participants in the industry. This Journal presents just some of the excellent work that has been done by supported researchers.

This is the second publication of supported research that we have produced and we are grateful to the authors for their time and effort in putting together the articles for the journal.

David Downie

David Downie
Chairman of the Board
Canadian Securities Institute Research Foundation

Letter from the President

MARIE MULDOWNEY

The Canadian Securities Institute Research Foundation (CSIRF) is pleased to release the second journal of articles produced by academics who have been funded by the CSIRF. Every year the CSIRF provides funding to PhD candidates and academics across Canada who are conducting grounded research in the areas of capital markets, financial planning, economics and regulation. One of the aims of the CSIRF is to make academic research and thinking accessible to those working in and using the capital markets. This journal is a way to share the results of research that is focused on the Canadian capital markets and bring the research results to the industry.

Going forward, the CSIRF will continue to fund and make available the results of the research being conducted in Canada in the capital markets that are so vital to the well-being of our economy and our country.

Marie Muldowney
President
Canadian Securities Institute Research Foundation

Letter From the Executive Director

HEATHER-ANNE IRWIN

Modern corporate governance centers around the issues associated with the separation of ownership and control. In recent years, an extreme form of such separation occurs in firms that issue multiple classes of shares. Such firms, often called dual-class firms, typically have a superior class of shares held by corporate insiders that give them more voting power per share than shares held by public investors. This allows insiders to retain absolute control of a firm, essentially shutting public investors out of corporate governance. Researchers have uncovered various agency problems associated with a dual-class share structure. And overall, such ownership structure destroys shareholder value. In light of this, it is perhaps surprising that about 15% of companies listed on the Toronto Stock Exchange still have dual-class shares, including some of largest players such as Rogers, Shaw, and Bombardier. Are dual-class firms really that bad?

Not if we shift the perspective from shareholders to creditors.

In my recent paper, I use a large sample of dual-class firms from the U.S. to examine the effect of the dual-class share structure on creditors. I find that, in contrast to the negative effect documented on minority shareholders, dual-class share structures actually benefit creditors. Compared to similar single-class firms, dual-class firms have lower business and financial risk, and they are less likely to default or violate debt covenants. Dual-class firms also enjoy lower interest rates on their loans. These results are robust under a variety of empirical tests, including a difference-in-differences analysis on firms that unified their dual-class shares into a single-class.

What does this mean for practitioners? First, dual-class firms may not be as bad as they are believed to be. Yet with other stakeholders playing increasing important roles in modern companies, we need to broaden our perspective to take these stakeholders into account. A majority of firms in the world are financed by creditors. In an economy where debt financing dominates equity, dual-class share structures may bring net benefits. Second, for investors and asset managers who are wary of dual-class firms, my paper provides a novel investment strategy that can hedge their investment risk: investing in the equity and debt of these firms simultaneously.

Heather-Anne Irwin
Executive Director
Canadian Securities Institute Research Foundation

The answer is via social media!

How do companies get information out to markets quickly? How do smaller and "neglected" companies overcome informational barriers and achieve wider recognition? The answer is via social media!

One of the biggest trends in the last decade has been the rise of social media. It is fair to say that platforms such as Facebook and Twitter have transformed the informational landscape of the world. Suddenly, the ability to communicate news or information is no longer a privilege granted to news agencies, but is widely available through many channels. Anyone with an internet connection can be a source of information. The distinction between information providers and consumers is becoming fuzzier by the day. One can simply post a quick 140-character message on Twitter which travels the world within seconds. But how can this help companies?

In financial economics, models by Diamond and Verrecchia (1991) and Merton (1987) show that firms that communicate more information to financial markets attract more investor attention and achieve a lower cost of capital. Attracting investor attention may be difficult.

Traditionally, stock analysts have helped improve the information environment of companies and attract investors' attention. The problem is, analysts are more likely to cover larger and better known firms. Another mechanism that attracts investor attention is traditional news media. Companies like IBM and Apple receive extensive media coverage. Such companies can easily communicate information to markets, and markets listen. Necessarily, the media is biased towards covering companies that attract the most readership; who is not interested in news about Apple or Tesla?

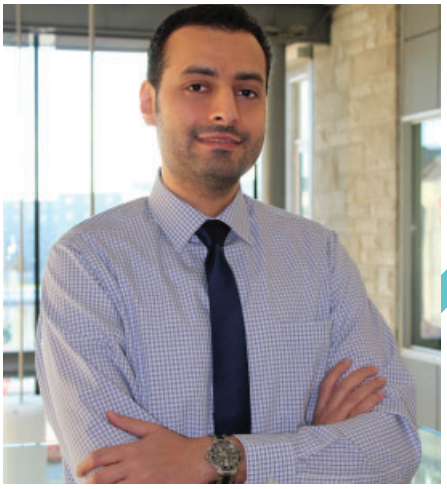
Since media coverage is not always a company's choice, many firms remain neglected in this arrangement. After all, how many investors are interested in a small mining company in the middle of the continent? As a way to alleviate information asymmetries, companies started communicating financial information on their corporate websites. In 2008, The Securities and Exchange Commission (SEC) declared corporate websites an official information channel where companies are permitted to communicate relevant information to investors. But once again, how do you drive investors to your website, or in other words, how do you "pull" them in?

"AS CORPORATE USE OF SOCIAL MEDIA INCREASED, THE SEC ISSUED A NEW REGULATION IN 2013 THAT ALLOWS COMPANIES TO USE SOCIAL MEDIA AS AN OFFICIAL CHANNEL TO COMMUNICATE WITH MARKETS."

The answer is you "push" the news out to them. This is precisely what social media, particularly Twitter, does. It became a low cost mechanism to help companies disclose information and reach investors. Ultimately, this gives companies more control over their information environment. They are no longer at the mercy of analysts or the media: they control their own information releases.

As corporate use of social media increased, the SEC issued a new regulation in 2013 that allows companies to use social media as an official channel to communicate with markets. Since then, investors have flocked to social media in search of corporate information.

MOHAMED AL GUINDY



BIOGRAPHY

MOHAMED AL GUINDY is an Assistant Professor of Finance at the Sprott School of Business at Carleton University. Dr. Al Guindy's research focuses on the role of social media in financial markets – and more broadly, on how technology affects financial markets. Dr. Al Guindy completed his PhD in Finance and MBA at Queen's University. An engineer by training, he completed his Bachelor's degree in Electrical Engineering at the University of Toronto, and Master's degree in Electrical Engineering at Queen's university – with particular emphasis on Artificial Intelligence. Al Guindy's research has been funded by the Canadian Foundation for Governance Research and the Canadian Securities Institute Research Foundation. His work is featured on Yahoo Finance and Investment Relations (IR) Magazine among other outlets. In addition, his research is regularly presented at academic conferences such as the Northern Finance Association and the Financial Management Association conferences. Dr. Al Guindy was the recipient of the CSI Research Foundation's Doctoral Award during his Doctoral studies at Queen's University.

TESTIMONIAL

My research is very data intensive – it requires the use of very powerful computers to process and manage the large social media datasets. The CSI award has helped me build the technological infrastructure necessary to carry out this innovative research.

In this research, I examine corporate use of social media since the inception of Twitter in 2006. I use complex textual analysis algorithms to analyze millions of tweets originating from publicly listed companies since the very first tweet in 2006. I find that companies that use Twitter to communicate information to markets have a lower cost of equity capital. What is more promising, smaller companies, companies that are followed by the least number of analysts, and companies with the least institutional ownership, benefit particularly from tweeting financial information. What this means is that those often "marginalized" or "neglected" companies can finally shape their own information environment thanks to social media, and as a result, achieve a reduction in their cost of equity capital. The message for companies, big and small, is to start tweeting!

Shareholder Activism – The Interaction Between Hedge Funds and Other Institutional Investors

In September 2011, the share price of Canadian Pacific Railway (CPR) dropped to less than $43 — in October, hedge fund Pershing Square Capital Management announced an ownership position in CPR and the share price immediately jumped to $62.50. The fun had just begun. In the ensuing months, Bill Ackman, founder and CEO of Pershing Square, pursued a shareholder activism campaign that included direct communication with CPR directors and executives, an extensive media campaign, and a successful proxy battle that elected seven Pershing Square nominees to the CPR board of directors, ousted CPR CEO Fred Green, and installed Hunter Harrison, legendary in railroad circles, as the new CEO responsible for driving operational efficiency improvements. In April 2013, CPR announced the best quarterly results in its 132 year history and the share price soon exceeded $142. Pershing Square had built up an ownership stake of 24 million shares (14.2% of the outstanding CPR shares worth $3.4 billion). Another high profile campaign occurred when hedge fund, Scout Capital, announced a 5.5% ownership share in Tim Hortons, calling for sweeping changes to enhance shareholder value by optimizing capital structure, altering US expansion plans, and converting company owned restaurants into a real estate investment trust (REIT).

