Eleventh Annual Honors Conference

Friday - April 25, 2014
Bentley University Honors Program Welcomes Corporate Partner United Technologies Corporation

United Technologies Corporation (UTC), a global leader in high technology products for the building and aerospace industries, has committed $250,000 to sponsor Bentley University’s Honors Program. The partnership supports the university’s talent investment strategy which leverages a combination of career services, faculty, and corporate partnerships to develop student talent.

UTC will launch its relationship with the students from the time they begin the Honors Program in the fall of their freshmen year and through to their job search and graduation. The partnership will:

- Encourage students to pursue especially complex or long duration research projects and to begin research earlier in their academic cycle on in-depth and technical topics by offering UTC Honors Research Fellowships.

- Provide small awards to support general student research, conference presentations, and travel.

- Support more social events, and cultural activities that supplement course work, including travel to Boston and other cities to attend concerts, lectures, theater and museums.

- Support the annual Honors Conference where students present their capstone projects to faculty, senior academic leaders, distinguished guests, and family.

- Support the Honors Welcome Dinner where incoming freshmen honors students, upper-class honors students, faculty, and administrators hear from UTC senior executives and network with UTC professionals.

UTC has a long-standing relationship with Bentley University, with nearly 100 alumni in its ranks and several alumni and parents holding senior-level positions. Its prestigious Financial Leadership Program (FLP) recruits on campus each year resulting in seven Bentley graduates from the Class of 2014 entering the FLP this year. Bentley also places its graduates into UTC’s Information Technology Leadership Program. This new partnership places Bentley’s Honors Program students at the front of UTC’s search for top talent for internships and careers at a global technology leader.

Thanks to UTC for supporting academic excellence at Bentley, and making the Honors Conference a success!
Bentley University Undergraduate Honors Program

Eleventh Annual Honors Conference

Friday - April 25, 2014
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Honors Conference Schedule, April 25, 2014

Schedule of Events:

Session I 1:00 — 2:45 pm  Adamian 141, 143, 260, 262, 360, 362 Lindsay 25, 27
Break 2:45 — 3:00 pm  Adamian Lobby
Session II 3:00 — 4:45 pm  Adamian 141, 143, 260, 262, 360, 362 Lindsay 27

Session I 1:00 — 2:45 pm

Room: Adamian 141  Moderator: Professor Aaron L. Jackson
Ross Denkin  Martin Scorsese Through the Decades: An Analysis of Partnerships and Prediction of Future Success
  Advisor: Professor Jennifer Gillan

Sean Harrington  Seeing Gray in the City of Colors: An Economic Assessment of Crime in the Favelas of Rio de Janeiro
  Advisor: Professor Bryan Snyder

Cato Chung  Sustainability of the Electronic Sports Industry: A financial Assessment of North American Cyberathletics
  Advisor: Professor Randall J. Nichols

Tamzin Ellerbeck  Big Data and Health Insurance Industry
  Advisor: Professor M. Lynne Markus

Laura Hansen  Fourth Generation Nuclear Power: How to Make Low Carbon Energy a Feasible Solution for the International Community
  Advisor: Professor P. Thompson Davis
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<td>Room: Adamian 143</td>
<td>Moderator: Professor Gregory Hall</td>
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<tr>
<td>Brian Benedetto</td>
<td>Mathematical Stock Price Models</td>
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<td>Advisor: Professor Lucia Kimball</td>
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<td>Scott Rau</td>
<td>Researching “Cannabis in The Commonwealth”: Documenting the Process and Preliminary Findings of a Qualitative Study</td>
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<td>Brendan Jacques</td>
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<td>The King in the Carpark: The Distorted Reputation of King Richard III</td>
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Session I
Room: Adamian 260

1:00 — 2:45 pm

Moderator: Professor Michel Quinn

Kunaal Lachmandas
The Natural Resource Curse: A Comparative Study Between Singapore and Jamaica
Advisor: Professor Michael Quinn

Marian Linke
Nuclear Power: Public Opinion and the Solution of Dry Cask Storage
Advisor: Professor P. Thompson Davis

Julie Wu
Trend Analysis of Financial Statement Fraud by Listed Companies on the Stock Exchange
Advisor: Professor Charles Malgwi

Jessica Jacovino
Marketing to Millennials
Advisor: Professor James Pouliopoulos

Jennifer Bowley
Gymnastics Ethnography: An Exploration into the Culture of Gymnastics from an Autobiographical Standpoint
Advisor: Professor Gary David

Courtney McKinney
The Economics of Happiness: A Cross-Country Analysis of the Influence of Income on Life Satisfaction
Advisor: Michael Quinn
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Room: Adamian 262

Moderator: Dean Jane Ellis

Aaron Pinet

Quantifying the Economic Effects of Energy Literacy

Advisor: Professor David Szymanski

Kenneth Ukaigwe

Ethical Surcharge: The Ethical Coefficient

Advisor: Professor Michael Frank

Rachael Dempsey

Customer Experience in the ‘Age of the Customer’

Advisor: Professor Mark Davis

Colin Adamson

Risk vs. Return: A Portfolio Management Approach to Fantasy Football

Advisor: Professor Claude Cicchetti

Joseph Miller

Take Me Out to the Ball Game: A look at the Determinants of Attendance and Ticket Prices in Major League Baseball

Advisor: Professor Dhaval Dave

Nicole Supple

Medicare Part D: Effects on Prescription Drug Utilization and Health Conditions for the Elderly

Advisor: Professor Dhaval Dave
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| **Taylor Gardner** | Employing Adults with Learning Disabilities: A Focus on Autism and the Workplace  
**Advisor:** Professor Anthony Buono |
| **Lindsey Murphy** | A Character's Right to Copyright  
**Advisor:** Professor Michael Frank |
| **Juliet DiLillo** | Are the People in Welfare States Happier Than Those in Capitalist States? A Comparison of Life Satisfaction in the United States versus Denmark  
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Room: Lindsay 27

Moderator: Professor Phillip Uhlmann

Justin Ondrof
Mozambique: A Five Year Policy Plan
Advisor: Professor Phillip Uhlmann

Matthew Rose
The Makings of a Good Enough Professor
Advisor: Professor Aaron Nurick

Steve Nguyen Bao Ngoc
The Case of the Missing Rhinoceros Horns
Advisor: Professor Bridie Andrews

Conor Peal
Intellectual Property & the Pharmaceutical Industry: An Ethical Analysis
Advisor: Professor Michael Frank

Samuel Warren
Smart People Make Mistakes Too—A Game Theoretic Analysis of Preferred Final Jeopardy Wagers
Advisor: Professor David Carhart

Zack Hoffmann
“The Civic Duty”
Advisor: Professor Gerry Speca
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Room: Adamian 143

3:00 — 4:45 pm

Moderator: Professor Gregory Hall

John Lurvey
Big Data and Sports
Advisor: Professor M. Lynne Markus

Rikhil Parsram
The Psychological Factors that Influence Financial Decision Making
Advisor: Professor Gregory Hall

Hussein Hasan
The Future of the Social Networking Industry and How Entrepreneurs Will Get Us There
Advisor: Professor Fred Tuffile

Lacey Nemergut
Millions From Millennials?
Advisor: Professor Linda McJannet

Jojo Chan
Fashion Copyright Law
Advisor: Professor Michael Frank
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Room: Adamian 260

Moderator: Professor Michael Quinn

Clara Campbell
The Economic Mechanisms Triggering Terrorism
Advisor: Professor Michael Quinn

Matthew O'Connell
Why Are Generic Drugs Being Held Up In-Transit? The Effect of Intellectual Property Enforcement on Developing Nations
Advisor: Professor Michael Frank

Samantha St. George
The Development of Multiple Dimensions of Identity
Advisor: Professor George F. Thompson

Shannon Chambers
The Medium Becomes The Message: How Diversity in Modern Television Can Lead Society Toward Acceptance
Advisor: Professor Jennifer Gillan

Emelia Misovic
Just Because We Live in the City Does Not Mean That We Cannot Grow Food in Our Backyards
Advisor: Professor P. Thompson Davis

Kyle Kelleher
Economic Determinants of Home Prices at the State Level
Advisor: Professor Dhaval Dave
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Room: Adamian 360

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Moderator: Professor Charles Hadlock

Glen Shaw
Advisor: Professor P. Thompson Davis

Chrysanths Nicholas
Debt Overhang in Sub-Saharan Africa: a Post HIPC Initiative Analysis
Advisor: Professor Dhaval Dave

Peter Belanger
Bitcoin: Looking Past an Unstable History Towards a Promising Future
Advisor: Professor Lynne Markus

Krystin Pashby
How Twin Studies Play a Role in the Nature v. Nurture Debate
Advisor: Professor Aaron Nurick

Jennifer Pashby
Not in My Backyard: The Paradox of Voter Support for Casino Location Decisions in Massachusetts
Advisor: Professor Bryan Snyder

Sanjay Raha
Desertec: A Financial Analysis of Powering the World with the Saharan Sun
Advisor: Professor P. Thompson Davis
Session II

Room: Adamian 362

Brian Shea

Sharing is Caring: How Leveraging Relationships with Former Employees Can Give Organizations a Strategic Advantage

Advisor: Professor Michael Frank

Sarah Holt

The American Fashion Industry Needs a Makeover: The Introduction of a Dual Intellectual Property System in the United States

Advisor: Professor Michael Frank

Tomas Allen

Should Small American Software Companies Actively Pursue Patent Protections?

Advisor: Professor Michael Frank

Maggie Russo

Fashion Forward Thinking

Advisor: Professor Michael Frank

Daniel Guadagnoli


Advisor: Professor P. Thompson Davis
Session II

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Room: Lindsay 27

Moderator: Professor Phillip Uhlmann

Anastasia St. Hilaire
Our Neighbor to the North: How Canada Survived the Economic Recession
Advisor: Professor Bryan Snyder

Alena Korsunskaya
Big Data and Health Care
Advisor: Professor M. Lynne Markus

Lucia Soledad Garcia
Are Forests Worth More Alive Than Dead?
Advisor: Professor Dave H. Carhart

Rachel Barberio
Influencing Her Way to the Top: Narrowing the Gender Gap by Overcoming Women’s Stereotypes in the Workplace
Advisor: Professor Joseph Byrnes

Leonidas Kontoes
The Effects of Climate Change on Northeast Ski Resorts: A Operational and Financial Perspective
Advisor: Professor P. Thompson Davis

Rachel Hepler
The Effect of Casinos on Regional Crime and Economics
Advisor: Professor Jeffrey Livingston
Session I

1:00 — 2:45pm

Room: Adamian 141

Moderator: Professor Aaron L. Jackson
In my spare time I enjoy watching movies, especially those with certain actors and actresses. As Leonardo DiCaprio is an actor whose work I particularly appreciate, I have wondered why he has not won major awards. This lack of success, especially at the Academy Awards, has been well covered by the media, and commentators often draw comparisons to other actors around that time of year. As a result, I decided to investigate reasons why an Academy Award still eludes DiCaprio.

My investigation centered on a comparison and contrast between the partnership of DiCaprio and famed director Martin Scorsese and the partnership of Robert De Niro and Scorsese. The De Niro-Scorsese partnership garnered more critical acclaim and resulted in more individual awards for the actor than the DiCaprio-Scorsese partnership has.

Using my findings, I was able to narrow down the Academy Award snubs to a list of potential causes. First, DiCaprio plays slightly different roles in his films directed by Scorsese than does De Niro. Secondly, the themes and plots of modern “quality television” programs have created competition for films, which means that the types of films for which Scorsese is famous no longer have the same level of appeal through differentiation. Finally, Scorsese chooses to end his films now in a more stereotypical “Hollywood” fashion, whereas when working with De Niro, his films offered more realistic, subdued conclusions.

These findings have several implications. First, they suggest that Leonardo DiCaprio has a multitude of factors about his work that can be fixed if he wishes to win an Academy Award. Additionally, the blame should not be blamed all on DiCaprio; there is a possibility he is simply a victim of the times. Of course, the biggest factor in the awards chances for DiCaprio may be that there is a limited amount of time for DiCaprio to collaborate with Scorsese since Scorsese is now 71. If they were to make another film together, it would need to happen in the near future.
Sean M. Harrington

Advisor: Professor Bryan Snyder, Department of Economics

Seeing Gray in the City of Colors: An Economic Assessment of Crime in the Favelas of Rio de Janeiro

It was a cold, rainy, fall day in the city of Rio de Janeiro. Our rickety taxi cab was crawling its way along the crowded streets of Rocinha, the most populous favela in the region. The sights, smells, and sounds of the neighborhood were richly Brazilian: all vibrant, stimulating, and bold—even through the pelting rain. However, mere minutes passed before we encountered a sobering image: two policemen, armed as if about to go to war, standing side by side in the pounding rain. There was an imposing air about the men, a gravity—one that was surely not ignored by any passerby. These men were placed here by the city to counter Rio de Janeiro’s tragic hamartia: its devastatingly high crime rate. As I stared at the policemen—stoic and dutiful through the literal downpour of stimulants around them—I began to think: why are the circumstance which have led these men to their station here in Rocinha? Are they, militant guards, the only options for Rio in its fight against crime? Isn’t there anything else that can be done? My Honors Capstone Project attempts to answer these exact questions—using principles of the economics of crime.

This study, as it relates to the city of Rio de Janeiro, aims to provide a comprehensive assessment of the economics of crime by assessing motivations on both the criminal and victim sides of the equation. In doing so, I wish to use economic theories relating to the study of crime, empirical evidence as it relates to Rio, as well as considerations of practical, behavioral expectations. First, this study describes the construct of the favela using principles of urban economics in order to lay a theoretical groundwork. Next, I outline why crime is particular problem in Rio, followed by a assessment of the theories of crime economics as they relate to the criminal side of the equation. Then, we move into a discussion of Rio’s modes of crime prevention, in the context of theoretical and practical efficacy. Following this we transition to victim-side economics, including a discussion of pertinent theories and applications to Rio. My research for this project has been achieved through consulting a litany of resources. These include public data, published works, and theses on the economics and sociology of crime and urbanization. In aiming to avoid intellectual biases, I have consulted many different types of media and authors in my research.

Concluding, I have discovered that from an economics perspective the city of Rio has not been theoretically efficient in its allocation of scarce, “crime-fighting” resources. While its current pacification initiative has seen moderate success, the city has other options at its disposal. Said options may have fewer negative consequences in the future.
Electronic sports, an industry also known as eSports, cybersports, or professional video gaming, has been popular in East Asia for over a decade among the male teenage and young adult demographic. In the last few years, the industry has expanded to the Western world, but only limited amounts of data has been made publicly available about the viability of North American electronic sports organizations and careers. As a result, I investigated whether the financial benefits of working in the electronic sports industry are sustainable in the long term.

I explored the financial earnings and potential earnings of electronic sports organizations and individuals from (1) the use of public data to estimate top and mean earnings of individuals (2) interviewing current industry professionals to find electronic sports starting salaries and (3) survey methodology targeted towards electronic sports spectators to gauge interest and demand to enter the industry.

The 14-question survey consisted of asking a targeted sample of electronic sports spectators questions about their financial engagement in electronic sports including (1) Have you ever bought an eSports-related product?, (2) How often do you play video games, watch professional eSports, or watch livestreams?, and (3) If given the opportunity to do so, what is the minimum annual income you would need to work in electronic sports?

Using this data, I was able to compare the demand of potential entrants to the electronic sports industry with the supply of revenue (income) of individual electronic sports organizations and cyberathletes and found many interesting results. The overall North American electronic sports industry appears to be undergoing exponential growth and top earners currently have the potential to gain 7-figure annual salaries; however, there are low barriers to enter the industry and starting salaries for workers are very low. Additionally, it is difficult to transition from entry-level positions to high cyberathletic job earnings. Industry trends suggest that this may improve in the future, and several questions are raised for future exploration of the topic.
Recently, healthcare reform legislation promises many changes. One of the most influential is the entry of public health insurance. This in turn has led to increased use of technology, one aspect being the fusion of big data with health insurance coverage.

Big data has recently become a business tool in various industries, such as the financial, healthcare or even sports industries. Many people are unaware of how the application of big data is impacting our everyday life. Big data has not always been taken advantage of in the past, but business use of big data suggests that it will be an important part of future health insurance decision-making. Companies are learning to harness the large structured and unstructured data sets, and use this data to make changes to their business practices. This report specifically looks at how the health insurance industry had begun to use big data, the implementations big data has on consumers and other stakeholders, and how the future of the insurance industry could be vastly different from what consumers expect.