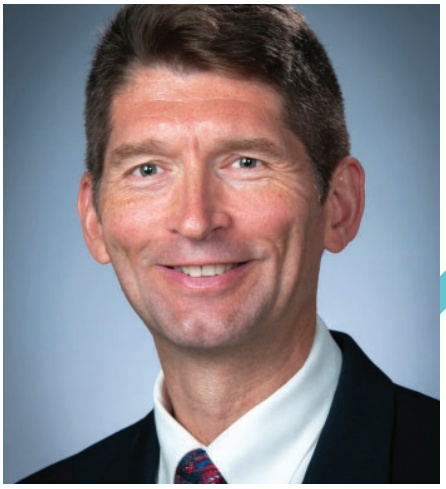
Institutional investors (e.g., pension funds, insurance companies, mutual funds, banks, investment advisors, and hedge funds) are organizations that pool and invest large sums of money on behalf of their stakeholders. The motive for activism is to increase shareholder value by addressing agency conflicts (i.e., the tendency of managers to take self-enhancing actions that are not in the best interest of shareholders). Typical hedge fund activism includes challenging bad strategies, removing poorly performing executives, and ensuring that mergers and other management activities make sense for the shareholders. While hedge fund activism began in US markets, it has become increasingly widespread in Canada. In the 1980s, pension funds emerged as the most common shareholder activists. Today, hedge funds are the most prevalent in the investor activism space. Hedge fund activists are very different from other institutional investors – they begin monitoring targets before acquiring an ownership position and become agents of change with specific goals that depend on the target's unique situation. Hedge funds are more effective in implementing change at target companies because hedge fund managers have the means and incentive to focus on longer term value enhancing activities.

> "WHILE HEDGE FUND ACTIVISM BEGAN IN US MARKETS, IT HAS BECOME INCREASINGLY WIDESPREAD IN CANADA."

Support for hedge fund activism is not universal. While proponents argue that activist hedge funds are beneficial, critics hold that the benefits of activism do not accrue to stakeholders equally and deny that activism creates long term value — any shareholder benefit is short term in nature and based on financial manipulation rather than true value creation. To successfully implement activist agendas, hedge funds require support from other shareholders because they typically acquire minority ownership positions in target firms. Given that institutional ownership at publically traded firms was more than 60% in 2005, it is clear that institutional investors collectively control sufficient power to enhance the effectiveness of hedge funds.

The observation that the level of institutional ownership has a significant impact on the probability of being targeted suggests that hedge fund activism creates value — hedge funds

ANDREW CARROTHERS



BIOGRAPHY

DR. ANDREW CARROTHERS is an Assistant Professor of Finance at the Faculty of Business, the University of Prince Edward Island (UPEI). He currently teaches in the areas of corporate, international, personal, and entrepreneurial finance. He holds a PhD in Finance from McMaster University. His primary research interest is corporate governance, with a particular focus on hedge fund activism and executive compensation. He is also active with research on financial literacy. https://www.upei.ca/business/profile/andrewcarrothers

Prior to joining UPEI, Andrew gained extensive work experience as a senior manager at an S&P 500 company. He is a Chartered Financial Analyst (CFA) charter holder and is a member of Professional Engineers Ontario.

TESTIMONIAL

It was a great honour to be the recipient of the prestigious Canadian Securities Institute Research Foundation PhD scholarship. This generous funding helped me to promote the research agenda of the CSI Research Foundation by investigating the interaction at target firms between activist hedge funds and other institutional investors. This topic is important because shareholder engagement by hedge funds has become widespread in Canada and will have significant ramifications for typical Canadians. When shareholder activism is successful, the benefits accrue to all shareholders, not just to the activist.

The CSI Research Foundation PhD Scholarship was instrumental in my obtaining a tenure-track faculty position at a top caliber Canadian university and has produced two 2017 academic journal publications. I have a strong belief that members of academe need to have a personal commitment to three key elements: relevant research (and the ability to make it accessible), educating and motivating undergraduate and graduate students, and academic service. I am passionate about financial markets, corporate governance, and financial literacy. Funding from the CSI Research Foundation made it possible to continue to do what I do best.

prefer high levels of institutional ownership because they expect support for value creating activism. The market responds positively to hedge fund activism — the average abnormal return at target firms in the +/- 20 days surrounding the disclosure of activist intentions is 7.1% and the average abnormal return in the 20 months after the disclosure is 23.0%. The trading behavior of other institutional investors indicates that they have a favorable view of hedge fund activism. By supporting activist hedge fund agendas, other institutional investors play an important role in improving governance, performance and shareholder value at target firms. Overall, the results of my research suggest that activist hedge funds and other institutional investors have compatible goals — *they are friends not foes*.

There are few things more closely linked to the collective Canadian psyche than coffee, donuts, and railroads. Activist hedge funds are here to stay and play, which may well be a good thing for all of us. When shareholder activism is successful, the benefits accrue to all shareholders, not just to the activist. Target firms of activist hedge fund have high levels of institutional ownership – mutual funds, insurance companies and pension funds – and these assets are widely held by Canadians. The financial well-being of typical Canadians depends on the investing success of these institutions.

Election and IPOs Don't Mix

In recent times, the world has experienced many instances of elevated political uncertainty. Numerous reputable companies and think-tanks have pointed out that political instability, especially instability driven by elections, and its impact on businesses are on the rise in both developing and developed countries. For example, a 2014 study by Citigroup ("Vox Populi Risk," 2015) argues that "not only that vox populi risk (elections and other political events) has intensified, but also, perhaps more relevant for companies and markets, it is taking place in middle-income emerging markets and industrialized countries that are more integrated into the global economy, and thus are more likely to generate wider market impact." In our new study, we find that fewer privately held businesses are willing to go public (conduct Initial Public Offerings, IPOs) during election years, suggesting that political uncertainty has a significant effect on business decisions. IPOs are important for both individual firms and the aggregate real economy. For an individual firm, an IPO is an important milestone that raises capital, propels growth and improves its competitive advantage. For the local or national economy, an active IPO market increases employment and facilitates positive spillover effects to non-IPO firms. Hence, it is important to understand whether and how firms change their IPO decisions in response to political uncertainty.

Our research examines IPO activity by U.S. businesses headquartered in states with the elections of governors between 1988 and 2011. Election periods are characterized by elevated uncertainty. Who takes the state office as a governor is shown to affect taxes, state and federal contracts, and wages. For example, when a new governor comes to power he or she may change the allocation of government contracts and subsidies to firms, thus changing firms' competitive positions. Moreover, periods of governor elections are characterized by policy uncertainty over state taxes and labor policies, which in turn, can manifest itself into uncertainty regarding companies' cash flows and their present values. We conjecture that small private firms such as the pre-IPO firms are especially affected by the policy uncertainty prevalent in their domiciled states.

"ELECTION PERIODS ARE CHARACTERIZED BY ELEVATED UNCERTAINTY. WHO TAKES THE STATE OFFICE AS A GOVERNOR IS SHOWN TO AFFECT TAXES, STATE AND FEDERAL CONTRACTS, AND WAGES."

Our research finds 15 percent fewer IPOs were conducted in states during election years, dropping from an average of 29 the year before an election to 25 during election year. Activity then rebounded significantly the year after an election, to an average 31, and then to 36 at the midpoint of the states' election cycles.

The results show that business managers are wary of committing their firm's resources during a time of political uncertainty and prefer to wait until the electoral uncertainty has settled down. The results also show that capital can be costlier because the offer prices are set lower than fair market value during election years, which makes it more expensive for firms to grow.

The study finds the IPO depression is even more pronounced in states with more IPO activity, where the average number of IPOs drops from 90 in the year before an election to 78 during an election year.

ARTEM DURNEV

Firms that are especially susceptible to this dampening effect are those that rely more heavily on government contracts, and those with businesses concentrated in their home states and thus more dependent on home state policies.