To look at the potential impact of big data in more depth, I employed the use of different techniques, such as scenario planning and morphological analysis, to find some of the changes the market, consumers and other stakeholders might see in the future. This let me view the problem from different angles to see how many factors lead to varying results. Some of the concerns include the use of inaccurate data and possible discrimination from the mining of data from sources such as social media and credit card purchase history.

Considering the implications that big data will have on insurance companies is only half of the picture, for many different social groups, organizations, and regulations will be impacted by the increased use of big data in this industry. One of the most influential impacts could be the automation of health insurance coverage policies. This would mean that the decision to give coverage could be automated, rather than individualized coverage that is tailored to the customer which consumers are receiving now.

As the industry becomes more automated, big data-led changes in the insurance industry are going to have a big impact on consumers. I recommend that new regulation is introduce to the health insurance market to regulate how big data that will be used to create health insurance plans is obtained, where it is collected from, how it is used and how companies gain access to this data. The findings suggest that, regulators of the insurance industry take action to monitor the use of big data because of the influential part it will play in the future of this industry.. In addition, consumers will need to be educated by the insurance companies that the information they publicly post could be used to influence their health insurance coverage.
Laura Hansen

Advisor: Professor P. Thompson Davis, Department of Natural and Applied Sciences

"Fourth Generation Nuclear Power: How to Make Low Carbon Energy a Feasible Solution for the International Community"

Nuclear power has been a long-contentious form of electrical power generation across the globe. Potential problems and issues related to terrorist threats, accidents, and the regulation of waste make the expansion of nuclear power a much debated topic. Although many of the fears are based on emotions and lack of knowledge, as history has shown, one accident can result in a major global catastrophe. However, there is a greater threat to the planet due to carbon dioxide emissions from burning coal, oil, and natural gas in electricity-generating plants. The burning of coal produces the dirtiest emissions of all fossil fuels, and regulations for carbon emissions are essentially nonexistent in developing countries, including China, the number one consumer of coal. Consumption of coal has increased by over 15% from 2004 to 2008, and is expected to continue to increase, so alternative energy sources have been intensely explored, including nuclear, wind, hydroelectric, solar, and geothermal.

Research was conducted to understand the future of the nuclear power industry and the feasibility of this source of power for the international community. The anticipated capital costs and plant operating costs for Generation IV Reactors, which are still in the research and development stage, were analyzed to determine if nuclear power is a more feasible and safer solution for electrical power generation than are nuclear reactors already on line. Proper waste management and disposal were included in plant operation costs; whereas expenses related to meeting governmental regulations were included in capital costs.

The findings of this project support the conjecture that nuclear energy is the most feasible alternative source of electrical energy generation for the global community. Nuclear power provides consistent, low-cost, and reliable energy to a greater degree than alternatives. Although there continue to be concerns with safety for nuclear plants and waste disposal, changes to reactors – which will be seen in Generation IV Reactors – should mitigate many of these risks.
Session I

1:00 — 2:45pm

Room: Adamian 143

Moderator: Professor Gregory Hall
For years, mathematicians have been trying to create models that could accurately predict the changes in stock prices over time. While many have tried, there has been much debate on just how accurate these models are. Since I am working with a number of these models in my studies for the Actuarial Exam MFE (Math of Financial Economics), I decided to research these models and test their accuracy using actual stock prices.

The first step in my project was to learn about the different types of stock price models and pick which ones to use. I looked at lots of different models, including the Lognormal Model, the Binomial Model, Monte Carlo Simulation, and Bootstrap Sampling. In the end, I decided to focus my research on the Lognormal Model and Bootstrapping.

For testing purposes, I needed to collect a sample of actual stock prices. I chose to use McDonalds (MCD), JC Penny’s (JCP), and Google (GOOG). I chose these because they are all from different sectors and have different volatilities. In addition, JCP trades under $10, MCD trades around $100, and GOOG trades around $1,100. This gave me a diverse group of stocks, which ensured that I did not get skewed results from one of the models.

After collecting historical data from these stocks, I estimated the parameters that are needed as inputs for my chosen models. I had to estimate the stock’s volatility, the stock’s expected return, and the risk-free interest rate. Using these parameters, I ran the models using the programming language R, a program widely used by statisticians, which allowed me to run the models multiple times to speed up the process while also gaining valuable coding experience by learning a new program.

I then ran the models for MCD for 2013 so I could compare the simulated stock price for the end of 2013 with the actual stock price. For both the Lognormal Model and Bootstrapping, I found that the simulated price was not very close to the actual price. The Lognormal Model was about 7% off and the Bootstrapping Model was about 17% off. I then used these models to predict the stock price of all three stocks at the end of 2014. I ran each model five times for each stock, and took the average as the simulated price.

This study, with the small sample size that I looked at and the models I chose, suggests that accurately modeling stock prices is not an easy task. In the future, I look forward to learning about some of the more advanced models and seeing if they are more accurate and whether or not they will ever be able to predict the seemingly unpredictable stock market.
Scott Rau

Advisor: Professor Timothy Anderson, Department of Sociology

"Researching 'Cannabis in the Commonwealth': Documenting the Process and Preliminary Findings of a Qualitative Study"

The most commonly used quantitative research at Bentley University is a great platform for students to practice as we prepare to enter the working world as young professionals; but it is not the only method of research. A less common method of research is qualitative research. For this project, I documented and analyzed the process used by a qualitative sociological study I was a part of in order to gain a deeper understanding of this alternate technique.

Using the study, “Cannabis in the Commonwealth” and various other theoretical resources, I was able to target and identify the processes used in this specific method of study. Due to the fact that I am a part of the team conducting the study I was able to have firsthand experience and access to not only the information but the thinking behind the process as well. Detailed documentation noting the steps used along the way as well as the progress of the study and the analysis was maintained in order to maximize retention of detail.

Many interesting results were discovered through this study. We found that the dispensary application process outlined by the Massachusetts Department of Public Health (MDPH) was relatively streamlined and transparent. This helped public sentiment toward the implementation. Further, the differences between federal and state regulations are causing more chaos surrounding the changes occurring than almost any other aspect of the process. Overall, I can stipulate that public sentiment is swaying more and more positively toward medical marijuana and I see no significant implications occurring from dispensaries being located within them.

This project, the documentation and analysis on qualitative sociological method study as well as establishing preliminary findings on the study itself, have profound implications. Firstly, as a soon-to-be graduate of Bentley University, I have very little experience in research methods other than qualitative, numerically based exploration. This project enabled me to grow my understanding and further expand my relatively well-rounded education. I hope too that my fellow graduates may read this and also come to realize this alternate method has many merits and an understanding of it is vital to a complete research project. Secondly, the preliminary findings established in this study are completely novel to much of the sociological world. Massachusetts is undergoing this transformation right now and “Cannabis in the Commonwealth” has provided a research light which will hopefully allow many people in Massachusetts to better comprehend the changes happening around them, as well as the various effects this change will have on their communities.
Businesses and individuals alike are trying to make good energy investments wherever they can. This desire means assessing available energy investment alternatives and determining where the best return can be achieved. With the current layout of the solar market, it has become more appealing to consider installation of solar panels. Subsidies are at decent levels and solar panel costs are the lowest that they have been in recent history. The goal of this project is to determine if solar panel installations are a good investment, or can better returns be sought elsewhere.

Through interviews with various businesses that have installed solar panels, individuals who have installed solar panels for residences, and solar panel developers and installers, returns on solar panel investments are evaluated. This study also examines external problems that could affect solar panel investments, including restructuring of the net metering system, increased cost of connecting to the grid, and decreased subsidies. Solar panel investments are also compared against other investment vehicles, such as general stocks.

In addition to the economical outlook of solar panel implementation, the development of the solar industry in the Northeast is examined. This historical overview includes the number of solar panels installed each year, cost of the solar panels through time, and the amount and type of government incentives for solar panel installation. Based on these data, it is possible to assess where the solar industry has been, and forecast where the industry is likely to go in the future.

Research concluded that whether it is for a residential or commercial building, installation of solar panels can yield a positive return over time in the Northeast. However, available subsidies and the payback period of such projects depend on the state in which solar panel installations are undertaken. On top of state subsidies, there are also federal subsidies that may reduce the costs of solar panel installations. However, the return on such investments is still not always comparable to those found in the stock market. So, the positive environmental impacts of installation of solar panels also need to be taken into consideration in any decision making.
Jin Hyuk Lee (Jin Lee)

Advisor: Professor Mike Frank, Department of English and Media Studies

"Intellectual Property Disparity"

In today's internet society, there is a near absolute freedom when it comes to speech and the publication of materials. In many instances, these are original ideas; thoughts, opinions, comments, and perhaps stories and novels. In other instances, however, the relatively ungoverned internet society produces, and reproduces, a plethora of copyrighted materials that have owners and right holders. These reproduced materials are often targeted for copyright infringements and unlawful use, and in reality, rightfully so. However, there is another type of publication that borders both original and unoriginal work: fan fiction.

In seeking to find justice, or rather, bias, with the system that determines the lawfulness of these copied-original work, I sought to determine the fairness of that system by analyzing current legal system regarding fan fiction, as well as the actions and choices of authors who have had fan fiction written based on their works. The research yielded both positive and negative results, testifying that the current legal system is, albeit fair, is biased towards the authors and right holders.

My research concluded that the most prevalent defense for fan fiction is a defense called the "Fair Use Defense". The Fair Use Defense purports that an exemption from copyright laws is possible, as long as the accused author can rightly justify himself on four different components. Should the accused author be able to defend himself, an exemption from copyright laws is given and the accused author is capable of publishing his fan fiction as his own. At first glance, it seems that this is unfair for the original authors, whose original ideas should be fostered and protected. However, looking past the initial reactions and diving deeper into the ideas behind copyright laws, it is evident that copyright laws and the fair use defense is heavily favorable only to the original authors, giving fan fiction writers no chance to enter the literary scene without creating something completely new. Throughout the research, I was able to analyze the problems with the fair use defense and gather some solutions to the problems with the doctrine.

The research has critical implications on aspiring authors, both amateur and professional alike. First, the exploitation of the fair use defense is, inevitably, possible due to loopholes in the system. This allows new authors to effectively borrow material from more famous authors into their own work. However, these authors may or may not be held accountable for copyright infringement, as the fair use defense can be heavily skewed towards one side depending on how terms of the doctrine are interpreted. All in all, the research concluded that the system of fair use defense is, unfortunately, not just and requires addendums to make it fair and unbiased for all authors.
Olivia LeClair

Advisor: Professor Greg Farber-Mazor, Department of English and Media Studies

"The King in the Carpark: The Distorted Reputation of King Richard III"

Richard III is a Shakespeare play about the life of England’s King Richard III. This play has guided public opinion of King Richard III for 380 years, but there’s one problem—the real King Richard III and his reign differ significantly from that of the play. I investigated this distortion to discover why and how it still exists, hundreds of years after the play was first performed.

For this project, I utilized both secondary and primary sources, including Shakespeare’s play Richard III, literary criticism of Richard III, and medieval texts about King Richard III. In order to understand Richard III, I also had to research the possible sources that Shakespeare used. To understand the relationship between fiction and the brain, I looked at studies on the psychological effects of literature on the brain, and the larger-reaching effects of fiction on society.

Using this information, I connected the dots of King Richard III’s reputation and prominence in society over time. I studied Tudor-era scholarly sources about King Richard III and researched which would have been most likely for Shakespeare to use while writing his play. I found that Shakespeare’s Richard III had a huge influence in Elizabethan England because it was the first time that information about King Richard III was released to the general public.

The play’s villainous portrayal of King Richard III dominated public opinion until the mid-twentieth century, when the Richard III Society was founded, and new pieces of fiction were published about King Richard III, portraying a completely different man from the character in the play. With the discovery of King Richard III’s remains in 2012, public opinion has continued to evolve as people learn more about him.

Though King Richard III and the state of his reputation are not important to our everyday existence, his case serves as an excellent example of the effects of literature on the brain. When we read or watch a work of fiction, our brain responds in the same way it would to reality, even when we know what we’re seeing is fictional. The case of King Richard III provides a model for understanding how literature distorts perceptions of history over time.
Session I

1:00 — 2:45pm

Room: Adamian 260

Moderator: Professor Michael Quinn
Kunaal Lachmandas

Advisor: Professor Michael Quinn, Department of Economics

"The Natural Resource Curse: A Comparative Study between Singapore and Jamaica"

The nations of Singapore and Jamaica represent a unique and interesting research opportunity in the field of economic growth and development. Singapore is one of the fastest growing economies in the world; whereas Jamaica's economic growth has been relatively stagnant over the last 50 years. However, in the early 1960s, Singapore and Jamaica were almost equal in wealth. Furthermore, both share several similarities in size, population and colonial history. I found it intriguing how two countries with so many initial similarities could have such widely divergent growth outcomes. As a result, I wanted to compare Singapore to Jamaica and account for the differences in their respective economic performances.

As I began my comparison I noticed an interesting paradox: Jamaica has several natural resources, whereas Singapore has none. I wanted to investigate this apparent inverse relationship between resource wealth and economic growth, which is often referred to as the "natural resource curse," in order to determine the role that natural resources have played in the development outcomes of both countries.

The economic and political histories of both Singapore and Jamaica were researched. These findings were then broadly compared, evaluated and applied to leading economic theories. There were several interesting findings. Revenues from natural resource sectors tend to be highly volatile due to great exposure and sensitivity to global markets. As a result, Jamaica was relatively more prone to macroeconomic instability than was Singapore. In addition, the rents from natural resource sectors may result in ineffective government policies. Jamaica's resource wealth likely contributed to the country's inefficient import-substitution strategy. Also, natural resource abundance may have reduced government incentives to invest in human capital and may have led to the development of corrupt institutions. In contrast, Singapore's export promotion strategy, high levels of human capital and low levels of corruption have contributed to the nation's economic success.

This study has several implications. It confirms that natural resource abundance can inhibit economic growth. It also suggests that natural resources played an influential role in the development outcomes of both Singapore and Jamaica. Overall, this study outlines the policies that are conducive to long-run growth and can potentially serve as a model to small resource-rich economies, like Jamaica, that are still struggling to grow.
Marian Linke

Advisor: Professor P. Thompson Davis, Department of Natural and Applied Sciences

"Nuclear Power: Public Opinion and the Solution of Dry Cask Storage"

Nuclear power has been a much debated issue throughout the last several decades of our history. Currently it produces about nineteen percent of the total electrical output of the United States, which is well under its potential. The controversial nature of this energy source is what limits its use, compared to other countries that face the same nuclear risks but are comfortable with more extensive use. This paper first investigates what has impacted the public to have a positive or negative view on nuclear power. The latter part of this paper examines the development of dry cask storage, a recent breakthrough in the industry.

The research methods employed include a survey of college students determining how their opinion of nuclear power was formed. Also a dry cask manager and worker at the Indian Point Energy Center in Buchanan, New York, were interviewed about the establishment of dry cask storage at the plant. Secondary sources that were used consist of various texts and information from online organizations and agencies regarding nuclear power.

This research concluded that knowledge of the nuclear power industry in the United States is poor. The media portray it negatively by informing the public exclusively of accidents, such as the disaster related to the earthquake in Fukushima, Japan. Little is known about the benefits of nuclear power and how the risk of radiation exposure is much greater from other sources. Additionally the majority of the risks associated with nuclear power are reduced by dry cask storage technology. Radioactive wastes are sealed in indestructible concrete containers and thousands of regulations are taken to make the process safe. Although dry cask storage is a beneficial innovation in the industry, it cannot be the final solution for disposing of spent nuclear fuel in the United States which requires a geologically safe site, such as Yucca Mountain, Nevada.
In the financial sector such as accounting, fraud incidences have been a growing concern, even before the enactment of the Sarbanes Oxley Act in 2002. The purpose of this study is to conduct a trend analysis of financial statement fraud on listed companies on the Stock Exchange. The research is intended to be of use to investors and professionals such as the Certified Fraud Examiners.

In conducting this study, I examined all the companies that have committed one type of financial statement fraud as indicated on the SEC website, two years prior to the enactment of the Sarbanes Oxley Act, in the year 2002 and two current years, 2011-2012. The reason for the choice of these two distinct periods is to see if the Sarbanes Oxley Act have had an impact on the types of financial fraud that were committed and also within specific industries. By collecting data on the years 2011-2012, I expect to provide useful source of information that would aid potential investors in making informed decisions and de facto CFE professionals in advising their clients. The trend analyses will consist of different types of financial statement fraud committed in different industries - merchandising, manufacturing and service. The categories financial statement fraud include, Revenue Recognition, Insider Trading, Securities Fraud, and Initial Public Offerings frauds. Given the magnitude of various types of financial statement frauds, I looked further into the possible explanation to such frauds to serve as a guide to fraud examiners and management to be proactive in doing their due diligence.
Today's young adults are the most informed, confident and connected generation the world has ever seen. Generation Y, also known as the millennials, is the largest generation yet—even bigger than the Baby Boomers. However, they are also the hardest generation for companies to advertise to, which poses a big problem for the future of marketing. Millennials, specifically, have become a growing focus for many companies as they represent a large buying power in the U.S. They represent a significant shift from the traditional to new and modern, making them a difficult generation to predict. The purpose of this study is to research how marketing to millennials is different from marketing to past generations, and what are the most successful methods to connect companies to this emerging generation.

To study this I used various research methodologies including an explorative focus group with Bentley students, in-depth interviews with professionals working in the field of marketing and who have first-hand experience marketing to millennials, and a large, random sample survey. In order to focus my research I applied many of my questions to the advertising of insurance companies as many millennials currently are or will be in the market for this product making them a huge target market for the industry.

Compiling all of my research, I came up with several interesting and informative results about the millennial generation. First, while many companies believe that TV advertisements are dying, millennials still find that they still have the biggest impact and are the most engaging. Instead, it is the length of the TV ads and the medium through which they are receiving them that is changing. Second, millennials rely the most on family and friend recommendations and word-of-mouth when making purchasing decisions rather than advertisements or online reviews. Lastly, for companies to stand out to millennials, they must be engaging and do something creative and innovative, and market to them in a way so that they don’t feel it is an advertisement.

This study has several implications for the insurance industry, as well as marketing in general, in relation to millennials. Companies must make it a priority to create shorter and more shareable content that connects to this generation. While TV ads are the still the most engaging, they must also seek new ways to attract attention, such as through viral videos or other interactive advertising campaigns. Finally, they must learn to include the customer in the conversation and make their brand one which millennials will want to advocate for.
Jennifer Bowley

Advisor: Professor Gary David, Department of Sociology

"Gymnastics ethnography: An exploration into the culture of gymnastics from an autobiographical standpoint"

Gymnastics has always played a very significant role in my life. I was a competitive gymnast for fourteen years and currently work as a gymnastics coach. Since it is something I feel very passionate about, I wanted to get a better sense of how the culture of gymnastics is developed and what makes it so unique. In order to do this, I decided to conduct research to develop an ethnography that provides insight into the everyday culture present within gymnastics.

In my research, I came across multiple outside resources from the point of view of other people who have had experience with gymnastics that provided me with some new perspectives on the sport. However, the most insightful research I collected came from interviews I conducted directly with several former gymnasts that I know personally. The questions I asked them included: (1) Why did you initially get involved in gymnastics and stay involved over time? (2) Do you consider gymnasts unique from other athletes, and if so, how? (3) When you eventually stopped doing gymnastics, was the transition difficult for you? (4) Do you still consider yourself a gymnast today? Why or why not? (5) Do you feel as though gymnastics shaped your personality or impacted the person you are today? Additionally, throughout all of my research, I constantly drew from my own personal experiences to use as a foundation, and comparison tool. Since I have so many years of experience in gymnastics to draw from, I thought it would be necessary to incorporate some of my own personal insights as a resource.

The findings of my research provided multiple examples of how the culture within the sport of gymnastics is very unique and exclusive. Involvement in this sport typically begins at a very early age and lasts many years, exposing young children to the values of discipline, commitment, and time management. I observed through my research that these values learned in gymnastics are carried over to other aspects of life, particularly school and work. Altogether, gymnasts experience immense growth mentally, physically, and emotionally during their involvement in the sport. This provides them with a lasting sense of identity attached to the sport of gymnastics that does not fade over time. The large majority of people I interviewed, who are no longer involved in gymnastics, said they still consider themselves gymnasts today even though they do not compete in the sport anymore. This ultimately suggests that competitive gymnastics does not just feel like a sport to those involved, but feels more like a lifestyle.
This project is a study of the determinants of a country's aggregate happiness level with a focus on the effect of income, specifically in reference to the Easterlin Paradox. This project first defines the relationship between a country's happiness and other factors including: income, pollution, health, political freedoms, and labor force participation. It then tests the widely debated Easterlin Paradox by determining whether income is positively correlated with happiness in diminishing increments over time.

Utilizing Stata statistical analysis software, regression analysis was conducted to find the correlation between a country's happiness (life satisfaction) and the aforementioned factors. The data set consisted of 55 countries over a time span of 33 years. Empirical results were consistent with the Easterlin hypothesis. Income had a positive significant effect on life satisfaction. Further investigation found that the impact of income on happiness decreased as the income levels in a country rose.

Both political and economic measures mattered for happiness. Restriction of political freedom had a significant negative effect and labor force participation had a significant positive effect on life satisfaction. Health measures had a negative effect on happiness with the death rate being significant but infant mortality having insignificant results. Pollution, as measured by CO2 emissions, had a significant negative effect on life satisfaction. Overall, this paper finds that at low levels of development, gains in income create substantial increases in happiness; however, at higher levels of income other factors such as health, pollution and political freedom become more important. These results are relevant to many countries; especially to the future happiness of China as it has rapidly rising incomes but problems with health, pollution and lack of freedom.
Session I
1:00 — 2:45pm
Room: Adamian 262
Moderator: Dean Jane Ellis
Aaron W. Pinet

Advisor: Professor David Szymanski, Department of Natural and Applied Sciences

"Quantifying the Economic Effects of Energy Literacy"

As the United States continues to make large investments in energy efficiency and renewable energy like solar and wind, a relatively modest investment in energy literacy could potentially reduce the costs of consumers and our national government. Numerous surveys have identified a lack of energy literacy in our nation. For example, while 75% of 1,503 respondents in one survey stated they have a lot or fair amount of knowledge of energy, only 12% of these respondents were actually able to pass a basic quiz on awareness of energy topics.

In an effort to gauge the impacts and potential casual relationships between energy literacy and spending, we partnered up with National Grid, a large electric and gas utility, to survey thousands of consumers in their New York, Rhode Island, and Massachusetts markets. For the purposes of this research, energy use is a proxy for consumer expenses and savings; if a consumer’s electricity usage goes down that represents a cost savings for that particular month and vice versa. After extensive research and development, we created a 25 question quiz to gauge the energy literacy of survey respondents. The survey overall includes three main focus areas: energy literacy, demographic information, and consumer behavior. Our goal was to test both the practical and academic energy knowledge of National Grid consumers while also retrieving important demographic and behavioral data that may help identify correlative relationships between energy literacy and spending. The survey consists of a sample of 60,000 National Grid consumers (as of April 1, surveying is in progress and the final number of respondents is unknown).

Once survey results are collected and vetted, we will use econometric analysis to test theories about the relationships between energy literacy and spending. Our goal is to develop an econometric model based off these data and relationships that will provide estimates of cost-savings that may result from additional spending in energy related education. Although the study is still in progress, we expect a positive correlation between increased energy literacy among the public and increased personal, and therefore, national cost savings. As the public becomes more energy literate, aggregate demand for energy usage will decrease as individual energy spending decreases for consumers.

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1 National Environmental Education and Training Foundation; “Energy Literacy in America” 2002
Within the study of ethics it is difficult to quantify how ethical one country or organization is compared to another one. My goal when starting the capstone project was to explore potential alternatives to quantify ethics, and during my preliminary research I developed a potential framework with which to achieve this goal. This paper examines the role ethics plays in the governance of intellectual property law. By looking at statutory damage amounts, industry size, patents/copyrights issued and infringement rates it might be possible to isolate an ethical coefficient, and determine an “ethical surcharge” in fine amounts. This is due to the other factors being used to isolate the economic motivations for statutory damages, and what factors are taken into consideration when fines are issued.

All research is secondary research consisting of studies that discuss intellectual property in various industries, such as pharmaceuticals and software. Additional research was conducted to determine how intellectual property laws are enacted in different. Each country and industry has its own unique parameters that are used when enforcing intellectual property law. However, they all share the same goal: the hope of discouraging intellectual property infringements. In order to combat these nuisances the following equation could be used as a comparison point when assessing ethical values of a country toward a particular industry.

\[
\text{Statutory Damages} \times \left[ 1 - \text{infringement rate} \right] \\
\frac{\text{Industry size}}{}
\]

Expected results if this data was collected for a group of countries and arguments supporting and against using the equation will be further discussed in the presentation.
Rachael Dempsey

Advisor: Professor Mark Davis, Department of Management

"Customer Experience in the 'Age of the Customer'"

We are currently at a crossroads in business strategy, referred to as the "age of the customer." Never before has there been such an emphasis on the customer. With so few companies currently providing an excellent experience, this is an extremely powerful way for a company to distinguish itself from its competitors.

Companies that recognize this opportunity and dedicate the resources to becoming customer focused continuously adapt to customer expectations in order to increase profitability. It is no longer enough to have a customer service department in order to provide an exceptional customer experience. The customer must be the focus throughout every department in the company.

To gain an understanding of what exceptional companies are doing differently, I conducted interviews with representatives from multiple companies consisting of questions such as: (1) In what ways do you interact with your customers differently than your competition? (2) How do you motivate your employees to provide exceptional service for your customers? (3) How do you manage customer expectations as they continue to increase?

It was also necessary to understand what customers value in their experiences with a company. Therefore, I conducted a survey of 100 individuals with questions including but not exclusive to: (1) Would you be willing to pay more for a company that provides a better customer experience? (2) Name two companies that you think provide a poor customer experience. (3) What affects your expectation of a company?

Using this data, I found that 83% of respondents would pay 5% to 25% more for a better customer experience. Amazon, Apple and Zappos were rated highly in terms of experience, while Verizon, Walmart and Comcast were noted for their poor experience.

From interviews and research of companies that excel in this area, factors of greatest importance included: employee empowerment, personalization, hiring the right people, speaking without surveys, anticipating customer demands, acting spontaneously, and recognizing the importance of customers.

This study stresses the importance of maintaining a customer-centric culture. While many companies believe they are providing great service, customers do not agree. A customer service department is not sufficient enough to provide an experience worthy of gaining customer loyalty. It is therefore crucial to now have an individual, commonly referred to as a Chief Customer Officer, enforcing a customer focus throughout every department.
As of 2010, 32 million people play fantasy football. Many of those players are very serious, and always looking for ways to gain an edge. By applying concepts from portfolio theory, a team can be drafted that is superior to other teams with similar overall returns. The study looks at football players as an investment on the fantasy team, which will be looked at as a portfolio. The goal is to provide readers with a team that will produce the highest returns for the lowest amount of risk, like the way portfolio managers seek the greatest amount of returns for a given level of risk. “Returns” are defined as a player’s mean weekly point, and “risk” will be the standard deviation of the weekly returns. This gives each player data as if they were investments, and therefore the ability to objectively choose one player over another.

The weekly point returns of all scoring players in the league since 2010 were compiled. Three tests were run to see what degree volatility and risk played in a fantasy team winning games: 2011 season using 2010 statistics, 2012 season using 2010-2011 statistics, and 2013 using 2010-2012 statistics. In each test, the player with the highest risk for return in the previous seasons at each position was placed on a hypothetical fantasy team. This team was then compared to a random team with similar overall return, using weekly point totals.

The tests conclude that a team with a higher return/risk factor will generally beat a team with similar overall returns. This shows that some principles of portfolio management can be applied to fantasy football team management.
"Take Me Out to the Ball Game: A look at the Determinants of Attendance and Ticket Prices in Major League Baseball"

The purpose of this study is to assess the economic determinants of the variation in ticket prices and attendance across Major League Baseball (MLB) teams. The analyses are based on panel data regression methods applied to information for 30 MLB teams spanning 19 years (1993-2011). Estimates suggest that city-level income per capita and team payroll are positively and significantly associated with ticket costs. A higher team payroll is also found to raise average attendance per game, as do team performance (as proxied by wins) during the previous and current seasons. The age of the stadium has a negative and significant effect on both ticket prices and attendance per game. These estimates provide valuable inputs towards understanding and evaluating differential ticket prices and attendance, as well as towards evaluating revenue-maximizing ticket prices for individual teams.
As part of the Medicare Modernization Act of 2003, Medicare Part D was created in 2006 as a program to subsidize the costs of prescription drugs and prescription drug premiums for Medicare beneficiaries in the United States. This program was driven by the high out-of-pocket spending on prescription drugs due to the large percentage of elderly without such coverage. Part D was created with the goal of reducing the financial burden of the elderly as well as to convey the clinical importance of prescription drugs for both healthy citizens and those in poorer health. Prescription drug coverage is often recommended on the grounds that many chronic conditions can be managed more cost-effectively through medications, relative to the alternative of more intensive or inpatient care for unmanaged health conditions. The objectives of this study are threefold. First, this research seeks to estimate the extent to which Medicare Part D increased the prevalence of prescription drug coverage for the Medicare-eligible population. Second, the study aims to assess whether Medicare Part D and the ensuing increase in coverage affected healthcare utilization, including the use of prescription drugs, outpatient care, and hospitalizations. Third, the study presents estimates on the effects of Medicare Part D on various measures of health.

The analyses are based on longitudinal information from the Health and Retirement Study (HRS), a biennial study of a nationally representative sample of older adults spanning 1992-2012. Multivariate regression models are estimated, controlling for a rich set of socio-economic factors, to identify the effects of Medicare Part D on coverage, utilization, and health. These estimates suggest that Medicare Part D resulted in a statistically significant increase in prescription drug coverage and utilization rates among the eligible population. Effects on health conditions and measures of health are less significant; this may reflect the fact that any positive effects of prescription drug utilization and adherence to appropriate medication treatment may be more pronounced in the long run and take some time to materialize. The estimates from this study provide valuable inputs towards evaluating the overall impact of the implementation of Part D as well as providing some basic evidence as to the link between prescription drug coverage, healthcare utilization, and health outcomes. The results from this study also have important implications for understanding the effects of the Affordable Care Act, which seeks to expand healthcare coverage among those who were previously uninsured.
Session I

1:00 — 2:45pm

Room: Adamian 360

Moderator: Trustee/Professor Charles Hadlock
Bitcoin has consistently made headlines throughout 2014 and has captured the financial world with its ingenious system. While society struggles to catch up and understand the potential of Bitcoin, governments across the globe have chosen to reject, question or even support the currency and its implications on financial markets.

This study aims to examine Bitcoin’s strengths and weaknesses as a plausible form of currency in the near future, as well as address the social and financial implications that it will have in the global economy. Bitcoin, a digital, decentralized and partially anonymous currency has been a hot topic over the last year and continues to fascinate economists with its volatility, ingenuity, and possibilities. By analyzing the technical system of the cryptocurrency, we may gain a better insight of why Bitcoin has gained so much traction and how it may be the first truly useable electronic currency. There have been many “e currencies” that have garnered attention and that have even helped shape what Bitcoin is today, however none have come this far as to be critically analyzed by governments and economists as a potential legitimate currency.

By observing the latest market moves of the volatile currency and the ongoing social skepticism and/or acceptance of Bitcoin, an analysis of Bitcoin’s potential in this study as a credible currency can be concluded. This analysis has found that, currently, while the situation of Bitcoin seems dire in light of the most recent social and political events, the cryptocurrency still has not reached its full potential in our modern day economy. Bitcoin’s ingenious structure and peer-to-peer incentivized system will either solidify its place as a strong and dependable currency, or if not accepted, will forge the way for other electronic currencies way to come.
Marina Lyushnevskaya

Advisor: Professor John Tommasi, Department of Economics

"An Economic Analysis of the 2014 Sochi Winter Olympic Games"

The 2014 Winter Olympics Games were the most expensive games ever recorded in the history of 155 year old sporting event. The final price tag on the games came in at close to $51 billion, almost nine times more than the $6 billion spent by Vancouver during the last winter games.

Russia held back no expenses in preparation for the Olympics and was hoping that hosting the games will dispel the persistent talk of corruption and inefficiency that lingers around the country. Although Putin has claimed that all expenses have gone toward building necessary infrastructure to support an event of this magnitude, many believe that’s the spending is completely ineffective and question the large scale of corruption that has surrounded the preparation process.

Research for this report was broken down into eleven sections, showcasing every step Russia took in order to prepare for the Winter Games. It first discusses what the city of Sochi was like before the games and why they would want to host them. It then talks about how Putin was able to receive the winning bid after a close race with PyeongChang, China. It then covers the large scale controversy and corruption surrounding the games, as well as the overpricing of construction for every single stadium, which make it difficult to image that these Olympics will be an overall success for Russia’s economy. Despite these costs, it seemed as though the city of Sochi was not ready to host an event of this magnitude and much of the Olympic construction remained unfinished throughout the city at the start of the games.