The paper, "Political Uncertainty and IPO Activity: Evidence from U.S. Gubernatorial Elections," was co-authored with Gonul Colak of the Hanken School of Economics in Helsinki, Finland and Yiming Qian of the University of Iowa. It is accepted for publication in the Journal of Financial and Qualitative Analysis and is available at

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2281269

BIOGRAPHY

ART DURNEV is an Associate Professor of Finance, University of Iowa Faculty Council Member, University of Iowa Faculty Senate Member, Henry B. Tippie Research Fellow, Ph.D. Director at the Henry B. Tippie College of Business, University of Iowa, and an Associate Editor of *International Review of Finance*. Before joining the University of Iowa, he was an Assistant Professor at the Desautels Faculty of Management at McGill University (Montreal, Canada) and the University of Miami, Florida. His research interests are primarily focused on corporate finance, political cycles, governance, corporate social responsibility, and financial markets development. He published his work in top academic and practitioner journals, such as the *Journal of Finance*, *Review of Financial Studies*, Journal of Accounting Research, *Management Science*, *Journal of Financial and Quantitative Analysis*, *Journal of Applied Corporate Finance*, *Journal of International Business Studies*, *Journal of Corporate Finance*, *Michigan Law Review*, and *Economics of Transition*. His research is cited over 4,000 times according to Google Scholar. He taught classes for undergraduates, MBAs, PhDs, and executives in the U.S., Canada, Hong Kong, U.K., Japan, and Russia. He presented his work at over 100 seminars and conferences worldwide. His passions are finance and competitive judo.

TESTIMONIAL

I am very grateful for the funding I received from the CSI Research Foundation. I started working in the area of elections and political uncertainty when I was a faculty member in Canada. For the empirical part of my paper, I had to hand collect data from various private and public sources. The funding helped me hire a team of research assistants for data collection and processing. Moreover, I used the funding to finance conference travel to disseminate my research.

Impact of Adoption of International Financial Reporting Standards on the Canadian Stock Markets

Canada adopted International Financial Reporting Standards (IFRS) in 2011. There is little evidence in the accounting literature about the Canadian adoption experience even though Canada's decision to adopt IFRS meant departing from the practice of its largest trade partner, the U.S. In my research (co-authored with Professors Mark Anderson, Hussein Warsame and Michael Wright from the University of Calgary), I investigate the impact of IFRS adoption on the quality of earnings information released by firms listed on the two Canadian stock exchanges, the TSX exchange and the TSX Venture Exchange. My analysis is based on trading by both retail and institutional investors when earnings are announced.

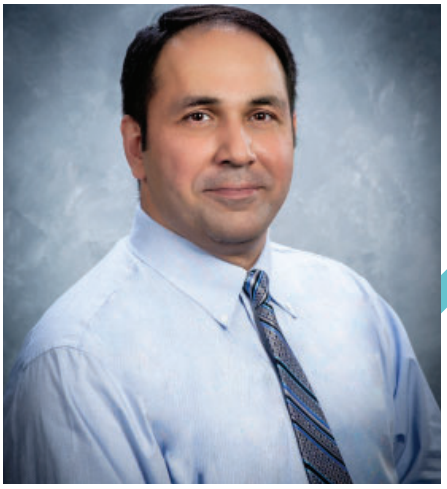
It has been argued that IFRS is a more principles-based set of accounting standards, meaning that IFRS requires accountants to take more responsibility for providing relevant accounting information. Old Canadian GAAP (Generally Accepted Accounting Principles) placed more emphasis on the reliability of accounting information and hence relied less on the judgment of accountants. A priori, one may expect that the information content of earnings would increase for both TSX and TSX Venture exchange firms if IFRS earnings provide more value-relevant information than old Canadian GAAP earnings. As such, the increased value relevance of information provided by IFRS earnings would reflect greater emphasis on measurement of changes in net asset values based on expectations as opposed to realizations.

Consistent with this argument, my research finds that the information content of earnings under IFRS increased for TSX firms during earnings announcement periods, compared to the information content of earnings during pre-IFRS earnings announcement periods. However, firms listed on the TSX Venture exchange, where retail investors have a greater presence, did not benefit from IFRS adoption in this manner. In fact, my evidence suggests that, due to the speculative nature of the TSX Venture exchange, investors did not rely as much on the accounting information provided during the post-IFRS earnings announcements periods as they had in the pre-IFRS periods. Thus, my findings indicate that IFRS adoption may have benefitted firms on the TSX exchange more than firms on the TSX Venture exchange. The results of my study suggest that this reflects a greater reliance by TSX Venture investors on realized earnings information. Old Canadian GAAP emphasized the reliability characteristics of accounting information whereas more expectation-based values of net assets under IFRS may increase uncertainty of accounting information for TSX Venture investors.

"OUR RESEARCH CAN HELP CANADIAN REGULATORS THINK MORE CAREFULLY ABOUT THE IMPACT OF ADOPTING IFRS ON THE CANADIAN STOCK MARKETS."

Canada is unique in the world in that it has well-functioning senior and junior stock exchanges. The TSX Venture exchange is a venture capital exchange, populated largely by exploration-oriented companies in the extractive industries and innovation-oriented growth companies, that caters primarily to retail investors. The TSX Venture exchange is a more speculative venture-oriented exchange that was formed by combining local exchanges operating in Alberta and British Columbia. Companies on the TSX exchange are typically larger, have larger institutional investor bases and are followed by analysts more than companies on the TSX Venture exchange. In fact, many of the smaller firms listed on the TSX Venture exchange have no institutional ownership. The TSX is a more traditional high-quality stock exchange regulated in the province of Ontario.

SHAHID KHAN



BIOGRAPHY

DR. SHAHID KHAN is an Assistant Professor of Accounting at the Penn State University, Berks campus. He received his Ph.D. at the University of Calgary. His research interests are in the areas of the impact of International Financial Reporting Standards on the capital markets, accounting and international capital movement, information quality, and accounting standards. His research paper has been published in *Accounting Perspectives*.

TESTIMONIAL

Receiving the CSIRF funding for the last two years of my Ph.D. program at the University of Calgary was one of the most critical events in my pursuit of a research career. Because of this generous support, I could focus on my research, rather than take on teaching and other research assistance work to fill the financial gap. The CSIRF funding helped me to start my career at the Penn State University. My name also appeared on the CSIRF website as one of the winners of the CSIRF scholarship which increased my visibility to future employers.

The current debate in Canada about the need for a single securities regulator is hotly contested in the western provinces and reflects the more entrepreneurial and speculative nature of the TSX Venture exchange. Our research can help Canadian regulators think more carefully about the impact of adopting IFRS on the Canadian stock markets. Our research can also help U.S. regulators in their decision to either adopt or converge to IFRS in the future, considering that Canada's markets are similar to the U.S. markets. ■

Reference:

Khan, S., Anderson, M., Warsame, H., & Wright, M. (2015). Do IFRS-Based Earnings Announcements Have More Information Content than Canadian GAAP-Based Earnings Announcements?. *Accounting Perspectives,* 14(3), 276-302.

Firm Fundamental Valuation and Behavioural Finance

Valuation metrics based on dividends, cash flows, and relative valuation ratios like price-to-earnings come and go in popularity, depending on how badly they have failed us recently. (This is evidence of the recency effect, a behavioural bias whereby people put more weight on recent information, even if the newer information is no more relevant than older information.) The popularity of different valuation metrics also depends on whether, at any given time, they are consistent with our "gut" and on plain old herding. Following your gut is often a cover for other behavioural biases that lead to the use of misattribution, representativeness, and availability in place of hard facts and research, and herding was likely responsible for much of the whiplash of the dot-com era. The existence of behavioural biases is a subject that fascinates me, in particular the ways in which these biases interact with market pricing. Individuals may be subject to biases, but do individual biases aggregate up to the macro level to influence market prices? Are there biases that might affect market valuations in a predictable and time-varying way?

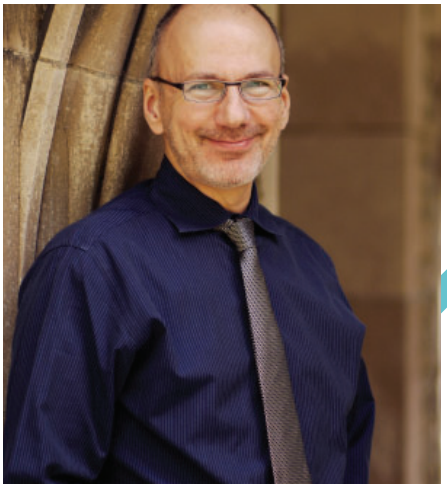
To answer these questions, we need a good valuation metric as a baseline. Recently, I have extended my own research on valuation metrics (see references 1 and 2 listed below) to consider individual firms rather than just indices like the TSX 60. My original valuation method leans on dividend payments, and I have extended the method to exploit other metrics of income-producing capacity in order to create a proxy for future cash flows to shareholders (i.e., to conduct valuation). The basic premise is simple and it is an old idea: set up a rule to sell a fraction of a firm, as though you were a shareholder. The income flow from holding shares is then augmented by an amount generated from this sale of shares, and future income flow will be reduced as shareholdings are lower. Setting a liquidation rule allows us to estimate future income flows and discount them to estimate the value of the firm, but importantly, theoretical derivations I have performed indicate that the rule must be calibrated to a firm-specific financial quantity like the earnings. (A payout untethered to firm fundamentals, such as a fixed dollar payout, will not work). This approach has the advantage that it can be applied to firms regardless of their cash flow history or dividend policies. Preliminary research shows that this approach works fairly well and can be easily extended to negative earnings per share firms as well, by considering other financial quantities, like sales.

The next step is to identify a behavioural bias that synchronizes the entire market, so that it shows up in market prices. A bias like anchoring to the stock purchase price, which makes investors reluctant to sell at a loss (known as loss aversion), does not easily impact overall market demand (or prices) because shareholders buy stocks at different prices and hence there is likely no synchronized impact on the market arising from loss aversion. This is where my work on the impact of Seasonal Affective Disorder (SAD) comes in; SAD synchronizes a substantial fraction of market participants each autumn (with onset of SAD leading to depression, risk aversion, and downward price pressure on risky assets) and each spring (with recovery from SAD). See references 3, 4, and 5 below for more details on my research about the influence of SAD on markets.

So now that all the pieces are in place, I will next determine whether the valuation metric (which suffers from no behavioural biases) over-values equities in the fall and winter when SAD-affected investors flee risky assets. Money for nothing? This is a computationally intensive exercise, and will take time to complete. What I have so far suggests that "rational" valuations in the fall will strike many as too aggressive, and may even scuttle deals in the making. Make deals in the spring!

1. "A New Dividend Forecasting Procedure that Rejects Bubbles in Asset Prices: The Case of 1929's Stock Crash," (with R. Glen Donaldson) Review of Financial Studies, 9, 333-383, 1996.
2. "Estimating the Equity Premium," (with R. Glen Donaldson and Lisa Kramer) Journal of Financial and Quantitative Analysis, 45(4), 813-846, 2010.
3. "Winter Blues: A SAD Stock Market Cycle," (with Lisa Kramer and Maurice Levi), 2003, American Economic Review, March, 93(1), 324-343.
4. "Seasonal Asset Allocation: Evidence from Mutual Fund Flows," (with Lisa Kramer, Maurice Levi, and Russ Wermers), Journal of Financial and Quantitative Analysis, accepted and forthcoming, 2016.
5. "Does Risk Aversion Vary During the Year? Evidence from Bid-Ask Spreads" (with Lisa A. Kramer and Ramon P. DeGennaro), working paper.

MARK KAMSTRA



BIOGRAPHY

MARK KAMSTRA is a Professor of Finance with the Schulich School of Business at York University in Toronto Canada, holding the Canadian Securities Institute Research Foundation Term Professor of Finance Chair. Prior to joining the Schulich School in 2004, he was a financial economist and associate policy adviser at the Federal Reserve Bank of Atlanta from 2001 to 2004, and prior to this an assistant then associate professor at Simon Fraser University in Canada.

Dr. Kamstra has published extensively in top-ranked peer-reviewed economics and finance journals, including the *American Economic Review* and the *Review of Financial Studies*. His current research interests revolve around the equity risk premium and empirical asset pricing. One current research interest of note seeks to establish evidence supporting the existence of time-varying risk premia in international markets associated with physiologically based changes in individuals' tolerance for risk. The research is based on links between human sentiment and financial risk tolerance which are well supported by many studies in the medical, psychology, and economics literatures.

A native of Ontario, Canada, Dr. Kamstra received his bachelor of arts degree in economics from Queen's University at Kingston, his master's degree in economics at the University of British Columbia, and his doctorate in economics at the University of California in San Diego (where he is spending the current academic year as a visiting scholar).

TESTIMONIAL

The funding from the CSI Research Foundation has been of great benefit to me, facilitating research projects that will, I hope, shape our understanding of the way mood and sentiment influence financial markets. This funding has made feasible a year-long sabbatical at UC San Diego, a center for empirical and theoretical research into economics and behavioural finance, as well as visits to nearby universities including University of Southern California, UC Irvine, Arizona State University, and more. The opportunity to interact face-to-face with some of the leaders in my chosen research areas is invaluable. As an individual who appreciates the myriad ways in which mood and behaviour impact outcomes, I understand that there is no substitute for a face-to-face conversation and feedback on my ideas and research program.

Digging into Oil Price Uncertainty and Real Economic Activities

Changes in oil prices are closely related to macroeconomic fluctuations. It is well known that two oil shocks in the 1970s preceded two recessions, and recent research suggests that the Great Recession of 2008 may be, in part, explained by the oil price hikes in 2007 to 2008 (Hamilton, 2009).

Traditionally, oil prices have been deemed as exogenous to developed economies because events such as geopolitical shocks or OPEC's supply decisions determine the prices. However, recent empirical evidence has revealed that oil prices may be determined endogenously by supply and demand (Kilian, 2014). Consequently, it is natural to ask which financial/macroeconomic variables are the determinants of oil price uncertainty.

"...RECENT EMPIRICAL EVIDENCE HAS REVEALED THAT OIL PRICES MAY BE DETERMINED ENDOGENOUSLY BY SUPPLY AND DEMAND."

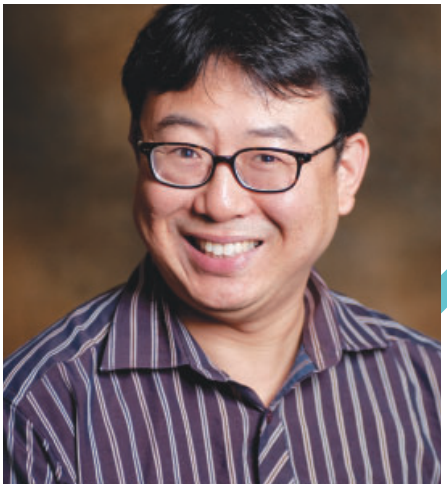
The finance literature has proposed scientific methodologies for accurately quantifying the magnitude of price uncertainty of a financial asset (Andersen, Bollerslev, and Diebold, 2007). Such methodologies use high-frequency tick-by-tick price data; these are available to researchers due to the deep liquidity of the commodity futures market. Using these methodologies, we can not only calculate the high-frequency realized variance ("RV"), our measure of oil price uncertainty, but we can also decompose it into the expected change in oil price ("the continuous part") and the sudden, unexpected change ("the jump part"). Then, we investigate a large cross-section of financial/macroeconomic indicators to understand which variables drive the continuous and jump parts of oil price uncertainty.

Using a cutting-edge dimension reduction technique called the three-pass regression filter ("3PRF") (Kelly and Pruitt, 2015), we document interesting stylized facts. The continuous and jump parts of oil price uncertainty contain distinct information. The continuous part is closely related to proxies for economy-wide uncertainty, such as Ludvigson's index (Jurado, Ludvigson, and Ng, 2015). The jump part, however, reflects the commodity/oil market-specific demand and supply proxied by, for example, the Baltic Dry index and the monthly change of the world oil supply. The overall findings are consistent with the view that oil prices are endogenously determined.

Economic theory claims that oil price uncertainty slows down economic activities. The literature provides several explanations. Some economists argue that, in the presence of oil price uncertainty, economic agents delay investment in fixed assets. Others maintain that precautionary motives deter energy-related consumption. Yet, according to other economists, in the case of high oil price uncertainty, the labor market reallocates resources, which is costly and recessionary. All of these explanations are certainly appealing, but empirical support for the negative relation between oil price uncertainty and real economic activities ("REA") is mixed.

Related to oil price uncertainty and REA, we must ask two questions. First, is the continuous part a cleaner predictor of REA than the jump part? The answer to this question is clearly yes. We find that the continuous part strongly predicts many different proxies for REA, such as real GDP, real GNP, real personal consumption of durable goods, and real investment, etc.; however, the results with the J-part are weak. Second, if the continuous part of oil price uncertainty is endogenously determined by macroeconomic uncertainty, does the continuous part still predict REA, even after controlling for macro uncertainty? Our dataset supports the view that the oil RV still has unique information to predict REA not subsumed by macro uncertainty. The results are particularly strong with real investment and real personal consumption of durable goods.

SANG BAUM KANG



BIOGRAPHY

SANG BAUM "SOLOMON" KANG is an assistant professor of finance at Stuart School of Business, Illinois Institute of Technology. He holds a B.S. in Applied Statistics from Yonsei University, an M.S. in Actuarial Science from the University of Wisconsin at Madison, an M.S. in Computational Finance from Carnegie Mellon University, and a Ph.D. in Finance from McGill University. Dr. Kang's research focuses on energy finance, commodities, financial derivatives, and asset pricing. Specifically, he is interested in oil markets, electricity markets, real options, government policy risk in energy markets, Monte-Carlo simulation, financial risk management, and index options. His works have been presented at various conferences including the AEA Annual Meeting, the SoFiE conference, and FDIC Derivatives and Risk Management Conference. He published in Energy Economics, Economics Letters, Journal of Energy Markets, and Energy Risk, and his working papers received the 2010 NFA Best PhD Student Paper Award and the 2012 FMA Asian Conference Best Paper Award. Prior to starting his PhD, Professor Kang worked for nine years in the energy sector doing financial modeling and analysis for commodity traders and risk managers; he assumed managerial positions in his private sector experience. He is also a Financial Risk Manager certified by GARP.