Sochi was able to pull off very successful opening and closing ceremonies and used their home field advantage to bring in the most medals overall. In order to properly access the impact of the Olympic Games it was also important to look at a few examples of past Olympic hosts and see what happened in those cities after the games were over. The paper then examines the full economic impact of the Olympic Games on the city of Sochi and Russia as a whole. It concludes with an assessment of possible future impact and what Russia will need to do in order to make these games a lasting success in the long run.

Will Russia be able to boost its image in the eyes of the world, or will hosting the Olympic Games completely destroy Russia’s economy?
Prior to the advent of Lovenox, there were only two anticoagulation options, one which required hospitalization and one which required blood tests every three to four days for the beginning phase of the treatment. Lovenox revolutionized the market as it provided an effective and more predictable solution for anticoagulation and is available for use outside the hospital.

I researched the functionality and effectiveness of Lovenox as well as its substitutes to determine what about Lovenox made it more effective and preferable in the healthcare market. I also focused on how Lovenox has impacted the patients and hospitals using the drug. Using various data sources such as previous studies, published health surveys, and internal hospital-specific data, I compared the costs and benefits of using Lovenox in place of the original treatments. Lovenox has been proven to be more cost-effective in various different medical situations, including treatment and prophylaxis of deep vein thrombosis, pulmonary embolism, ischemic strokes, and others.

I also discussed the importance of pharmaceutical patents as well as the effect on prices when the original drug manufacturer loses the patent rights, as Lovenox manufacturer Sanofi-Aventis did in 2007. While manufacturer costs of clinical trials and research and development are often not released, I sought out articles which would shed light on how much a pharmaceutical company could expect to spend in the development of a new drug. While data for this was scarce, the information found was enlightening. Billions of dollars are spent by these companies to create a drug and have it FDA approved which is why pharmaceutical prices, especially under patent, are so high. Without patents protecting high prices for a time on new pharmaceuticals, drug manufacturers would have no monetary incentive to develop new drugs.

Through this comparative analysis and findings of the major cost savings and high efficacy of Lovenox, despite its high price, it is the most cost-effective anticoagulant solution in the pharmaceutical market. This stems from its predictable inter-patient effects and its option to be used outside the hospital thus saving hundreds of dollars in hospital-based expenditures.
Beth Goulet

Advisor: Dr. Miriam Boeri, Lecturer of Sociology

An Integrated College Mental Health Initiative: Educating the Whole Person at Bentley University

"[The] narrow conception of what it means to be educated has eclipsed a more historic ideal of education as a transformational experience in which colleges actually educate the person to become someone who can lead a fulfilling life of wholeness, not just display a badge of ownership." –Theodore E. Long

While struggling with depression and anxiety for three of my four years at Bentley University, I became interested in exploring the mental health landscape of college campuses and learning about the ways schools have responded to their students' increased mental health needs. To gain a deeper understanding of this phenomenon I first reviewed literature which discussed the rise in mental health problems on campuses and proposed several explanations for it.

I then shifted my focus to the models used by schools presently addressing these issues; beginning with Bentley University's positive practices and programs, I identified where we can build upon this foundation to improve our current status. To assess current perceptions of mental health awareness and needs on campus, I conducted faculty interviews based on a quota sampling method. Additionally, I distributed an anonymous online student survey consisting of 10 questions to gauge my peers' perceptions of mental health awareness on the Bentley campus. The results highlighted areas which need more attention, including greater administrative and faculty awareness, and increased mental health programming across disciplinary and administrative departments.

Comparing the Bentley campus to those of other schools, I included three examples of programs in other universities that are actively bringing change to their communities. Triangulating the above information, as well as insight from my personal experience with mental health conditions during my college years, I proposed broad strategies for transforming the undergraduate experience at Bentley. These focused on collaborative efforts across departments, integrated academics, and programs with shared leadership including students, faculty, and staff.

This paper is intended to be an introductory look at how Bentley University can better educate its students by re-evaluating the essence of its mission, and subsequently adopting a model that totally reflects the vision and values associated with it through greater focus on mental health issues. It is my hope that this will spark further conversation, consideration, and action among the Bentley community.
Christopher Andrianas

Advisor: Professor Rick Oches, Department of Natural & Applied Sciences

"Community Supported Fisheries: Impacts on the New England Fishing Industry"

This project is a study of the impacts that the introduction of a new fishery model, community supported fisheries (CSFs), have had on the New England groundfish industry. This model has been implemented in many coastal regions throughout the United States to improve the sustainability of fishing communities, both on shore and at sea. The purpose of this study was to examine how effective CSFs have been at improving the environmental sustainability of New England ocean life, strengthening the economic viability associated with traditional fisheries, and improving the lives of the fishermen, their families, and the rest of the community that relies on the success of local fisheries.

In order to gather information for this project, I conducted interviews with several individuals who are associated with Cape Ann Fresh Catch, a CSF located in Gloucester, MA, which services the Greater Boston Area. I spoke with the director of Cape Ann Fresh Catch to gain an understanding of the program’s operations and goals. I met with the owners of Turner’s Seafood, a seafood processing plant that processes all of the fish that Cape Ann Fresh Catch distributes. Lastly, I spoke with the director of the Northwest Atlantic Marine Alliance about that organization’s role in the establishment of CSFs in various regions. Initially, I had planned on conducting interviews with the fishermen themselves, but I was not able to engage anyone from that aspect of the CSF operations. In addition to the primary sources listed above, I also researched CSFs and the local fishing industry through various articles, studies, and reports.

Using these data, I was able to develop an understanding of the benefits and limitations of CSFs from a variety of viewpoints. My research revealed that CSFs can make improvements in the environmental sustainability of New England’s marine fisheries and the profitability of the fishermen and the industry. They can also expand a niche market, support local communities, and connect fishermen with their consumers. However, there are external forces governing the fishing industry which have limited the degree to which CSFs have been beneficial. Strict regulations and fishery management tools have been put in place that have ultimately forced a large percentage of fishermen out of the industry. The industry has been collapsing for decades, and CSFs have provided fishermen with a new alternative in an industry which is scaling up at an unsustainable rate. CSFs offer a more sustainable option to the fishing industry, but they are a short-term solution to a variety of long-term issues facing the industry.
Bentley has done a great job undertaking some campus-wide green projects, and I wanted to learn more about what individuals can do on a smaller scale. When my parents told me they were going to build a new house, I thought that this would be the perfect opportunity for our family to make an impact by building a more environmentally friendly home.

I contacted a variety of different geothermal installers and received quotes on the cost of installation and the estimated annual savings. I found that the cost to install a regular heating and cooling system would be $6,400, while it would cost $30,000 to install a geothermal system. After the 30% federal tax credit, this price would be $21,000, which is $14,600 more than a traditional system. Once I learned how much more expensive a geothermal system really is, I investigated further to see if this excess cost is justified.

Using data found on-line, I was able to determine that a shallow geothermal system would take approximately 18 years to pay back the $14,600 price premium. My parents plan to live in this home for the rest of their lives, so they would likely see the return on their investment. However, the more important consideration is the environmental impact rather than the potential cost savings. Installing a geothermal system would reduce carbon dioxide emissions by the equivalent amount of removing 5,336 cars from our highways.

My parent’s current house is heated with natural gas, so savings for conversion to geothermal are less than those who heat their home with propane or oil, which would pay back the geothermal price premium in only nine years. Regardless of the prior heating source, savings are limited by the fact that a geothermal system derives about 75% of its thermal energy from the ground and the remaining 25% from electricity.

This study has several implications. First, the pricing of geothermal units needs to come down because it is currently too expensive for many people to justify. Second, federal tax credits for geothermal installation are important, so the government should continue with the program. Third, the project shows how much shallow geothermal systems can benefit the environment, although they are not a perfectly clean energy source. This project also encouraged me to do further research on more affordable ways people can make their homes greener.
Session I
1:00 — 2:45pm
Room: Adamian 362
Moderator: Dean Leslie Doolittle
As the world evolves and the demand for energy rapidly increases, the need for sustainable alternative energy sources is becoming much more evident when it comes to transportation. Fossil fuels are being depleted and create warming greenhouse gases. One way humans can help mitigate these problems is to embrace new, more environmentally friendly fueling options when it comes to their cars. This project examines the possibility of using solar energy to power cars.

In this project, I explored the physical requirements and resources needed to make solar powered cars a realistic option for everyday use. I also researched the financial requirements related to these resources and how these added costs would affect car prices; along with exploring the possibility of government providing tax incentives and subsidies to solar car manufacturers in order to make production more affordable for car manufacturers. In follow up to these findings, I researched what technologies car manufacturers (i.e. Tesla, Ford, GM) have already in development. Finally, I analyzed the most viable paths that car manufacturers would need to pursue in order to make solar powered cars a possibility for everyday use.

My findings through this research suggest that having cars powered by solar energy is going to rely heavily on the continued development of the batteries that power the electric cars we see today. Based on the physical requirements needed for a solar powered car, manufacturers must incorporate their car battery technology with solar panel technology to make solar powered cars a realistic option, both technologically and financially. Recent technological developments within car companies such as Tesla, suggest that solar-powered cars may not be as far-fetched as it once seemed. Rather, my research suggests that there is a chance that solar powered cars can quite possibly be seen within the next 10 years. These chances also depend heavily on the willingness of government to provide subsidies and tax incentives to car manufacturers in order to make the production of solar powered cars financially reasonable. If tax credits or subsidies are not going to be offered by the government, solar powered cars are most likely going to be too expensive for car manufacturers to make due to the technology required.
I was drawn to writing almost as soon as I learned the alphabet. As I grew older I appreciated the art of crafting stories and ideas in a way that captivated a reader. It was always a dream of mine to be published, but for years I lacked guidance in the procedures and techniques to create publishable work, as well as a structured timeline to create a piece that could be considered. This capstone project allowed me to research techniques on how to become published, analyze the work of famous writers, and practice my own storytelling through fiction and memoir pieces.

Although there are several publishing techniques I came across in my research, most advice boiled down to one idea: you have to make the reader care. People can tell when a writer is being phony or superfluous in a story. I personally focused on short stories for this project, and found it challenging to catch the reader’s attention and bring them through an entire plot in a short timeframe. Some of the major tips found in my research were to have a “hook” right in the beginning that gets the reader’s attention, use plenty of action to carry the story, cut out unnecessary adjectives and adverbs that clutter the paper, stay away from the clichés, and keep the ending poignant and without summaries. The mantra “show, don’t tell” also came up in several sources, which allows you to let the reader come to their own conclusions and puts them right into the action of the story.

One of the most challenging parts of this capstone process was learning when to throw ideas out and start over. It’s difficult to find the balance between what you personally want to express and what another reader actually wants to read about. Between drafts, there were entire sections that I ripped out, added in, and re-wrote. In some cases, the first draft looked nothing like the final draft, or had a completely different ending. There was also a struggle for me to keep my own voice present in the stories. Switching tones throughout the paper can give the reader the sense that you aren’t being genuine, which can completely throw off the reader and prevent a piece from being published altogether.

After completing this capstone, I feel that I do have a chance to have one or more of my pieces published. I have entered them into several writing contests that award publication, and will have the results by this summer.
Deepak J. Chhugani

Advisor: Professor Fred Tuffile, Department of Entrepreneurial Studies

"Private Equity in Latin America"

The private equity industry has seen exponential growth in the past three decades worldwide. While the industry’s most notable growth has occurred within the US and other developed economics, it has also reached a great deal of emerging markets such as Latin America and Asia. This paper specifically discusses Latin America, its trends, growth, and challenges, with a focus on the private equity industry. To do so, the paper systematically discusses subtopics in the following order: (1) A description of the industry and its history, (2) brief history of Latin America and discussion of trends that provide a positive outlook on the region’s future, (3) analysis of entrepreneurship in Latin America, (4) trends and growth in fundraising for the region, (5) trends and growth in Latin American capital markets, and finally, (6) analysis on whether the private equity industry can help Latin America’s future economic development.

The research within this study draws several major conclusions. First, research indicates that Latin America has seen mediocre economic growth from 1980 to the early 2000’s, relative to other emerging markets, which can be attributed to a number of crises, rising income inequality, and debt structure vulnerabilities. While these mishaps have left the region at economic disadvantage vs. other emerging markets, Latin America has seen significant economic growth in the past decade, paired with growth in private equity.

Secondly, the study discusses the trends and challenges for entrepreneurs in Latin America, ranging from limited financial credit, small stock markets, to dealing with a lack of education and technological disadvantages.

Thirdly, the study concludes an upward trend in the private equity sector for Latin America, both from a fundraising and capital market standpoint; the study indicates that these upward trends can be attributed to macroeconomic policy that has improved debt ratios which have helped sustain robust economic growth in the past decade for the region, attracting greater foreign investment. Furthermore, the study analyzes the region’s capital market expansion through the implementation of integrated stock exchanges such as Mercado Integrado Latinoamericano (MILA) and Alianza del Pacifico.

Lastly, the study concludes that private equity can actually help the region’s future economic development through increased stock market returns and increased debt levels; while private equity can lead to outsourcing, and large-scale layoffs, the study finds that on average, private equity will lead to job growth and labor productivity, among others.
Kyle McDougle

Advisor: Professor P. Thompson Davis, Department of Natural and Applied Sciences


The United States has an abundant supply of coal resources spread throughout the country. As we continue to mine this fossil fuel, our own dependence on coal continues to decline. As a result, the United States has an opportunity to export its growing surplus of coal resources to other areas of the world where there is higher demand. Currently, there is a proposal to construct new coal export terminals in the northwestern part of the country. I examined the impact of these facilities on Washington’s Gross State Product.

The study consists of projecting various scenarios for coal exports out of the Northwest terminals based on amount of surplus coal available. The scenarios take various factors into consideration, including the degree of acceptance of natural gas and bituminous sands as alternative energy sources in the United States. The projections also take into account potential detrimental effects to economies from coal exports, along with considerations of coal dust and possible negative impacts on agricultural productivity.

Using the data from the projections, different scenarios were compared, along with their impacts on Washington’s Gross State Product. From an economic point of view, the construction of the export terminals is advantageous. Washington is a not an agriculturally driven state, so the introduction of coal dust and its negative impact on farming is not significant enough to outweigh money earned from exporting. However, one must take into consideration the long-term effects of the terminals that are more difficult to calculate. The coal dust may not drastically affect local agriculture, but it may negatively affect the health of citizens. In addition, coal exports contribute to overall global carbon emissions that impact everyone via global warming.

The results of the study are twofold. Looking at the terminals from a short-term economic position, the decision to construct the terminals is obvious based on increased employment and export incomes. Unfortunately, the construction of coal export terminals may have long-term negative implications that are more difficult to predict, but could include environmental degradation, negative health consequences, and other externalities, which should be taken into consideration. The Northwest is faced with a complex and difficult decision, but state officials must keep long-term goals in mind and ignore pressure for short-term benefits.
In recent years, investment in economic and social infrastructure in Latin America has been insufficient. Several factors such as high macroeconomic volatility, the lack of comprehensive policies, regulatory and financing issues, and systemic corruption have seriously threatened the future development of the region and have consolidated it as one of the most unequal in the world. However, several countries in Latin America such as Chile, Brazil and Colombia have been innovative leaders in creating Public-Private Partnership frameworks that have recently proved successful in attracting private capital to build and operate efficient new infrastructure projects.

This study is a compilation and analysis of publications related to the mentioned thematic, which have come from the academia, multilateral institutions, national aid agencies, NGO’s, regional development banks and the private sector.

The findings of this study have provided the following conclusions. First it confirms the need for significant infrastructure spending in Latin American countries, due to key drivers such as a growing population, urbanization, and rising per capita incomes. It also supports the notion that a subpar infrastructure reduces a region’s competitiveness, dampens economic growth, and is a barrier to social progress.

Second, it supports the idea that when managed effectively, Public-Private Partnerships not only provide much needed new sources of capital for governments facing short-term budget pressures, but also bring significant discipline to project selection, construction, and operation as private companies have a stronger incentive to leverage their expertise in planning, development, and execution to manage costs well and maximize revenue.

Third, it further endorses the assumption that increased investment on infrastructure quantity and quality have a robust negative impact on income inequality, and that infrastructure development may be a key ingredient in poverty reduction, as it would help raise the income of the poor more than proportionately when compared to the rest of the society.
Sarah Martino

Advisor: Professor William Read, Department of Accountancy

"Disclosure of Audit Partner Identity in Financial Reports: Do Bentley University Students Perceive It Will Improve Audit Reporting Quality?"