TESTIMONIAL

Given the financial support from the Canadian Securities Institute Research Foundation ("CSIRF"), I was able to enjoy relative financial freedom during my PhD program. I believe that CSIRF's support strengthened my CV because several interviewers noted the award during interviews. My current school, Illinois Institute of Technology, is located in Chicago, a center of commodity derivatives and high-frequency trading. Because of its location, my institution is very much interested in financial derivatives. Some colleagues at my school have the impression that Canadian schools, including McGill University and the University of Toronto, are strong in derivatives research. The financial support from CSIRF has contributed a strong positive signal of support for work on derivatives.

With Xuhui Pan (Tulane University) and Jianlin Zhao (Illinois Institute of Technology), I am writing a paper titled "*The Economic Drivers and Effects of Oil Price Uncertainty*" on the topic outlined in this article.[1] By proposing a new measure for oil price uncertainty, our article will contribute to growing literature investigating why and how financial asset return volatility arises, and its implications on real economy and financial markets.

[1] The draft will be available on the authors' webpages or SSRN.

Reference:

Andersen, Torben G., Tim Bollerslev, and Francis X. Diebold. "Roughing it up: Including jump components in the measurement, modeling, and forecasting of return volatility." *Review of Economics and Statistics* 89, no. 4 (2007): 701-720.

Hamilton, James. "Causes and Consequences of the Oil Shock of 2007-08." *Brookings Papers on Economic Activity*, Spring 2009: 215-259.

Jurado, Kyle, Sydney C. Ludvigson, and Serena Ng. "Measuring uncertainty." *American Economic Review* 105, no. 3 (2015): 1177-1216.

Behavioural Finance in Practice

If academics as a group have a bad reputation, it is for our legendary "ivory tower" mentality and bad habit of having our heads in the clouds while we work on topics of little relevance to those toiling in the "real world". While as a scholar I was trained to conduct standard research in the domain of financial economics, the rebel in me was naturally drawn to topics that were considered non-standard for my very conservative field, and those topics leaned toward the highly practical. As a doctoral candidate in the 1990s, I did not realize it at the time, but I was working on ideas that would ultimately find a home in the (then barely existing) field of behavioural finance. As a discipline, behavioural finance cannot help but be practical and mould-breaking in its focus. People doing work on behavioural finance topics seek to explain puzzling phenomena that we observe in real financial markets and to uncover ways in which the prediction of theoretical financial models are at odds with the ways actual humans make financial decisions.

By developing an expertise in the stark discrepancies between conventional financial models and what happens in actual markets, I found my research projects increasingly drew the attention of the media and financial market professionals. As a result, I started to find my words quoted in the press, and invitations started arriving for me to speak to small and large groups of professionals. The following is a selective and necessarily brief compilation of some of the topics I'm most asked to speak and write about, grouped by the types of professionals that I most frequently address.

Investment Advisors and Financial Planners: The main lesson of behavioural finance has been that individual investors are prone to making sub-optimal decisions when it comes to managing their own funds and planning for retirement. Overconfidence, mental accounting, loss aversion, and narrow framing are just a handful of the many behavioural tendencies that can have adverse consequences when investors self-manage their portfolios. The opportunity then emerges for well-armed advisors to intervene and act as mediators between investors and their portfolios. Evidence has emerged that financial professionals may not themselves be completely immune to behavioural biases; nevertheless, they can help naïve investors develop sound, long-range plans that are designed to withstand some of the most common and most dangerous obstacles facing investors.

> "IT'S ENCOURAGING TO SEE THE BEHAVIOURAL FLAVOR OF FINANCE RESEARCH EMBRACE PRACTICAL APPLICATIONS THAT STAND TO IMPROVE THE WELFARE OF CONSUMERS."

Banks, Insurance Companies, and Other Financial Institutions: In the business of helping people hedge risks, the financial industry is in a position to tailor their sales pitches to cater to the natural cycle of human risk preferences. My extensive research shows that investors are especially sensitive to financial risk in the fall and winter, and are especially keen on risk in the spring and summer. Why not, then, time financial product marketing pitches accordingly? It makes sense to encourage safe types of bond investments in the fall, when people are more risk averse, rather than in the spring, when RSP season happens to peak but also when people are keener to adopt relatively riskier investment products.

Pension Managers: The world of choice architecture, or nudging, provides an abundant array of tools that can be used by the pension industry to help investors plan for retirement. For example, making the default option to contribute a non-trivial sum (while still allowing for ease of opting out), automating the contribution process, and incorporating automatically escalating contribution amounts. These are all nudges that can help investors to save more.

Overall, behavioural finance highlights important pitfalls in the investment context, but it also affords savvy professionals an opportunity to offer creative interventions that help investors fare better than they would otherwise. It's encouraging to see the behavioural flavor of finance research embrace practical applications that stand to improve the welfare of consumers.

LISA KRAMER

BIOGRAPHY

LISA KRAMER is a Professor of Finance at the University of Toronto where she teaches undergraduate and graduate courses on topics such as investments and behavioural finance. She is currently spending a sabbatical as a Visiting Scholar at the University of California, San Diego, Rady School of Business. Previously she was a Visiting Scholar in the Psychology Department at Stanford University. Her Ph.D. in finance is from the Sauder School of Business at the University of British Columbia. During the years 2008 to 2011 she was the Canadian Securities Institute Research Foundation Limited Term Professor.

Professor Kramer's research focuses largely on the overlap between human nature and financial decisions, including topics such as risk aversion, emotions, market seasonality, and investments. She has presented her research at conferences, government agencies, and university seminars around the world. Her scholarly articles have been published in peer-reviewed economics, finance, and psychology journals, including most notably the *American Economic Review*. She has written for popular press outlets including *The Wall Street Journal* and *The Globe and Mail*, and her research has been profiled by global media outlets including *The Daily Telegraph*, *Der Standard*, *Die Presse*, *The Washington Post*, *Bloomberg Business*, *Time*, *Business Week*, *The National Post*, CBC Television, CBC Radio, and NPR. Lisa Kramer routinely posts about behavioural finance topics under the Twitter handle @LisaKramer.

TESTIMONIAL

I am very grateful for having had the opportunity to serve as a Canadian Securities Institute Research Foundation Limited Term Professor. It is unlikely that my first sabbatical, at the Stanford University Department of Psychology, would have been feasible without the funding that accompanied this prestigious honour. My time spent at Stanford, interacting with top-notch psychologists and neurologists interested in financial risk-taking, helped to strengthen my expertise in behavioural finance. Specifically, I was able to become more proficient in experimental methods which are a core element of my research tool kit today.

How to Support Entrepreneurial Businesses

Early-stage companies require capital to grow and develop. While specialized investors such as venture capitalists (VCs) and business angels are a source of capital for private entrepreneurial companies, VC capital is not easy to attract. In Canada, the Toronto Venture Stock Exchange (TSX-V) provides an alternative avenue through which growth-oriented firms can access public venture capital on a regulated junior equity exchange. The TSX itself notes that companies listed on the TSX-V are provided with the opportunity to gain a solid foothold in the public market, with the potential to work towards graduation to the senior TSX.

In a recent paper, my co-authors Michele Meoli, Michael Robinson, Silvio Vismara and I study whether the TSX-V is an effective incubator market for developing firms by comparing the long-run stock performance of firms that graduated from the TSX-V to the senior TSX against the performance of VC-backed companies that had a direct IPO on the TSX.[1] While the literature touts the value-added support provided by a VC, we suggest that there are several reasons why we might expect TSX-V graduations to the TSX to outperform VC-backed IPOs. First, managing a public company is very different from managing a private company, and there is often a steep learning curve for newly public companies. Thus, listing first on the TSX-V provides the management team with invaluable experience on how to operate a public company, such as interacting with various public market stakeholders, including shareholders, analysts, regulators, and the media. Second, the TSX-V listing and governance requirements are slightly relaxed versions of those on the TSX, such that the transition for the management team and board from the TSX-V to the TSX is rather seamless.

Our results support the notion that the TSX-V provides important learning opportunities and experience for growing firms. In particular, over the test period 2000-2014, we find TSX-V graduations on average outperform VC-backed IPOs by about 30 percentage points in the three years following the TSX listing on a market-adjusted basis.

The above results are particularly insightful given the experiences of junior public equity markets in other countries. Interestingly, a number of European countries have also set up junior exchanges, but with little success. Research indicates that IPOs on these exchanges have performed poorly relative to IPOs on senior markets and very few firms graduate from the junior to the senior markets.

The success of the TSX-V documented in the above study complements some of my prior work. In a book chapter co-authored by Michael Robinson and I, we show that the number of firms going public on the TSX-V is substantially higher than the number of IPOs in other junior markets.[2] We further document that the participants on the TSX-V are mostly retail investors, while the junior exchanges in other countries mainly attract institutional investors, and as a consequence lack liquidity, which we argue is an important determinant of a viable junior equity market.

"OUR RESULTS SUPPORT THE NOTION THAT THE TSX-V PROVIDES IMPORTANT LEARNING OPPORTUNITIES AND EXPERIENCE FOR GROWING FIRMS."

In another study, my co-author Michael Robinson and I examine the TSX-V's Capital Pool Company (CPC) program, which is a highly regulated blind pool program.[3] We show that unlike the blind pool experience in the U.S., where significant fraud was followed by the adoption of regulations that effectively shut down that market, the Canadian regulations, which encompass VC-like governance mechanisms and the participation of high-quality underwriters, balance the capital needs of early-stage entrepreneurial firms, while still serving to protect the interests of investors.

[1] "Can Spending Time in the Minors Pay Off?" An Examination of the Canadian Junior Public Equity Markets", 2018, *Journal of Small Business Management,* 56, pp. 88-107.

[2] "The Canadian Junior IPO Market and the Capital Pool Company Program", 2013, in Mario Levis and Silvio Vismara (Eds.), *Handbook of Research on IPOs*, London: Edward Elgar, pp. 124-140.

[3] "Is Effective Junior Equity Market Regulation Possible?", 2014, Financial Analysts Journal, 70 (4) pp. 42-54.

ARI PANDES

BIOGRAPHY

DR. J. ARI PANDES is an Associate Professor of Finance at the University of Calgary's Haskayne School of Business. He teaches courses at the PhD, Executive MBA, MBA, and senior undergraduate levels, as well as to corporate executives. Dr. Pandes holds a Ph.D. in Finance from the Schulich School of Business at York University, a Master's in Economics from York University, and a Bachelor of Commerce from the University of Toronto.

Dr. Pandes' research focuses primarily on issues in empirical corporate finance, entrepreneurial finance, and law and finance, with specific interests in securities offerings, investment banking, and financing decisions. He has presented his research at top international Finance conferences, at various universities internationally, and at the U.S. Securities and Exchange Commission and the Bank of Canada.

Dr. Pandes has also been awarded research grants from the Social Sciences and Humanities Research Council (SSHRC), the Canadian Securities Institute Research Foundation, and the University of Calgary. His research into the Canadian capital markets has twice won the Bank of Canada best paper award, as well as the 2016 CFA Society Toronto and Hillsdale Canadian Investment Research Award.

Dr. Pandes' research has been cited in the press, and he frequently provides financial and economic insights to various media outlets.

TESTIMONIAL

It has been a great honour to receive funding from the Canadian Securities Institute Research Foun-dation. The funding has allowed me to conduct research that I otherwise would not have had the resources to complete. In particular, my research agenda focused largely on Canadian data, which is often not readily available and requires extensive hand-collection. The research funds through the CSI Foundation have allowed me to work with research assistants and create the databases neces-sary for my research. During this process, the research assistants (who are students) also learned a great deal about the research process. The fruits of the Foundation's support are already evident, as one of the papers that came out of my research agenda won the 2016 CFA Society Toronto and Hillsdale Canadian Investment Research Award, and was recently published in the *Journal of Small Business Management*. The Foundation's support will truly provide an impact in addressing access to capital issues in the Canadian capital markets, while also contributing to the academic literature.

Stale performance chasing in mutual funds

Investors have access to a wealth of information when selecting a mutual fund. For example, they can draw on analyst reports, manager commentary or the recommendation of a broker. Fund characteristics, including fund size, age, manager reputation and most importantly, past performance, also play a significant role in the selection process. One of the most persistent and robust patterns documented in the mutual fund literature is return-chasing by investors. The disproportional allocation of wealth to funds with superior performance in prior periods transcends mutual fund asset classes, country boundaries, and investment objectives. Given the limited evidence of persistence in mutual fund performance, this trend is largely described in the popular press as irrational. For example, on the heels of the 1999 bull market, concerns regarding the potentially detrimental impacts of return-chasing led the Securities and Exchange Commission (SEC) Chairman, Arthur Levitt, to caution investors against this practice, stating "Chasing fund performance is often the quickest way to hurt your mutual fund returns".

"...OUR ANALYSIS SUGGESTS THAT THE MANNER IN WHICH PAST PERFORMANCE IS CALCULATED AND REPORTED PLAYS A CRITICAL ROLE IN THE FUND SELECTION PROCESS."

The past performance of mutual funds is reported in the form of a holding period return (HPR) over the 1, 3, 5 and 10 year horizons. An improvement in a HPR can come about in one of two ways. The first is strong performance in the most recent period; the second is when weak performance drops from the horizon. For example, a return of -5% dropping from the one year horizon will improve reported performance as long as the most recent return was not worse. If investors have access to the entire time series of fund returns, the change in the HPR can easily be decomposed into new and end-return effects. However, if investors fail to understand the nuances of how reported performance is calculated, they may be misled by horizon effects on fund returns.

Analyzing investor allocations, we find that investors appear unable to differentiate between the new and stale information components of performance reported by mutual funds. It is well understood that investors "chase" past performance, allocating disproportional wealth to funds with strong recent performance. Our results suggest that investors react with equal vigor to the stale information component of HPRs. In other words, investors direct disproportionate flows to funds which realize improved HPRs due to end-returns dropping from the horizon of HPR calculations. Mutual funds appear to exploit investor naivety and their sensitivity to horizon effects on reported performance via two channels. First, mutual fund managers preferentially advertise end-return related improvements in reported performance. This behaviour is perhaps not surprising. Improvements in reported performance due to poor performance dropping from the horizon of assessment are likely easier to predict than improvements due to immediate performance. Hence, funds are better able to systematically plan advertising campaigns around stale performance related improvements in HPRs than recent performance improvements. Second, mutual fund managers also align fee increases with periods of artificially heighted fund demand resulting from end-return related increases in performance, harming existing investors who pay higher fees for the same fund and potentially leaving new investors worse off.

BLAKE PHILLIPS

BIOGRAPHY

DR. BLAKE PHILLIPS is an Associate Professor at the School of Accounting and Finance at the University of Waterloo. He completed Doctor of Philosophy (Finance), Master of Business Administration and Master of Forestry degrees at the University of Alberta. His research focuses on investor and manager behaviour and the asset pricing implications of this joint behaviour. Dr. Phillips has published research in the *Review of Asset Pricing Studies*, the *Critical Finance Review* and the *Journal of Banking and Finance*.

TESTIMONIAL

I received funding from the CSI Research Foundation while completing my Ph.D. at the University of Alberta. The funding allowed me to focus my time on research as opposed to working to cover financial obligations. The gift of time to a Ph.D. student is truly invaluable. The grant kick started my research in the area of mutual funds and played a critical role in allowing me to develop my current research agenda. I am very grateful for the financial support of the CSIRF.

Overall, our analysis suggests that the manner in which past performance is calculated and reported plays a critical role in the fund selection process. Our research provides new evidence on how and when mutual funds use uninformative information (i.e. stale performance signals) to persuade investors that they are high-performance or quality funds. It has been argued that performance advertising by mutual funds is inherently and materially misleading, violates federal securities antifraud standards, and takes advantage of naïve investors. Our results are broadly consistent with mutual fund performance advertising misleading investors who do not appear to appreciate the influence of horizons on reported fund performance.

Finally, our results may offer an economic mechanism to explain the horizon effects found in the asset pricing literature. It is well known in that literature that high stock returns in a month tend to forecast high stock returns 12-, 24-, and 36-months ahead. These effects may be related to investor reactions to reported performance at those horizons.

The discussed results were published in the paper "Past performance may be an illusion: Performance, flows, and fees in mutual funds" in the *Critical Finance Review*, 2016 Vol 5-2. Co-authored with Kuntara Pukthuanthong, University of Missouri and Raghu Rau, University of Cambridge.

"Social" Issues and Reverse Break-up Fees in M&A

The default arrangement in M&A is often for the acquiring executives and board, operating from the acquirer's headquarters, to assume control of the target's assets, which are managed under the acquirer's name. In many transactions, however, this arrangement is also brought to the negotiating table, with the issues of who is going to be the CEO, who will be on the board, what the company will be called, and where the headquarters will be located, all being subject to negotiation. In many transactions, the first items discussed during negotiations are not financial matters but are, in fact, these non-financial issues which are often referred to as ``social'' issues. Transactions have reportedly collapsed altogether when the acquirer has failed to give in to the target on social issues. Furthermore, premiums received by targets' shareholders are in turn said to have been sacrificed by the targets' managers in exchange for securing such terms.