The Public Company Accounting Oversight Board’s (PCAOB) most recent initiative, requiring the disclosure of the engagement partner’s identity in the audit report, is the focus of my senior Honors Capstone. My goal was to provide some initial evidence regarding the perceptions of Bentley University business students regarding the possible effects of requiring disclosure of the audit engagement partner’s identity in regulatory filings. I obtained this evidence by distributing a questionnaire to graduate and undergraduate students at Bentley University. Students used a 7-point likert scale to respond to several questions, such as that the PCAOB proposal will: (1) lead to improved audit reporting quality; (2) heighten auditor perception of his/her litigious exposure; (3) be considered an example of regulatory oversight overreach.

A total of 76 students (64 graduates, 12 undergraduates) responded to the questionnaire. Among the findings are that students believe that it is very likely that audit partner identity disclosure in the audit report will lead to improved audit reporting quality. Also, they believe that the disclosure will heighten the auditor’s perception of his/her litigious exposure, leading to more conservative audit reporting. Finally, the student-subjects feel that auditors will consider the PCAOB’s proposal as an example of regulatory oversight overreach.
Session I
1:00 — 2:45pm
Room: Lindsay 25
Moderator: Professor Kristin Sorensen
Julia Osborn

Advisor: Professor Erl Sorensen, Department of Mathematics

"The Bill James's Indicators: Do They Hold Up Over Time?"

In baseball, as in many sports, analysts and fans attempt to make various predictions before each season starts. These predictions include what teams will win each division, who will win the World Series, and how players will perform. Within the past few decades, statistical analysis has been utilized more in determining predictions. This paper looks at how a statistical analysis of baseball predictions endures the test of time.

Bill James is a well-known statistician who researched and wrote about baseball statistics. He is credited with coining the term "sabermetrics" in reference to the Society for American Baseball Research. James is best known for his work entitled The Bill James Baseball Abstracts. In the twelve series of work, James attempts to answer many of baseball’s common questions with an almost purely statistical approach. In the team comments within the Abstracts, James examined six indicators for baseball predictions for team performance in his team comments.

Bill James began to uncover his prediction indicators more than three decades ago. Since then, more research has been done in predicting future performances. Do James’s indicators still hold today? This research will determine how Bill James’ indicators withheld the test of time and how useful they are in predicting future performance over time in new eras.

In comparing the two decades, Bill James era of the 1980s and the most recent decade of 2003-2013, findings ultimately determined that the indicators are no more useful now than they were when James determined them. Research also suggests that they were never solely reliable in predicting future performance for a Major League Baseball team. Lastly, this research provides insight and analysis into two of the disadvantages of using these indicators in predictions.
Taylor Gardner

Advisor: Professor Tony Buono, Department of Management & Sociology

EMPLOYING ADULTS WITH LEARNING DISABILITIES: A Focus on Autism and the Workplace

Project Description:

The intent of this project was to study programs that currently exist in Central and Eastern Connecticut for adults with learning disabilities, and assess the extent to which those organizations provide adequate aid for these individuals. Through in-depth exploration, the focus of the research was to gain a better understanding of what is currently available, assess the aspects of these programs that should be improved upon, and determine what future possibilities might look like. As a number of current critiques underscore, learning disabled adults typically face a range of difficulties when seeking employment — and these challenges have not been entirely solved. Greater attention has been called for to better understand ways to ease the transition for such adults into the working world and assist these men and women in overcoming the barriers they face. Based on the literature, an ideal-type framework of such programs will be developed and used as a guide for field study and interviews to analyze how these programs operate and how effective they are at helping adults enter and remain in the workforce.

Project Goal:

The inspiration for this topic emerges from personal interest. As a sibling of an autistic brother, I have been witness to the daily routine of an individual with a mental disability as well as the different obstacles he encounters. My brother and my family face challenges that are similar to those confronted by many other affected families. It is important to understand that people with learning disabilities deserve and should be granted the right to participate in the same activities as the rest of society. As children become adults, whether learning disabled or not, they face a rite of passage when entering the workforce. How businesses react to hiring an adult with a learning disability is a current issue that deserves to be investigated. Therefore, the goal of this project was to delve into an issue that affects someone I care dearly about and explore the options that can help him reach his highest potential. However, I did not want to only conduct this research on my brother's behalf, but also for the other individuals nearing adulthood who should enjoy the rewards of working for a company.
Lindsey Murphy

Advisor: Professor Mike Frank, Department of English and Media Studies

"A Character’s Right to Copyright"

Characters are often the most beloved piece of literature and film. They remain popular because people who read about them or watch them in a movie or television show either relate to them or aspire to be them. This allows the characters to transcend the medium they materialize in to then appear in merchandise, apparel or other forms of entertainment that fans purchase. However, in order for characters to appear in this form, certain requirements need to be had for the character. This is the character copyright.

In order to obtain this copyright, two main conditions must be met: one which tests the duration of a copyright and another two-part test which determines if the character has enough individualistic qualities to justify ownership through copyright. Under the current duration test, copyright protection for an author’s piece of work is the author’s lifetime plus seventy years and ninety-five years for co-authored works. The tests involved with the character’s individualistic qualities are the “sufficiently delineated” test and the “story being told” test. The “sufficiently delineated” test determines if a character can remain independent from their story. The “story being told” test examines how vital a character is to the story he/she is a part of.

Within research on this topic, the two biggest problems discovered were the laws in place on character copyright and the ways characters are defended.

As mentioned previously, there are two copyright laws on characters to test their individuality. The problem with these tests is their subjective nature. Based on court cases involving James Bond and Disney characters, evidence reveals the possibility to eliminate the “story being told” test in order to focus on the “sufficiently delineated test” to reduce the subjectivity.

In order to defend against copyright infringement of characters, there are three tests a lawyer can use to prove it’s not infringement: fair use, parody and transformative. However, in order to defend the parody or fair use of a character, there is, again, a level of subjectivity used. By using fanfiction as an example, research alludes that the rules could be clearer by making the transformative test similar to the “sufficiently delineated” test.

Character copyright is difficult to understand with all the tests for first determining a copyright and then all the tests used to defend the copyright. However, this can be better understood with revisions to the current tests, such as the proposed elimination of the “story being told” test and revision to the transformative defense.
According to the 2013 World Happiness Report, Denmark is the happiest country in the world, and the United States is only considered the 16th happiest country in the world. Since the US is a capitalist state and Denmark is a welfare state, I thought it would be interesting to examine how each country’s economic system impacts the happiness and life satisfaction of the individuals living within each country.

To determine if people in welfare states are truly happier than those living in capitalist states, I compared each country’s ranks in life satisfaction and well-being indexes, discussed differences in country data, including GDP, income per capita, and unemployment rates, and examined previously published research on the topic. Most importantly, I interviewed middle-aged Americans and Danes via email, and interviewed in person American students studying at Bentley University and Loyola University and Danish exchange students studying at Bentley University for a semester. These participants were asked about their careers, happiness, success, and life in their country.

My findings revealed that Danes truly are very content people. They have the highest income equality in the developed world, and have similar living standards, so there is very little competition. The Danes seem to greatly appreciate the benefits that they receive from the government. They pay extremely high taxes, but they do not have to worry about paying for healthcare, education, or childcare. They like the income security and do not fear failing and not being able to support themselves and their families.

Conversely, Americans are generally not happy with their economic system. Many Americans do not foresee stability in their economy, and they are very concerned about being able to support themselves and their families. Americans are very materialistic, and they want to be the best, but they are unhappy when they do not achieve their high expectations. Many Americans also do not feel that they reap the benefits that they deserve from the government for all of the taxes that they pay. Americans seem to want a capitalist system, but they are dissatisfied with how their economic system is currently operating. It appears that a great deal of Americans would actually prefer less regulation in the government. Therefore, it seems that if the US implemented a welfare system, the Americans would actually be less happy, even though the welfare system appears to be contributing the most to happiness in Denmark. Overall, though, it can be said that economic policy does have a significant impact on a society’s happiness.
Eileen McCarthy

Advisor: Kristin Sorensen, Global Studies

"A Cultural Study on Gypsies and Travellers in the United Kingdom and Ireland"

Gypsies and Travellers have a long and rich history and culture that goes largely overlooked in history and by society. These groups have retained a status within the United Kingdom and Ireland as outsiders and social pariahs. It is this depiction that caused me to investigation Travellers and Gypsies, the origins and history, the cultural nuances, the discrimination and persecution the have faced in the past, and the discrimination they face today. From this, I analyzed how Gypsies and Travellers are portrayed in the media.

With no true homeland to return to or call their own, Gypsies and Travellers struggle to retain their cultural and historic ways. Having been regarded as foreign nomads wandering across lands not their own, they have continually fought for acceptance and against persecution. Gypsies struggle to find a mix between integrating into a culture and possibly losing their ways, or remaining separate but face the constant social stigma of an outsider. Their fight for social justice and to maintain their culture has brought them to the cusp where their travelling ways are being threatened as lack of traveling sites and the conversion to a sedentary lifestyle is extremely high.

My study revealed several things about the depiction of Gypsies and Travellers. In current popularized media of film and television, Gypsies and Travellers are stereotyped as mystics and if they are a leading part, the main character is often cast apart from the Gypsy community to make them relatable to the general public and separate from the others, causing no authentic Gypsy to ever be the focus. In reality shows the group is sensationalized, and displayed in a dramatic fashion that overshadows the struggles the group encounters. The news media portrays Gypsies and Travellers as invaders and threats to the community, a portrayal that creates a cycle of hostility and stereotyping. To help in the fight for equality and better quality of life Gypsies and Travellers need to be projected a better image than the ones that are being proposed by the media. Social justice cannot be achieved if Gypsies and Travellers are consistently displayed as sources of entertainments or instigators rather than equals.
Over the years, Korean pop culture has spread around the world like a virus. The term, “Korean Wave,” also known as *Hallyu*, has been used everywhere to describe the rising fandom and popularity of the Korean popular culture. In addition, the Korean government has also taken full advantage of this national phenomenon by using forces of soft power where they have managed to utilize this popularity as an export product. The globalization of the Korean identity has changed the political diplomacy and the ideal business model for many companies. With the recent viral success of Psy’s Gangnam Style and Girls Generation, the media across the world is embracing the cultural imperialism that has led the charts in so many countries including the US Billboard. In this Capstone project, I wish to research and analyze the Korean popular music industry, e.i., K-pop, specifically how it has emerged as the key success factor in the cultural hybridization and national branding of the Korean culture and economy.

The only delimitations that must be mentioned are the following: First, the case study will take a look at the Korean Wave from 2000 and beyond only. This is under the assumptions that the K-Pop has made a global impact around this period by entering the music industry in other nations, including the United States. Secondly, this case study will not focus on the impact of Korean dramas and movies with the Korean Wave. Even though the Korean television industry and film industry has contributed substantially, this is true only in some Asian markets and the medium exchange does not reflect the popularity. Thus, the influence of K-pop is the only form of relevance to this case study.

For a critical analysis of how the Korean Wave has affected the world and look at the success factors of the K-Pop sensation, I reviewed educational studies regarding the topic and analyzed prominent newspapers from different countries. Sources include academic journals, edited books, internet websites, blogs, and other social networking medium. In addition, there was a short survey handed out to Bentley University students regardless of gender, age, and ethnicity. I have utilized Google Trends web facility as the resource that shows how often a particular search-term related to the Korean Wave is entered relative to the total search-volume across the world.
Session I
1:00 — 2:45pm
Room: Lindsay 27
Moderator: Professor Phillip Uhlmann
Justin Ondrof

Advisor: Philipp Uhlmann, PhD

*Mozambique: A Five Year Policy Plan*

Project Description:
The objective of this project was to gain an understanding of the phases of development Mozambique has already undergone and create a five year policy plan to foster the continued investment in and development of Mozambique. Too often have economies, particularly in Africa, seen their valuable resources excavated without proper retribution. This leads to the short-term growth of the economy that ends as abruptly as it started. The policy plan I set out aims to ensure that development in Mozambique is sustainable.

Research Methods:
I began my research with a brief history of Mozambique to determine a relevant period to measure growth; in Mozambique this period begins post-civil war in 1992. I conducted research into the available industries in Mozambique to understand what was holding these industries back in Mozambique or why they were driving growth in Mozambique. I used data from the world development indicator to see what issues are present in the lives of Mozambicans. This gave me a picture of the business environment in Mozambique and what type of efforts would be needed to foster development. I also looked into the general frameworks for income distribution to see how other emerging economies have approached development, namely Peru who has a similar structure to the economy of Mozambique.

Findings:
I have found that Mozambique is a robust economy, with a diverse group of industry, on its way to sustainable development. This development is largely due to continued private investment from companies who are operating in Mozambique’s borders. There are still many areas where Mozambique can develop further, namely through educational initiatives, improved access to healthcare, a deepening of the financial system and the continued growth of industries available to the country. This development will fall onto the shoulders of the government who must keep policies that will attract investment while ensuring enough returns are generated for the people of Mozambique, even if those returns are not given back to the people for several years.
Matthew Rose

Advisor: Professor Aaron Nurick

*The Makings of a Good Enough Professor*

In this research study, the traits and factors which make a college professor successful will be closely examined, specifically in the context of Bentley University. Past studies into similar topics have revealed that there would be no "perfect" professor (that is, one style that would please all students) – these studies have delved into the idea of mothers, managers, etc. The "good enough" concept exemplifies (in this case) a professor whose teaching style is considered effective to the widest breadth of students. Through a survey of Bentley students and further research on the topic, it is shown that traits such as level of intelligence/aptitude and ease of grading, while often thought as key determinants of a professor's success, are not what the majority of students in post-secondary institutions stress for successful professors (whether consciously or subconsciously). Instead, traits such as empathy, honesty, and kindness, and teaching styles that revolve mainly around open discussions (as opposed to lecture) most impact a student's perceived effectiveness of a professor.
“Rhino horn can cure most irremediable diseases, including cancer, and it can improve the sexual life of men.” This kind of affirmation has been made and heard frequently around the world. Are they the truth, or rumors, or maybe they are myths? In 2010, in South Africa, 333 rhinos were hunted and killed for their horns, and the numbers rose to 448 in 2011. The numbers have been increasing significantly mainly because of the rising demand for rhino horn in Vietnam, and the Asian market in general.

Investigations trace to rumors about the magical effects of rhino horn that include curing normal sickness like fevers to serious diseases like cancers and even acting as an aphrodisiac. There has not been enough research to prove whether or not rhino horn really has medicinal benefits. All that emerges in the media is a tremendous effort to disclaim any benefits that have been attributed to rhino horn in order to save the rhinos.

I ask, if rhino horn does not work, why do people want it so badly? To answer this intriguing question, this research paper examines the historical context of rhino horn in traditional medicines and its usages in modern science, compares and contrasts the proven effects against the effects that are created by rumors. Sources of information include different biomedical articles, opinions of doctors, traditional medicinal texts, and modern scientific laboratory experiments’ results.

Detailed studies show that even though the effects of rhino horn have been exaggerated, rhino horn is still valuable in terms of medicinal effects. This further disproves the null hypothesis of modern scientists, who are trying to protect the rhino species by claiming that rhino horn is just like fingernail and has no benefits at all. A comprehensive report about the true value of rhino horn should be made available so that everyone could have a clear overview of rhino horn’s benefits. No information should be hidden as this could prolong the conflict between the traditional and modern medicinal view. This would help to mitigate the clash between Eastern and Western culture’s understanding of rhino horn and also dispel any mythical rumors about the horn’s divine effects.
In recent years, the pharmaceutical industry has been heavily criticized for developing monopoly-like tendencies when it comes to protecting its cash-cow drugs. The common misconception is that pharmaceutical companies have abused their intellectual property rights, and such unethical behavior has caused the consumer to suffer. This paper will address the unnecessary criticism of the pharmaceutical industry.

While this analysis will not provide an answer to global health issues, it will strongly defend the pharmaceutical industry as an ethically sound innovative partner in the development of human health, relative to their use of Intellectual Property Rights. It is important to note that this paper is not an entire defense of the pharmaceutical industry but rather attempts to highlight certain ethical practices that have often been overlooked.

The analysis consists of several different issues: (1) How have patents and patent law affected the pharmaceutical industry historically? (2) What is the relationship between patents and Intellectual Property Rights? (3) How do certain ethical codes apply to tactics used within the industry: (i) utilitarianism, (ii) humanitarianism? (4) What is Pharma’s Corporate Social Responsibility? (5) How do the benefits outweigh the drawbacks of patent protection? (6) Are generic drugs a solution?

Using this data, I was able to conclude that skeptics out there who believe the profiteering of pharmaceutical companies to be unethical are misguided, as Pharma works on behalf of their consumers and remains a major contributor to improving global health. While my findings have recognized patent law as being very strict, it is the most practical solution in aiding pharmaceutical companies with their constant research and development costs sustained in manufacturing pharmaceutical drugs.

This analysis has several implications. First, this is a very controversial topic and I recognize that I am clearly part of the minority who believe Pharma’s use of patent laws to be ethical. One could argue that I am looking for that silver lining within the industry. Second, with everything that has happened within the healthcare industry over the past decade, I hate for readers to misinterpret my paper as a defense for health insurance companies and the tactics they have employed. I am looking at only the cost and availability of manufactured drugs versus generic drugs, relative to intellectual property rights, not the access or pricing of health insurance companies worldwide.
Samuel Warren

Advisor: Professor David Carhart, Department of Mathematical Sciences

*Smart people make mistakes too – A game theoretic analysis of preferred Final Jeopardy wagers*

The game show *Jeopardy!* has attracted some of the smartest people in the world to compete in the trivia-based game show. While watching episodes on TV, I am always amazed at how much information the contestants actually know about very obscure topics. It is clear that the contestants on *Jeopardy!* are very intelligent. However, in the Final Jeopardy round, I am often surprised when players make poor wagers. Some contestants make wagers that don’t give them a chance to win, while other contestants make wagers that end up minimizing their final score (and also, minimizing their final prize money).

I decided to analyze the type of wagers that Jeopardy contestants should make in given situations, and then compare these results to what the contestants actually wager. I was able to use the data from the last two seasons of Jeopardy (sample size of 365 episodes), and analyzed the type of wagers that both the first-place player and the second-place player made. Using this data, I was able to predict how often a random contestant would make a certain wager in a given situation, and this helped me to determine a preferred strategy for the remaining contestants.

After comparing the wagering strategies that actual contestants used and the wagering strategies that I determined to be preferred, I found that there were many contestants that weren’t using an optimal wagering strategy. This resulted in contestants either losing games that they should have won, or winning less money than they could have.
Zack D. Hoffmann

Advisor: Professor Gerry Speca, Department of English and Media Studies

"The Civic Duty"

As a child, I always wanted to be a writer. Reading was my passion and whenever a book didn’t end the way I wanted it to, I would just dream up my own ending to make it better. For my Capstone, I decided to try my hand at actually writing a story, from start to finish, one with a beginning, middle and end.

_The Civic Duty_ revolves around Henry Geiger, New York City’s fixer. When someone has a problem, Henry is the one who saves the day. But something goes array at a charity dinner, and when the death of a family friend is pinned on him, Henry must use his talents to save himself. Filled with politics, mobsters, murder and set in a world connected by mobile media, _The Civic Duty_ examines what is power and what happens when it finds itself in the wrong hands.

I began my career as a novelist by looking back at adventure and thriller classics in order to understand style, the characters and what turns a story into a page-turner. These research texts included the likes of Ken Follett, Daniel Silva, John le Carré, Christopher Reich and Ian Fleming. I also read _Writing Fiction_ by Burroway and Stuckey-French, to provide me with an academic piece to help structure the more technical aspects of my story. Weeks were spent creating, editing and fine tuning the plot, and finally the real writing began.

What I have learned from this experience is that writing a book isn’t easy. Like every craft, it requires one to practice it every day. You struggle with the characters, and the plot, trying to make them believable, but interesting for the reader. Sometimes you can’t think of anything to write and every time after writing a scene, you reread it, think that it is terrible, and have to force yourself to forge ahead. But there are moments during the process, when everything falls into place, the characters lift of the page and the story comes alive. As a writer, those are the moments that you live for.
Session II

3:00 — 4:45pm

Room: Adamian 141

Moderator: Professor Aaron L. Jackson
Gerard R. Fischetti

Advisor: Professor Dhaval M. Dave, Department of Economics

"Do Democratic Institutions Matter for the Microfinance Industry?"

Are democratic institutions important for explaining the rise of microfinance? Are countries with democratic institutions more likely to see widespread penetration of the microfinance industry? While a large literature has explored the effects of microfinance availability on a variety of outcomes, there is a dearth of evidence as to which factors promote the supply of microfinance across and within countries. This study addresses this knowledge gap and assesses the extent to which political and economic institutions may provide a stable business environment for microfinance to thrive in a country.

Applying a conceptual institutional framework to the microfinance context, this study aims to describe relationships between the institutional context of a country and the supply side of the microfinance industry, as measured by annual aggregate loan amounts and the number of microfinance firms. The analyses are based on a panel of 118 countries spanning 1995-2013. Models are estimated using OLS and fixed-effects Poisson estimators to control for unobserved country-specific heterogeneity and unobserved general trends. A vector of control variables, including GDP, foreign direct investment, measures of educational attainment, trade openness and the savings rate, is further included to account for differences in development and human capital between countries. Models are also estimated for samples stratified across level of development to identify disparities in the effects of institutions in countries with differing standards of living.

Estimates suggest that political rights, low corruption and access to credit information are significant determinants of the supply of microloans and the number of microfinance firms. These results have important implications for understanding the cross-national spatial disparities in the penetration of microfinance firms, and point to the importance of accounting for differences in democratic institutions when studying the effects of microfinance availability.
The Great Recession of 2007-09 gave rise to an unprecedented magnitude of unconventional accommodative policies to keep the world financial system afloat, international collaboration on macroprudential regulations, interventions in the foreign exchange and securities markets, and the provision of liquidity through capital swaps, etc. India’s monetary policy framework has undergone several transformations reflecting underlying macroeconomic and financial conditions. This momentous time in economic history has placed a renewed focus on the independence, transparency, credibility and effectiveness of communications in both developed and developing economies alike.

The objective of this research paper is to explore the importance the Reserve Bank of India’s (RBI) independence on long-run growth economic growth. Since its establishment in 1935, the RBI has become more independent over time. It has since followed a consultative monetary policy decision-making approach wherein the monetary and fiscal authorities work in tandem to achieve the national priorities of price stability and economic growth.

For this study, insights have been drawn from a meeting with RBI economists from the national headquarters in Mumbai, India. It was found that the RBI considers independence as an important pre-requisite, yet emphasizes that the middle course for monetary policy is critical for balancing growth objectives and inflation expectations. The literature review of media publications released during RBI Monetary Policy Reviews indicated that the public’s perception of the RBI’s objectives is a function of not only authentic communication from the central bank issued reports and statements, but is also strongly influenced by variables such as exchange-rate and current account deficit, which are not among the goals most effectively remedied by targets for monetary policy, such as money supply and interest rates, or controlled by conventional monetary policy tools. To address the recurring inconsistency between actual and perceived objectives, this study proposes a hierarchical mandate for the RBI. This mandate is designed to place price stability as a primary objective, followed by a secondary set of objectives, namely economic growth, financial stability, and exchange-rate stability, respectively.

The RBI’s ability to steer the economy in the right direct in the face of unforeseen economic shocks is contingent upon setting an exact vision of its objectives. The role of forward guidance, which has been amplified in the RBI’s communications, especially post the Great Recession is directly indicative of the overarching objectives, and will be an important factor for the success of expectations management in the years to come.
This paper explores the proposition of implementing a citywide curbside composting program for all schools and homes in Belmont, Massachusetts, while first focusing on an implementation of a pilot program for schools and a small residential sample. The main purpose of this study is to quantify the costs and benefits of implementing a composting program using both environmental and economic standards.

The environmental impact of this program was calculated primarily through the reduction in green house gas (GHG) emissions. However, other factors considered in this scenario include the reduced need for landfill space, the possibility of useful energy produced by anaerobic digestion, as well as the town’s ability to reuse the compost. To determine the environmental impact from residential households, 2013 waste statistics for the town of Belmont were used to calculate predicted GHG reductions via the Environmental Protection Agency’s (EPA) Waste Reduction Model (WARM), using the 35% residential organic waste diversion goal set by the Massachusetts Department of Environmental Protection (DEP). To determine the environmental impact from schools, waste was weighed over two days in a Belmont elementary school. Waste statistics were then extrapolated forward based on the number of students per school to determine the Belmont school systems’ total compostable waste. These waste statistics were also processed through the EPA’s WARM model to determine the reduction in green house gas emissions from composting in all Belmont schools.

The economic considerations of this proposal examine (1) the costs incurred and (2) the savings generated by the town of Belmont in adopting the program. Cost payments, which include multiple cost options, were estimated by Garbage to Garden, an organics processing company that started its operations in Portland, Maine, but has expressed interest in moving to the greater Boston area. The cost savings associated with this program include a reduction in tipping fees at landfills and the possibility of a reduced contract prices with current waste haulers. In addition, program costs may be offset by DEP grants available to towns pursuing composting programs.

The environmental benefits and cost savings demonstrated by this study may help explain why composting initiatives are gaining popularity, particularly in Massachusetts. Importantly, the results also show the positive impacts that a composting program can bring to the Belmont community and how implementing such a program can help the town become a leader among sustainable communities.
Evelyn Kobierowski

Professor Claude Cicchetti, Department of Finance

"Exploring Poland's Success in Attracting Foreign Direct Investment in Private Equity"

Poland has received the largest amount of Foreign Direct Investment (FDI) in Private Equity (PE) among all of the Central and Eastern European (CEE) countries. Investors choose Poland for several reasons including political considerations, the economic environment, financial incentives, government policies, and any natural advantages Poland has that encourage investment.

As the first former-Soviet country to transition to a market economy, Poland had an advantage in attracting all forms of investment. ‘Shock therapy’ reforms shortly thereafter further helped to transform the country. A privatization program of state-owned enterprises then provided the PE market with the investment opportunities it needed to grow. In addition, other countries provided the financial capital necessary to help rebuild the country. Many of the economic problems that plagued Poland due to its Soviet past were resolved and Poland’s GDP began to grow at an increasingly fast pace.

Poland adjusted to the rapidly changing business environment by enacting new laws and regulations as well as constantly revising any existing ones. Poland joined the European Union (EU) in 2004 prompting further changes to make the business environment in Poland more aligned with that of the EU. Joining the EU also meant Poland received structural funds to build its infrastructure and establish programs aimed at providing funding to investors. Throughout this time, Poland’s GDP continued to grow, even throughout the 2008-2009 global recession, particularly since it had the flexibility of its own currency rather than the much stronger Euro.

Poland has natural advantages in attracting FDI in PE as well. Its geographic location in the center of Europe allows for easy transport and travel. In addition, its sixteen ‘voivodeships’ provide investment incentives, such as tax breaks, for investors. The Polish labor force is skilled and inexpensive, and its citizens have adopted many Western ideals that make doing business easier in Poland.

While Poland has some issues, such as emigration and an inefficient court system, that might be detrimental to the country, positive economic, political, financial, labor, and geographic considerations have impressed investors. Foreign investors see Poland not just as a CEE country, but as a special opportunity worthy of significant investment in private equity.
Kenneth Yang

Advisor: Professor Aaron Jackson

"Social Security: The End is Near"

The social insurance system in the United States is failing. The social security trust fund, which takes in payroll taxes to pay retirement benefits, is expected to go cash flow negative within the next few years. According to the Social Security Administration, the fund is on track to be empty by 2033. Potential factors that have expedited the insolvency date of this fund include lower worker to retiree ratios and birth rates. The most recent recession has pronounced these effects and increased the urgency for implementing changes. What can be done to extend perpetuate the life social security? Program variables like tax rates, benefit levels, or retirement can be adjusted; or, the whole system can be made private where each individual has an account tied to their name. Proposals for changes to the social insurance system have been politically untouchable, but the stalemate appears to be beginning to thaw. Many economists have proposed privatization, which Chile has successfully implemented. This paper investigates the Chilean model, what parts the US should consider, and what the transition process might look like. Knowing what has gone right and wrong in Chile, the US has a hindsight advantage. Privatization benefits both the macroeconomy in terms of productivity and an individual's retirement income. Additionally, it guarantees an individual retirement income to the extent that they use it, unlike the current social security system, which makes no promises.
During my time at Bentley, I've had the honor to build lasting friendships, develop myself personally, and experience a completely different culture. As an international student coming from Honduras, my time in school was an adventure. There were many instances where I discovered and experienced new encounters that were comical, insightful, or empowering. In order to capture the essence of what it means to be an international student coming through college, I decided to write a novella.

As a reserved teenager with huge ambitions, *Letters To Mom*, documents Daniel Rod's journey through college as told through letters he writes to his mother. Daniel, who is known to keep everything to himself, has a distant relationship with his mother so he decides to put all of the things he wishes he could say to his mother in letters that he always addresses but never sends to her.

As the years goes by, Daniel starts to learn why he became the way he did and finds true love and admiration for everyone around him. The letters capture Daniel's changes through college but most importantly his progression as he becomes and independent, confident, and successful man. From culture shock, to relationships, academic hardships, and friendships – both failed and flourishing –, each letter portrays a vivid reflection of who Daniel is and who he is becoming.

While Daniel's story is not of autobiographical nature in connection to my story, it explores some of the challenges I had to face when transitioning to both university and American culture. The fourteen chapters of the novella capture the whole four years of the college experience. From a freshman who is trying to find out who he is, to a confident and accomplish graduating senior, the novella is a celebration of personal growth. After reading it, you should have the sense that no matter where you come from, you can grow from the people and experiences around you.
Session II

3:00 — 4:45pm

Room: Adamian 143

Moderator: Professor Gregory Hall
John Lurvey

Advisor: M. Lynne Markus, Department of Information and Process Management

"Big Data and Sports"

Baseball is America’s pastime and as a result, controversies naturally arise within the sport. From the steroid buzz throughout the past decade to the current disputes over the scope of instant replay, controversy surrounds baseball. As a result, I became interested in a new technology of great magnitude that could potentially replace umpires and change the dynamic of baseball forever.

The current problem in the MLB is simply the fact that too many close plays involving borderline calls are increasing controversy throughout the league. The purpose of this research is to investigate the possible consequences of the implementation of PITCHf/x and make recommendations about alternative ways to mitigate concerns.

PITCHf/x uses a set of high-tech cameras to track and digitally record the full trajectory of live baseball pitches. It has not been utilized on a large scale due to the inability to process the mass amount of data output. Given recent technological advancements, the software has substantially developed and the MLB currently uses it to train umpires.

The approach to my analysis focused on scenario planning, specifically stakeholder, STORM, and morphological analysis. STORM framework depicts trends that are relevant to the decision problem which ultimately support the final recommendations while the morphological analysis explores many possible solutions to the given multi-dimensional problem. The stakeholder analysis ensures that the numerous people and organizations that are affected by the problem are accounted for.

After evaluating several alternatives, I recommend a gradual implementation starting after the 2014 season of PITCHf/x in all teams’ simulated offseason practices and then spring training games. PITCHf/x will operate on its own while the umpire can override any potential glitches in its early stages of implementation. The system will project the digital strike-zone on the jumbotron while an automated voice makes a ball/strike call.

This study highlights the numerous scenarios and potential outcomes of implementing PITCHf/x as the primary umpire for ball/strike calls. PITCHf/x is of much larger magnitude than these small replay rule changes as it would be used each and every pitch, which is why it must be looked at from so many angles. At this point, only time will tell how warm of a welcome PITCHf/x will receive upon its introduction to everyday use.
The way people make decisions about their money is something that has always made me curious. Given that I had a chance to investigate just about anything for my Capstone Project, I decided to study works on behavioral finance, and then replicate some experiments I read about as well, which were conducted primarily on Bentley University upperclassmen.

After studying the works of several psychologists and economists in behavioral finance, including Nobel Prize winner Daniel Kahneman, I was most interested by the concepts of relativity, framing and loss aversion. Using these concepts as my foundation, I designed two experiments that were similar to the ones I had read about. The first was a relativity experiment involving a choice between a set of apartments to rent, while the second was a framing experiment based on taking or leaving a bet. Both experiments had elements of loss aversion embedded in them. The experiments involved making a selection of one choice from a set of choices. A total of 233 students responded to the experiments, with one group containing 115 students and the other containing 118 students. Following the experiments, I conducted interviews with 20 people that were part of the 233 who took the experiments, so that I could find out the reasoning behind their decisions.

The results from the relativity experiment showed that when presented with two options (Group 1), a majority of the respondents chose the cheaper one, and when presented with three options (Group 2), two the same as before, with the addition of a third option at the expensive price, but with a lower value, a majority chose the expensive option that the majority of Group 1 respondents did not choose. The results from the framing experiment showed that respondents were more likely to bet a $100 when they were told the odds of winning (Group 1), whereas a majority of respondents were likely not to bet a $100, when giving the odds of losing (Group 2), even though the mathematical meaning of the bet was the same for both groups.