In one of my recent papers, I examine social issues in M&A and find that they are explicitly addressed in the deal terms of about 30% of transactions and are not just restricted to "mergers of equals". One insight of my paper is that social issues are detrimental for shareholders of takeover targets, who receive premiums that are up to 10 percentage points lower in deals with terms addressing social issues than other similar deals. The discount that acquirers apply to the purchase price is greatest when targets' executives are to occupy top-management positions in the combined company. While a discounted purchase price may directly benefit an acquirer, it turns out that acquirers also do not do very well in such deals either. Social issues are associated with less favourable market reactions for acquirers around the merger announcements and poorer operating performance in the three years following a merger. Therefore, while social issues may be of interest to transacting parties, my findings suggest that they impede the value creation in M&A.

"IN MANY TRANSACTIONS, THE FIRST ITEMS DISCUSSED DURING NEGOTIATIONS ARE NOT FINANCIAL MATTERS BUT ARE, IN FACT, THESE NON-FINANCIAL ISSUES WHICH ARE OFTEN REFERRED TO AS "SOCIAL" ISSUES."

In most M&A deals, an acquirer that signs a merger agreement is generally obliged to meet the closing conditions of the transaction, barring extenuating circumstances such as a material adverse change or event involving the target. It is, however, increasingly common for some deals to include a provision giving acquirers the option to walk away under some circumstances, at the cost of paying a "reverse break-up fee" to the target. Furthermore, in deals subject to regulatory concerns, it is common for the acquirer to commit to pay a reverse break-up fee should a regulator veto the deal.

In another recent co-authored study, we build on the conjecture that reverse break-up fee provisions effectively create a real option for buyers to determine when they are desirable to have and what an appropriate fee should be. Essentially, such provisions are more desirable when the value created by a deal is subject to more risk, and when the deal is expected to take longer to complete, and consequently, reverse break-up fees should be larger in such circumstances.

AAZAM VIRANI

BIOGRAPHY

AAZAM VIRANI is an Assistant Professor of Finance at the Eller College of Management at the University of Arizona where he teaches an undergraduate Finance course and recently received the Scrivner Teaching Award for the 2015-2016 year. He completed his doctoral studies at the University of Toronto where he began to pursue his research interests in M&A and Corporate Governance and also co-authored a case study on syndicated investment in infrastructure by pension funds. His research has featured at renowned academic conferences and has been cited in media outlets such as *the Globe and Mail* and *the Financial Post*.

TESTIMONIAL

I am deeply honoured and very grateful to the CSIRF for having been awarded the Ph.D. scholarship in 2013 while I was a doctoral student at the University of Toronto. I received the award at a critical time during my studies and it provided a tipping point for several preliminary projects I was working on at the time that subsequently constituted my dissertation. In particular, the financial support from CSI enabled me to attend several academic conferences that helped me further my research and increase its visibility, to obtain data, and to continue to pursue my research agenda uninterrupted.

Our findings suggest that it is more appropriate for acquirers to bear regulatory risk and pay reverse break-up fees when a deal fails to receive regulatory approval, rather than having the regulatory risk shared by both parties. While it is common practice for reverse break-up fees to be equal to the fees that targets pay if they walk away (known as a "break-up fee"), our findings indicate that reverse break-up fees should be priced independently from break-up fees. In fact, we find that reverse break-up provisions can benefit *both* acquirers and targets, provided that the reverse break-up fees are priced appropriately.

Monetary Policy and Shadow Bank Money Creation

Economists have traditionally focused on the role of commercial banks in the transmission of monetary policy. Over the past thirty years, however, a group of non-bank financial intermediaries, collectively known as the shadow banking system, have become increasingly important in the economy. Similar to commercial banks, shadow banks transform long-term illiquid assets into short-term, money-like liabilities, but they operate without deposit insurance and regulatory oversight. The amount of shadow bank money has grown rapidly over the past three decades. In the 2008-09 financial crisis, shadow bank money became a major source of systemic risk. In contrast to its importance, we still know little about how the shadow banking system works.

"I STUDY THE IMPACT OF MONETARY POLICY ON SHADOW BANK MONEY CREATION."

I study the impact of monetary policy on shadow bank money creation. Unlike commercial banks that combine money creation and loan origination under one roof, the shadow banking system breaks down the intermediation process into multiple steps. Each step is conducted by one type of specialized shadow bank. Money market funds (MMFs) stand in the first step of shadow banking intermediation process: they create money-like deposits for households and businesses, and then pass the proceeds to other shadow banks that specialize in loan origination. In this paper, I focus on MMFs because their liabilities consist of the dominant part of shadow bank money in the official money supply statistics.

Using the U.S. money supply data over the past thirty years, I first document a new transmission channel of monetary policy in the shadow banking system. Contrary to the conventional wisdom that high interest rates reduce money supply, I find that shadow banks create more money-like liabilities when the Federal Reserve increases interest rates. This "shadow money channel" partially offsets the reduction of money creation by commercial banks and attenuates the impact of monetary tightening. Given that the two types of banks are engaging in similar liquidity transformation businesses, it is surprising to see such different responses to monetary policy.

To understand the underlying mechanism, I develop a structural model of bank competition following the industrial organization literature on oligopoly markets.[1] I show that this channel is a result of deposit competition between commercial and shadow banks in a market with heterogeneous depositors. In the model, commercial and shadow banks provide differentiated depository services to a group of heterogeneous depositors. Commercial banks mainly attract depositors who value transaction convenience. Shadow banks, however, mainly attract depositors who are very sensitive to yields. Depending on their depositor clientele, commercial and shadow banks strategically set their deposit rates to maximize profits. When the Fed Funds rates are low, both types of banks offer similar rates. This is because commercial banks cannot offer rates much lower than zero given the competition from cash while shadow banks cannot offer rates much higher than zero given the low returns on assets. However, when the Fed raises interest rates, deposit rates of the two banking sectors start to diverge. Commercial banks keep paying low deposit rates because their main clientele, the transaction-oriented depositors, are attached to their transaction services. In contrast, shadow banks raise deposit rates to keep their yield-sensitive depositors from switching to bonds. As a result, monetary tightening widens the spread between shadow and commercial bank deposit rates, inducing some of the depositors from commercial banks switch to shadow banks. This gives rise to the shadow money channel in which shadow bank deposits expand when the Fed tightens monetary policy.

KAIRONG XIAO

BIOGRAPHY

KAIRONG XIAO is a PhD student in finance at the Sauder School of Business, University of British Columbia. His research interests are in banking, financial regulation, and political economy. In particular, he studied how monetary policy affects a group of unregulated financial intermediaries, collectively known as the shadow banks. He has studied whether post-crisis financial regulations such as the Dodd-Frank Act and Basel III have caused liquidity depletion in the U.S. fixed income markets. Mr. Xiao has presented his work at a variety of prestigious academic conferences and institutions around the world, such as the SEC Third Annual Conference on Financial Market Regulation, the Financial Conduct Authority at UK, the Financial Intermediation Research Society Conference, China International Conference in Finance, Northern Financial Association and Financial Management Association annual meetings.

TESTIMONIAL

I received the PhD Scholarship from the Canadian Securities Institute Research Foundation in the fifth year of my PhD study. This scholarship provided me valuable financial resources for me to complete my study, and allowed me to present my work in various academic conferences. During the award tenure, I made great progress on my dissertation. I am very honoured to become an awardee of this prestige scholarship.

To access the quantitative importance of this channel, I estimate the model using institutional level data of U.S. commercial banks and MMFs. The estimation result shows that depositors exhibit significant dispersion in their sensitivity to deposit spreads, and this heterogeneity can quantitatively explain the difference in both prices and quantities of deposits of the two banking sectors.

I further use the structural model to conduct a set of counterfactual analyses. Comparing the actual economy with a counterfactual economy with no MMFs, I find that depositors gain on average 50 billion dollars per year because shadow banks reduce the market power of commercial banks. At the same time, the presence of the shadow banking sector reduces the impact of monetary policy on money supply by 40%.

This finding has important implications for macro-prudential policies. In recent years, many argue that central banks should use monetary tightening as a tool to promote financial stability because monetary tightening can reduce money creation by the banking system which is a key source of financial vulnerability. My findings show that this policy may back-fire because monetary tightening unintentionally drives deposits into the unregulated shadow banking sector, which may create more systemic risk.

[1] Berry (1994), Berry, Levinsohn and Pakes (1995) and Nevo (2001).