Interestingly, the findings from my experiments were in line with the expectations I had developed after reading literature on the subject. However, in order to gain more conclusive evidence on this matter, I would suggest that these same experiments be conducted in real life scenarios rather than in a hypothetical way. For instance, instead of asking whether someone will bet a $100, they should be actually made to bet or not bet that amount to see whether they would actually go through with what they say.
Hussein Hasan
Advisor: Fred Tuffile

'The Future of the Social Networking Industry and How Entrepreneurs Will Get Us There'

If one had to choose one of the most impactful and revolutionary technological developments of this decade, most would be hard pressed to leave social networks out. While it is now an integral part of our day-to-day lives, social networks have revolutionized how businesses perceive and interact with its stakeholders. Given that we understand the importance and value that social networks provides to all of its users, it seems quite trivial that we cannot agree on an optimal business model for such a revolutionary technology.

While it is difficult to create an absolute optimal business model for media giants such as Facebook, I believe that there is decipherable success formula for entrepreneurs. If I were better able to understand the winning formula that transformed social network start-ups into industry giants, I would be able to create the success formula that would help current entrepreneurs succeed in the highly competitive, highly aggressive industry that is social networking.

In order to create this 'success' formula, I sought out to complete two different analyses that would replicate the two necessary phases of a social network. From an entrepreneur’s perspective, these two stages are the design stage and the growth stage. The first stage, design, targets how entrepreneurs and developers alike can design and configure a network not only works, but also is designed to capture its intended market. The second stage, being the growth stage, involves numerous strategies and technical implementations that would help the social network grow, without alienating users, or losing key strengths, as many other social networks have.

Both stages of analyses used a mixture of qualitative and quantitative measures. My qualitative analyses revolved around case analyses of current and/or previously existing social networks, to determine the root cause of the success or failure. The qualitative analyses revolves around two sections: financial and performance. The financial studies the importance of funding, capital structure and revenue models that influence the success of social networks. The performance section analyses these subsequent revenue and operating models, and allows us to compare them to one another on a standardized level.

Both qualitative and quantitative research supported an optimal formula for success (a rudimentary business model) for each of the two stages of a social network start up. But what is even more interesting is that the research indicates that the social network industry has more room for niche competitors. These new niche market social networks can easily adopt and transition between the two suggested business models and employ my financial and operational suggestions within reasonable means. As an avid analyst and entrepreneur, these results will no doubt be of interest and benefit of any entrepreneur seeking to start or work in the social networking industry.
Lacey Nemergut

Advisor: Professor Linda McJannet, Department of English and Media Studies

"Millions From Millennials?"

This project focuses primarily on the future investing habits of the millennial generation based on their reaction to the financial crisis.

It analyzed the crisis using a sampling of books, autobiographies, documentaries, newspaper articles and newscasts. Each source was chosen specifically for the analysis in terms of what I feel, as a member of the later millennial generation, would be the preferred, negotiated, and oppositional reading of each source. In terms of methodology, I used ideological or discourse analysis in order to study the social patterns of perception throughout the crisis.

I conducted primary research using a survey of 36 Bentley University students, current millennials, and their feelings towards investing. The survey consisted of asking a random sample of students the following: (1) How confident are you in your ability to make money in the financial market? (2) What best describes your state of mind during the financial crisis?, and (3) rank the risk of your investments (i) Triple ‘A’ Rated Bonds, (ii) moderate risk, (iii) high risk.

Using this data, I was able to support my analysis of a presidential address from George Bush, various newspapers and programs during the crisis, Hank Paulson’s On the Brink, and Michael Lewis’s The Big Short. Furthermore, the millennials appear to interpret these sources with the mantra of “keep calm and carry on”. According to psychologist Jean Twenge, millennials are particularly known for their unwavering optimism despite negative surrounding circumstances. This millennial tendency

This study has several implications. First, it suggests that millennials will not be hesitant to invest as they begin to earn larger pay checks. Second, it suggests that millennials seek and process information differently than prior generations. Third, it suggests that millennials might be overconfident in their ability to earn money in an unpredictable or down market and thus suffer negative financial consequences.
I have always been very interested in the fashion industry because of the fast-paced trends that come and go. The classic explanation for implementing intellectual property rights is that these laws are supposed to create an incentive for authors to innovate as they are given protection and sole control over their creations. However, the fashion industry is a very unique industry when compared to other creative industries such as music and book publishing. Currently, U.S. intellectual property law does little to protect fashion designs yet the fashion industry is still thriving, injecting billions of dollars to the U.S. economy. Based on the research I have done, I attribute the fashion industry’s success to the lack of copyright laws. Some people propose to amend the current legislation, to extend copyright protection to original fashion designs, but through the studies and research done, the proposed legislation would stifle innovation instead. The fashion industry essentially thrives on copying and the “piracy paradox” theory perfectly explains why.
Session II

3:00 — 4:45pm

Room: Adamian 260

Moderator: Professor Michael Quinn
The economic dynamics of a nation and the magnitude of both domestic and transnational terrorism are connected. Nations exercise a considerable amount of resources to counter terrorism, so proper allocation of resources towards the appropriate influences is crucial. This regression analysis of data spanning from 2002 – 2011 for 115 countries demonstrates that there is sufficient evidence behind certain causes of terrorism including education, political stability, health, economic growth, employment, and size of population. These indicators are analyzed against the Global Terrorism Index, compiled by the Institute for Economics and Peace. Unfavorable social and economic conditions prove to contribute to a higher prevalence of terrorism. In addition, the impact of these determinants differs at various levels of economic development, so the data set is also analyzed at four different levels of income. This study approaches the question of the determinants for terrorism in destination countries, rather than originating countries, by analyzing a comprehensive sample and taking into account an extensive selection of variables.
Matthew O’Connell

Advisor: Mike Frank, Department of English and Media Studies

"Why are Generic Drugs Being Held Up In-Transit? The Effect of Intellectual Property Enforcement on Developing Nations"

Every year, the Bentley University Honors Program’s students research and write exceptional capstone projects. The wide variety of topics covered, and the depth to which they are researched amazes me and I hope everyone else. This year I enrolled in Mike Frank’s Capstone led class which focused on the topic of intellectual property. I ended up researching and analyzing the international trade of the pharmaceutical industry, specifically in regards to the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) and its effect on developing nations’ access to generic drugs.

To analyze this topic, I researched past issues regarding developing nations and their ability to provide access to cheaper alternatives of brand name drugs. Brazil and South Africa are two prime examples of nations that need access to cheaper alternatives; therefore I found specific cases where these nations clashed with pharmaceutical companies over the interpretation of TRIPS and their ability to import or produce generic drugs.

I first started by learning exactly what the TRIPS agreement was meant to do, which was to provide more strict intellectual property rights, not just for pharmaceuticals, but for all IP. Developed nations who have a vested interest in stronger IP laws applauded the TRIPS agreement as it looked to protect IP dependent industries. In my research I found that when nations like Brazil and South Africa try to import generic drugs, pharmaceutical companies and the governments of developed nations look to step in and claim infringement on their IP. Since the TRIPS agreement provides certain loopholes to support public health, Brazil and South Africa were able to legally obtain these drugs for their unique circumstances.

Problems have arisen recently in regards to the transport of the generic drugs from India, a main producer of the drugs, to Brazil in order to support their public health system. Even though TRIPS allows for these drugs to be manufactured and administered in both India and Brazil, countries that do not recognize the legality of the generics (i.e. the Netherlands) have impeded their transport. The Netherlands has been seizing and sending back the generics on the tarmac of their airports, not allowing them to continue on to their destination in Brazil.

If nothing is changed in the near future, then the Dutch will be allowed to continue these practices. I conclude that the legality of these actions is very questionable because it interferes with the intent of the World Trade Organization (WTO) and TRIPS agreement. Without a change to these practices, developing nations reliant on the importation of generic drugs will face many issues in sustaining their public health programs.
Samantha St. George

Advisor: Professor George F. Thompson, Ph.D. Assistant Dean of Bentley University Graduate School

“The Development of Multiple Dimensions of Identity”

The years in which a person is in college is essential to the development of his or her identity. What is often overlooked in psychological studies is the development process and implications for those students who have multiple identities. Humans are such complex and diverse creatures that to simplify the many facets of a person to a single identity is unfair and inaccurate. As a result, I researched the developmental process of one’s identities and tested a relatively new and universally recognized Model of the Multiple Dimensions of Identity through an exploratory study.

This exploratory study involved interviewing five different Bentley University students, in addition to myself, who all happened to be seniors between the ages of 21 and 22. They came from a plethora of backgrounds, varying in race, culture, sexual orientation, gender, and a number of other identity dimensions. I asked them each to complete a short exercise and to answer 28 open ended questions about the different elements of the model, which include the core, social identities, identity salience and the context.

Using the information collected from the interviews, I was able to compare the answers amongst the diverse group of students, as well as to the results from the original model and study conducted. It was an intriguing and mind-opening process. All of the participants expressed the challenge they faced in the initial activity when describing who they are in a single word. This struggle continued throughout the interview when they were asked questions about a single aspect of their identity. The participants also acknowledged that they found their social identities helped to form their personal, or core, identities and vice versa. Finally, the participants found varying levels usefulness of the model depending on their social identities and the composition of their model.

There are several implications to this study. It suggests that identity truly cannot be defined in a single term and is not an isolated concept. In addition, it suggests that it really is important to consider the overlapping and conflicting dimensions of identity that make each of us unique and who we are, in addition to the environments we are in. Finally, it indicates the role that privilege and oppression plays in our daily lives, both in a positive and negative way, and how it helps to shape our identities.
America is a country of diversity. Yet, until we achieve a common understanding and appreciation of our differences, we will continue to be a nation riddled with senseless diversity-related conflicts. This study investigates the often-overlooked role that specific television programming plays in promoting acceptance of these differences. Many people dismiss television programming as mere entertainment, and in doing so, they fail to recognize the important social role television continues to play society’s journey to acceptance.

Through a comparative analysis of television series, I was able to test out the role that television plays in encouraging diversity. Through the textual analyses offered in my study, I demonstrate how directly connected the media, specifically scripted television, has become with our progress toward the acceptance of diversity. I explore the following points: the definition of effective diversity and its importance; an identification of historical diversity trends in scripted television; a theory on stereotypes and controversial scenes; and a model of viewer acceptance of diversity.

My comparative analysis in this study indicates that producers intend to activate audiences through their narrativization of diversity issues within series starting with *All In The Family* in the 1970s. They clearly intend for viewers of series featuring casts of diverse characters and utilizing plot lines that deal directly with diversity-related issues, to understand, empathize with, and eventually, become more open to diversity. Therefore, in this study I argue that there is a correlation between the increased degree of diversity in casting and content on network television and the level of acceptance of diversity among American television viewers.
Emelia Misovic

Advisor: Professor P. Thompson Davis, Natural and Applied Sciences Department

"Just Because We Live In the City Does Not Mean That We Cannot Grow Food in Our Backyards"

Americans have a craving to consume that cannot be satisfied. Those who live in the suburbs and the cities are in constant search of convenience and often choose the closest store with the cheapest prices. People purchase the food that they desire with little remorse for the waste of energy, resources, and time that go into transporting those goods across the country. They obtain those products without considering the negative impact that chemicals and preservatives introduced to the foods being consumed will have on their health. What many of those frazzled shoppers do not know is that there are other options. Urbanites are more than capable of growing food in their own backyards. Urban farming is healthy, economical, and beneficial for the environment. It may become the next trend to sweep our cities, perhaps riding on the coattails of trends like recycling, reusable bottles, and hybrid/electric cars.

Methodologies employed in this project involved research of the topic in the popular literature and a survey of Bentley students about their general knowledge spanning the food distribution system in the United States, farmers' markets, and interest in locally grown produce and other food products.

Preliminary results of random sample survey of Bentley students showed that the majority were unaware that farming was a possibility for those who live in the city. Over 80% of students were not familiar with the local urban farming initiatives and they were unaware of restaurants and businesses in the area that were participating. The overwhelming majority of Bentley students only visit Farmers Markets once or twice a year, and over 70% of students have not visited the Farmers Market on campus. Over half of those surveyed, however, did find the reduction of chemicals and preservatives in food to be the most appealing aspect of urban farming. According to the results of this survey, the urban farming trend would gain the most support by constructing a marketing strategy geared towards the health benefits of switching to locally grown food. The foundation for an urban farming revolution is in place; now it is up to the American public to decide if they are going to help propel the initiative to greatness.
Residential real estate value affects families' lives in a direct and intimate manner. It often dictates our ability to comfortably and confidently move onto a new stage of life. Stable home ownership also confers significant social benefits in the form of educational achievement, civic participation, better health, and lower crime. The past decade, however, has witnessed a historic upswing in home prices, reflecting a housing market "bubble", following by a substantial downswing from the bursting of the bubble. This study broadens the focus from national changes to sub-national spatial changes in home prices at the state level, and assesses the impact of fundamental economic factors on these changes. The recent periods of tremendously high volatility, followed by low activity and low volatility, make it important to families to understand what impacts the value of their homes.

A hedonic pricing model relates home prices to a bundle of fundamental home-specific and environmental components. The analyses are based on changes in the price of a standardized home, derived from the Federal Housing Finance Agency (FHFA). Hence, the key factors that affect changes in these prices over time are related to the economic environment. This study employs information on home prices for all 50 states, spanning 1990-2012. This is a period that represents current economic conditions, and is large enough to encompass multiple economic expansions and contractions, including the recent, most impactful cycle. It also provides a window that does not include previous decades where interest rates were tremendously dissimilar than they are now.

Multivariate regression models assess the effects of various state-level and national factors, including the unemployment rate, crime rates, mortgage rates, real income per capita, performance of the stock market, real GDP growth, population changes, and changes in overall price levels. In addition, alternate specification control for state fixed effects to account for unobserved heterogeneity across states, which may be affecting local housing markets. Estimates suggest that these factors have significant effects on the housing market, consistent with economic theory.

The results from this study inform how much of the upswings and downswings in housing prices can be explained by changes in fundamental economic factors. The estimates can also be utilized to quantify spatial differences in the housing bubble – that is, the run-up in housing prices that cannot be explained by fundamental economic factors. Furthermore, the models can predict future trends in housing prices utilizing projections of economic fundamentals. The scope of the analysis makes it valuable to government, forming political opinions, and dictating economic policies.
Session II
3:00 — 4:45pm
Room: Adamian 262
Moderator: Dean Jane Ellis
As of 2009, there were approximately 291 million US life insurance policies in force. While in the past, the main risk to insurance companies issuing these policies was premature death, or mortality risk, changes in consumer preferences have created a growing market for life insurance policies that also serve as investment vehicles. Thus, investment risk has become a main concern for policy writers. For my Capstone project, I used financial derivatives to illustrate methods of hedging away this investment risk.

The financial derivatives I used throughout my research are call and put options. My first area of study examines a popular method of valuing these options, known as the Cox-Ross-Rubenstein method. I used the CRR binomial pricing model to value options on Apple, Exxon, and Microsoft stocks. I then compared my calculated option prices to the actual trading prices of the options. In the best case, the price of a put option on Apple stock differed from my calculations by only .4%. In the worst case, the difference between the actual and computed price of a put option on Exxon stock was 552%. Large differences between calculated and actual option prices may be explained by investor speculation and low option costs.

I then utilized the Cox-Ross-Rubenstein pricing method to create a delta hedging strategy for options on the three specified stocks. In short, delta hedging reduces the risk that is undertaken by the option seller. For my research, I calculated the amount of the underlying stock that an investor should hold based on their short positions on call and put options. In practice, the CRR pricing method has many limitations that arise as a result of its unrealistic assumptions. These problems gave rise to an adaptation of the model known as the extended CRR, which is more accurate in calculating option prices. By pricing the options more accurately, the resulting delta hedging strategy is more effective. This increases the probability of profiting on option sales as well as the dollar amount of that profit.

I completed my Capstone by focusing on the structure of equity-linked life insurance products. Variable annuity life insurance products contain guaranteed minimum death benefits, making them very similar to put options. Furthermore, equity-indexed annuity life insurance products have participation rate features that act in ways similar to call options. Therefore, equity-linked life insurance products often act as put and call options, meaning that the risks of these products can be hedged against in a similar manner to financial derivatives.
In 1963, the Clean Air Act was passed. This federal law was established in order to regulate airborne pollutants, as these were proven to have a negative effect on health. Economic theory suggests that further investments on pollution abating technology are only justified if the marginal cost of the technology is smaller than the cost savings generated by the investment. While the price of the technology is easily quantified, the cost of pollution is not so. In my research I endeavor to find if there is a relationship between current levels of pollution and individual’s health and economic performance, in order to quantify the cost of pollution.

The study consisted of multivariate regression models, utilizing individual data from the Disease Control and Prevention (CDC)’s Behavioral Risk Factor Surveillance System (BRFSS) and pollution data from the Environmental Protection Agency’s Air Quality Statistics report. Pollution was represented by the registered level of pollution for each of the criteria pollutants in each county. The dependent variables were the number of days physical health of the individual was not good, days the individual missed work due to a health reason, whether the individual had asthma and the individual’s annual income.