Do shareholder excess control rights benefit creditors?

Modern corporate governance centers around the issues associated with the separation of ownership and control. In recent years, an extreme form of such separation occurs in firms that issue multiple classes of shares. Such firms, often called dual-class firms, typically have a superior class of shares held by corporate insiders that give them more voting power per share than shares held by public investors. This allows insiders to retain absolute control of a firm, essentially shutting public investors out of corporate governance. Researchers have uncovered various agency problems associated with a dual-class share structure. And overall, such ownership structure destroys shareholder value. In light of this, it is perhaps surprising that about 15% of companies listed on the Toronto Stock Exchange still have dual-class shares, including some of largest players such as Rogers, Shaw, and Bombardier. Are dual-class firms really that bad?

Not if we shift the perspective from shareholders to creditors.

In my recent paper, I use a large sample of dual-class firms from the U.S. to examine the effect of the dual-class share structure on creditors. I find that, in contrast to the negative effect documented on minority shareholders, dual-class share structures actually benefit creditors. Compared to similar single-class firms, dual-class firms have lower business and financial risk, and they are less likely to default or violate debt covenants. Dual-class firms also enjoy lower interest rates on their loans. These results are robust under a variety of empirical tests, including a difference-in-differences analysis on firms that unified their dual-class shares into a single-class.

> "RESEARCHERS HAVE UNCOVERED VARIOUS AGENCY PROBLEMS ASSOCIATED WITH A DUAL-CLASS SHARE STRUCTURE. AND OVERALL, SUCH OWNERSHIP STRUCTURE DESTROYS SHAREHOLDER VALUE."

Why can an ownership structure that hurts shareholders benefit creditors? This originates from the different payoff structures faced by shareholders and creditors. When a firm goes under, shareholders can resort to limited liability and walk away, leaving creditors holding the bag and incurring the loss of missed debt payments. When a firm prospers, shareholders reap all the benefits, while creditors are still paid the same amount they were promised. Shareholders therefore care about the upside of the firm and benefit from risk-taking. In contrast, creditors are wary of the downside of the firm and are averse to any risk that could jeopardize the survival of the borrower.

In dual-class firms, insiders typically derive private benefits from controlling their firm. They therefore value the firm's long-term survival. If a firm defaults or goes bankrupt, control will be transferred to creditors, ending the stream of future private benefits to insiders. This gives dual-class firm insiders incentives to minimize risk-taking to avoid losing control. Further, by holding superior voting shares, insiders have much lower cash flow rights in the firm than their voting share. This limits their exposure to the value loss associated with risk avoidance. Therefore, a dual-class share structure aligns the incentives of insiders with those of creditors.

TING XU

BIOGRAPHY

TING XU is a PhD candidate in finance at the Sauder School of Business, University of British Columbia. He received his B.A. in finance from Renmin University (China) and his M.Sc. in economics from the Hong Kong University of Science and Technology. At UBC, Xu has taught Corporate Finance at the undergraduate level, and has served as teaching assistants for Mergers and Acquisitions, Ventures Capital, and Investment Theory. Xu' academic interests straddle corporate governance and entrepreneurial finance. His research has explored the governance of closely-held firms, boardroom diversity, corporate innovation, crowdfunding, and entrepreneurial experimentation. His research has been presented at major conferences such as the American Finance Association Meetings, Western Finance Associations Meetings, and National Bureau of Economic Research Meetings, and has been published at the *Review of Financial Studies*. He is the recipient of the Robert Bertram Doctoral Research Award from the Canadian Foundation for Governance Research.

TESTIMONIAL

I am very honored to be a two-time recipient of the Canadian Securities Institute Research Foundation PhD Scholarship. This scholarship has benefited me tremendously by reliving my financial constraint and letting me focus on my research. In addition, the funding provided me with means to present my research at several major conferences and to purchase the datasets I need. I definitely recommend this scholarship opportunity to all Canadian PhD students in finance and economics.

What does this mean for practitioners? First, dual-class firms may not be as bad as they are believed to be. Much of the focus in corporate governance has been on shareholders. Yet with other stakeholders playing increasing important roles in modern companies, we need to broaden our perspective to take these stakeholders into account. A majority of firms in the world are financed by creditors. In an economy where debt financing dominates equity, dual-class share structures may bring net benefits. Second, for investors and asset managers who are wary of dual-class firms, my paper provides a novel investment strategy that can hedge their investment risk: investing in the equity and debt of these firms simultaneously. ■

Oil and equity index return predictability: The importance of dissecting oil price changes

As the modern global economy heavily depends on oil, the price of oil is widely thought to affect global real economic activity and consequently the global equity market. The impact of oil price fluctuations on equity markets has been of great interest to finance academics and practitioners alike. In recent research (co-authored with Georgios Skoulakis at University of British Columbia and Jinming Xue at University of Maryland), we study the impact of oil price fluctuations on international equity returns.

An oil price drop has been considered in the past to be good news as it lowers the cost of production in a significant number of sectors and allows consumers to boost their consumption. Accordingly, one could conjecture that negative (positive) oil price changes should predict higher (lower) subsequent equity returns. Prior studies document that this is indeed the case for a large number of MSCI equity indexes based on data until the mid-2000s. However, this predictive relationship has dramatically changed over the last ten years. We demonstrate that the ability of oil price change to forecast future equity returns has diminished over the sample period extending to 2015. Furthermore, using the formal structural break tests, we detect a structural break in the predictive relationship in the third quarter of 2008 for most of the G7 country MSCI index returns. This structural change is striking and begs an explanation.

We argue that information contained in oil price changes is useful once it is suitably complemented with relevant information about oil supply and global economic activity. The key observation is that oil price changes are driven by various supply and demand shocks that fundamentally play different roles. Using the structural VAR approach and real-time available information, we obtain an oil price change decomposition into an oil supply shock, a global demand shock, and an oil-specific demand shock.

We illustrate the ability of these three shocks to predict G7 MSCI index returns, denominated in both local currency and US dollars. In particular, the conjecture that oil supply shocks and oil-specific demand shocks (global demand shocks) predict equity returns with a negative (positive) slope is supported by the empirical evidence over the 1986-2015 period. Moreover, we detect no structural breaks in the predictive relationship between the three aforementioned shocks and G7 country MSCI equity index returns.

"WE ARGUE THAT INFORMATION CONTAINED IN OIL PRICE CHANGES IS USEFUL ONCE IT IS SUITABLY COMPLEMENTED WITH RELEVANT INFORMATION ABOUT OIL SUPPLY AND GLOBAL ECONOMIC ACTIVITY."

We also demonstrate the advantage of using the oil price decomposition instead of just the oil price change, in economic terms, by the substantial and statistically significant improvements in the performance of simple mean-variance trading strategies. Specifically, for the case of the MSCI World index, the certainty equivalent return and Sharpe ratio increase from 3.88% to 7.90% and from 0.30 to 0.56, respectively, with the differences being statistically significant. Last, these results survive in the presence of traditional macroeconomic predictors for the case of the US and, in general, do not appear to be consistent with time-varying risk premia.

HAIBO JIANG

BIOGRAPHY

DR. HAIBO JIANG is a Visiting Assistant Professor in Finance at A.B. Freeman School of Business, Tulane University. He received his Ph.D. in Finance at University of British Columbia. His research interests are in asset pricing, macro finance, and energy and commodity markets. He studied how oil price fluctuations affect inflation, bond, and stock returns. In one of his research papers, he provides novel empirical evidence that the price of oil is a significant macro variable for explaining returns on Treasury bonds and inflation swaps, and theoretical analysis that oil supply and demand shocks have an opposite impact on bond yields and expected inflation. His research has been funded also by the Social Sciences and Humanities Research Council of Canada (SSHRC). He presented his papers at several academic conferences, such as the Northern Finance Association annual meetings, and was invited to participate in the NBER and IMF meetings on oil market changes and monetary policy. He teaches investments and risk management courses at Tulane University.

TESTIMONIAL

As a recipient of the CSIRF Ph.D. Scholarship, I am motivated to conduct original research on studying the impact of oil price fluctuations on inflation and asset returns, which is very relevant to the energy sector, monetary policy, and financial markets in Canada. In addition, the CSIRF scholarship allowed me to focus my time on research and the job market, without spending too much time on teaching and research assistance in the last year of my Ph.D. program. I am very grateful to CSIRF for the generous support.

Overall, we offer an explanation for the dramatic reduction in the predictive ability of oil price changes over the last ten years and emphasize the importance of dissecting oil price changes. Our research may be of interest to market participants who wish to use the real-time information embedded in oil price changes and captured by the three aforementioned shocks in order to predict subsequent equity index returns.

Canadian Securities Institute

RESEARCH FOUNDATION JOURNAL VOLUME II