Levels of SO2, PM10 and PM25 seemed to be the only ones with a consistent relationship with my dependent variables. The effects of these pollutants on my dependent variables were small to moderate – however, due to the high variability of pollution between counties, the difference between the county with highest pollution and that with an average level of pollution would be significant. For example, a 1% increase in PM10 would lead to a .0265% decrease in an individual’s income. The PM10 variable used has a mean value of 24.27, and a maximum of 192 (691% higher than the mean.) The model suggests that, all other things being equal, a person living in the county with the highest reported PM10 values, would an annual income that is 18.31% lower than a person living in a county with average levels.

This study suggests that there is still a relationship between health and pollution, even under current regulated levels. While there is seemingly little effect of a change in pollution, these are magnified due to the amount of variation among counties. This study shows that one of the mechanisms through which deterioration in health can impact income is through an increase in the amount of days that an individual is inhibited from doing his or her usual activities, due to poor health. Further research could focus on other mechanisms through which pollution could be impacting income.
In today's society, we seem to be very critical of our words and actions as well as those of others. This is largely in part due to the fixation we, as a culture, have developed on being politically correct. With a history of operating in a world where we were not all once considered equals, there is a constant effort to ensure that everyone who inhabits this world is considered and treated of equal value and we operate in an all-inclusive society.

To analyze this current social phenomenon, I took a look at the history and background of political correctness and how it has evolved throughout time. From there I was able to have a better understanding of why it is we strive to such efforts to be politically correct on a constant basis. I also gathered an array of current news stories that illustrate the hype and attention that is brought about by seemingly commonplace and trivial circumstances. When such small occurrences even make the news, this act is usually noteworthy in itself as we as a society are implying it is important enough to raise attention to and learn a lesson from. I was able to gather feedback and impressions of these specific news-worthy stories by asking individuals questions such as the following: (1) What are your initial impressions on this news article? (2) What degree of importance do you place on this story? (3) Do you agree/disagree with the outcome and why?

I also had interviews with a variety of people to get their input on today's effort to be politically correct. I asked questions such as (1) How do you define political correctness? (2) In what types of situations have you made efforts to be politically correct through your words or actions? (3) To what extent do you fear coming across as racist/discriminatory/insensitive towards minorities? (4) Have you ever felt the need to restrain yourself to avoid making a comment that would be construed as offensive/stir controversy? Explain.

From my research and interview findings, I have found that it appears as though we very much operate our lives on a stringent set of rules and in a hyper-sensitive society. We say and do things because we are supposed to and it's what's right as opposed to what we feel naturally inclined to do. There is a general consensus that we as a society generate too much hype towards trivial problems and that consequentially, our efforts to create this all-inclusive society we strive for, entails more effort and causes more controversy than any problem political correctness initially seeks to address.
Christopher J. Forcino

Advisor: Rick Oches, Chair, Department of Natural & Applied Sciences

"Local Wind: The Benefits and Costs Associated with Implementing Locally Generated Wind Power throughout Massachusetts"

Background: In 2008, Massachusetts set a goal to increase the state’s production of wind energy to 2,000 megawatts by 2020. Such an ambitious target must lead to the development of local wind energy projects throughout the state. As communities become more aware of the role alternative energies must play in their lives, a line gets drawn between their level of comfort and their environmental impact. Given this, I set out to provide Massachusetts the necessary information to support or oppose the implementation of local wind turbines based on the economic, financial, and environmental feasibility of past wind projects.

Purpose & Research Methods: The purpose of this feasibility analysis is to produce a tool that both public and private entities can refer to when deciding the practicality of implementing locally-produced wind energy. This was accomplished through the evaluation of peer-reviewed scientific literature, local news articles, and government publications. Leveraging this information with site-specific feasibility analyses allowed me to identify the overarching benefits and costs of local wind projects in Massachusetts. The list of projects was derived from The Massachusetts Executive Office of Energy and Environmental Affairs and organized based on "Wind Power Classifications" provided by the National Renewable Energy Laboratory. Classifying projects based on their geographic wind power capacity eliminated variations in the cost-benefit trend data. To further support these data, case studies regarding two towns – Hull, MA and Falmouth, MA – were conducted that demonstrated a range of financial, social, and environmental outcomes a developer may encounter when considering wind energy as an alternative.

Findings: Using the aforementioned research methods, it can be concluded that there are several specific trends dictating the success of local wind energy installation. Public involvement and the availability of information are essential when considering this energy source as they acknowledge local citizens as stakeholders. These two factors not only facilitate the development of educated opinions among the public, they distribute the decision-making process between residents and town leaders through proactive communication. Another trend that appeared throughout the analysis was the difference in turbine ownership and how that affected the project’s economic viability. Tax credits, turbine operation restrictions, and environmental awareness all varied based on whether the turbine was municipally or privately owned.
Emil Iliev

Advisor: Professor João Resende-Santos, Department of Global Studies

"An Explanation behind the Different Levels of Corruption in Eastern European Countries"

As an international student from Bulgaria minoring in Global Studies, this study will allow me to further explore a topic that interests me and is related to my country and culture. Having lived in Bulgaria for 18 years, I have seen the great negative impacts of corruption on the progress of my country.

Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Ukraine share certain aspects of their political history. Located in the same general region, these states were all behind the Iron Curtain. Following the fall of the Berlin Wall they were identified as transition economies with similar political and economic institutions. They also have a similar socio-cultural makeup. Even though these countries share similar economic conditions, history and starting points, they currently have different levels of corruption. Some of the former socialist countries have been more successful in minimizing corruption while others have not been able to adequately address it.

This Honor Capstone Project will investigate the causes behind the different levels of corruption in Eastern European countries that were behind the Iron Curtain. The study will identify some hypotheses that explain the great importance of corruption in the region. The comparative analysis relies on reports from international agencies, including the World Bank, Transparency International, and the United Nations. The study is also based on information from primary documents and sources such as official governmental and legislative reports. Indexes such as Corruption Perception Index and the Index of Economic Freedom are used to identify various factors that contribute to the differences in levels of corruption among these countries.

Using this data, I was able to come up with the two main hypotheses as to why those transitioning countries are facing different levels of corruption. First, there is a positive correlation between judicial independence and perceived corruption. Second, the countries that are experiencing lower levels of corruption have active civil societies that condemn corruption altogether. Corruption will most likely remain a problem for the region but those countries can significantly reduce it as long as they work on improving their judicial systems and mobilizing their societies.
Teresita (Tammie) Vicente

Advisor: Professor Gregory Farber-Mazor, Department of English and Media Studies

Thralldom

In *Thralldom*, Adhiambo Hlengiwe, warrior, chieftain, and shamaness, leads her collection of Abari tribes and army of slaves against an enigmatic, nameless adversary who has instigated a brutal revolution in the exotic jungles of the Inuros Isles. While fending off the unpredictable and unorthodox attacks of this slippery opponent, Adhiambo must also balance the political maneuverings of her own followers – including the fanatical bloodthirst of Rashidi Djangga’s tribe, the questionable loyalty of the Greon advisor, Sabren Joharis, and the arrival of a new thrall-warrior who could change everything, including Adhiambo herself.

This fantasy novella introduces a new world, where the dark-skinned Abari rule as overlords and masters of the pale Greon, alien Inuros, and their own brethren. In this world, fantastical creatures roam, the spirits imbue their chosen with dominion over the elements, and there are no clear lines between good and evil. Survival and power are the only meaningful currencies.

The idea for this project came out of many years of indulging in fantasy novels and studying the English language. The story leverages techniques I have acquired during my time as a Creative Writing minor and Writing Tutor. To prepare for the writing of this novella, I examined novels and short stories, from the Fantasy genre to those by Ernest Hemingway, along with nonfiction works about the craft of writing.

In creating the world inhabited by Adhiambo Hlengiwe and company, I researched the origins of the transatlantic slave trade, the impact of slavery on the Caribbean, the European justification for slavery, and the subsequent amplification of racism from the transatlantic slave trade of the 16th through 19th centuries. I sought to create a compelling, though not necessarily likeable, female, minority, fantasy protagonist, who possesses a decidedly ambivalent ethical code.

The completion of this project allowed me to develop my writing skills further and resulted in the refinement of my writing style and interests. Researching the transatlantic slave trade and Caribbean society unearthed a wealth of realizations, and revealed a rich period of history where the intersection of race, technology, politics, and economics resulted in a set of societal dynamics that still impact modern society.
Session II

3:00 — 4:45pm

Room: Adamian 360

Moderator: Trustee/Professor Charles Hadlock
Glen Shaw

Advisor: Professor P. Thompson Davis

A Case Study of Covanta Energy Inc.’s Waste-to-Energy Facility in Haverhill, MA: The economic and environmental costs of waste-to-energy incineration vs. landfilling

Waste management and energy resources are two issues that are heavily driven by both their economic and environmental impacts. Ideally, the goal is to manage waste and produce energy from resources in the most economical way with the least environmental impact. However, standard practices of waste management and energy derived from current fossil fuels are becoming both economic and environmental issues that demand alternatives. The standard and historical waste management practice is landfilling. Although landfilling has provided a quick and economical solution to municipal waste management, space is now becoming scarce in many areas, particularly in the northeastern region of the United States, and new sustainable alternatives for waste management are needed. Waste-to-energy (WTE) incineration is an alternative that may be an economical solution to landfilling, while also an alternative source of energy. However, WTE facilities bring with them their own environmental impacts.

This study focuses on looking at the economic and environmental impacts of a WTE facility by using data about the operations of Covanta Energy Inc.’s facility in Haverhill, Mass., that is reported to the Massachusetts Department of Environmental Protection (MA DEP) and the U.S. Environmental Protection Agency (EPA). The environmental and economic impact of incinerating municipal waste is compared to the impact that would have arisen if the same waste from Covanta’s facility had been landfilled. This study compares the amount of waste incinerated, disposal costs, and the emissions and pollutants emitted under each alternative. In addition, a further analysis is made on the economic and environmental benefits that could arise if municipalities and businesses implemented better recycling practices before waste is incinerated at Covanta’s facility. Lastly, energy generated from Covanta’s facility is compared to the displacement of and pollutant emissions generated from coal-fired energy.

Through this case study, data suggest that WTE incineration is an economical and environmental alternative to landfilling. However, data also reveals that recycling a greater percentage of municipal waste that goes to WTE incinerators would be an even better economic and environmental waste management solution. Lastly, it appears that the energy captured from WTE facilities is an economical and environmental benefit when it displaces some forms of fossil fuel energy, primarily coal, to produce electricity. However, a comparison of emissions on the basis of amount of electricity generated shows that municipal solid waste is not as efficient a fuel as most fossil fuels.
The substantial accumulation of external debt in Sub-Saharan Africa sparked considerable debate among economists and scholars about the ramification of a debt overhang on GDP growth and possibility of debt forgiveness leading up to 1995. In 1996 the IMF and other multilateral institutions enacted the Heavily Indebted Poor Countries initiative, which over the course of the following fifteen years sought to fully eliminate existing external debt stock for qualified countries, many of which reside in the Sub-Saharan African region. Further, four more countries in the Sub-Saharan African region have the potential to reach HIPC Initiative completion points, and therefore be eligible for a full scale debt relief. The program in its current state however does not have the necessary funds to finance a continuation of this program. As a result, this study aims to investigate the existence of a debt overhang in Sub-Saharan African countries as well as evaluate the effects of the HIPC initiative on debt overhang variables.

This study constructs a multivariate econometric output equation and investment equation to test the significance of a debt overhang for the years 1990 - 2012. Likewise, it controls for the status of HIPC Initiative completion in order to compare the effects of a debt overhang before and after a full scale debt relief program. The investigation confirms the existence of a debt overhang on the Sub-Saharan region. More specifically, it finds that the total stock of external debt has a significant negative effect on GDP and GDP growth, but is ambiguous when comparing HIPC before and after 1999. Total Debt Service paid also has a significant negative effect on Gross Capital Formation, but is insignificant when controlling for HIPC.
Bitcoins are a unit of money created and used on the internet. Bitcoins can be broken up into small denominations. They can be bought using a long list of currencies, used to buy goods and services, and sold in exchange for that same list of currencies. The Bitcoin community consists of programmers, hackers, computer security specialists, entrepreneurs, day traders, long term investors, retail outlets, and more. This community operates in the USA, China, Ghana, and hundreds of other countries around the world. The community activity has grown from a single transaction in May 2010 to over 50,000 transactions per day in 2014.

The use of bitcoins as a means of exchange has revealed the digital currency offers a number of diverse benefits around the world. In particular, in regions with underdeveloped financial systems like Sub-Saharan Africa, where citizens have limited access to commercial banks and ATMs, people stand to gain from Bitcoin’s low infrastructure requirements that can make money more accessible. Citizens forced to use unstable banking systems also stand to gain from Bitcoin adoption because Bitcoin provides an alternative money platform that doesn’t require placing trust in a financial institution. Furthermore, the Bitcoin system provides the opportunity for transparent transactions unlike anything we utilize today. Accepting that a percentage of Bitcoin users will engage in online crime because they have the ability to browse anonymously on the internet, Bitcoin adoption stands to benefit many different parties.

However, Bitcoin is a young technology and using it comes with a number of risks. The volatile price of bitcoins demonstrates the significant uncertainty surrounding the technology. This uncertainty stems from a low availability of quality Bitcoin education, a consistent news stream of Bitcoin’s involvement in crime, and a lack of professional organizations to keep bitcoins secure for those who do not feel comfortable taking on that responsibility themselves.

In a few places worldwide, citizens have decided that the benefits of using bitcoins outweigh the risks. This is far from true in the US, where most are not driven to that view because of extensive infrastructure and a financial system that revolves around the world’s reserve currency. The Bitcoin community must work to change the perception of Bitcoin to improve the probability of Bitcoin’s survival and continued development. This change starts with improving the quality of Bitcoin education to make the foreign concept less intimidating, and it continues with innovation to make the technology more accessible. The Bitcoin community has a great opportunity to prove there is a positive side to using bitcoins with further developments in areas with weak financial systems, particularly Spain and Sub-Saharan Africa. If the community comes together and proves that Bitcoin can improve the quality of life for people in need of a change, Bitcoin’s perception will finally start to turn around.
Krystin Pashby

Advisor: Professor Aaron Nurick, Department of Psychology

"How Twin Studies Play a Role in the Nature v. Nurture Debate"

As an identical twin, my sister and I share the same genes and continue to inhabit the same environment, but there are some fundamental differences between us. In choosing a capstone topic, I thought that it would be interesting to see to what extent our environment and genetics have influenced the people we have become. I chose to examine a multitude of twin studies in distinguishing between the roles of nature and nurture in development in an attempt to understand the distinctions between my sister and me.

While the majority of my research tends towards nurture rather than nature, I have identified other factors in twin development that are relevant to shaping identities, namely personality traits and forming relationships. Twin studies, such as Minnesota Twin Studies, provide insight into educating twins and parents of twins on present and future scenarios. These studies are also beneficial in assessing the population as a whole since they associate various traits with environmental conditions.

For my analysis, I began by viewing pop culture movies based on twins separated at birth and later reunited. The movies I viewed included The Parent Trap and It Takes Two. The purpose of these fictional narratives as research tools was to gather a secondary sense of the development of personality traits and forming relationships to compare to my primary observations. While viewing these movies and home videos to represent a perspective of twins reared together, I measured the following categories of personality traits and rated how much a trait was expressed from each twin on a scale of 1-5: aggressiveness, striving for achievement, need for personal intimacy, leadership, obedience to authority, sense of well-being/excitement for life, response to stress, attitude towards risk and introverted/extroverted manifestation.

Most of my research suggested that nurturing has a greater effect on the personalities of twins, but I found that nature has a developmental effect as well. Both were definitively evident in my results. Interestingly, I also found that twins share a special bond unlike other siblings despite their environment. Through looking at how substantial the differences between twins are, I found that parental roles have a great influence on both of my variables in ways that may seem small but have a dramatic effect in twin upbringing. All of my findings have led me to believe that different interactions and relationships affect twin personality styles and characteristics.
In November of 2011, Massachusetts introduced a bill to bring casino gambling into the state. The bill created the Massachusetts Gaming Commission and granted licenses to three regional casinos and one slot parlor. With astronomical licensing fees being paid by viable gaming corporations and detailed presentations to the state board being set in stone, I set out to investigate which towns should be awarded the bids. I also wanted to determine the impact that gambling would have on the Massachusetts’ economy and the well-being of its residents.

Gambling has already had a tremendous influence on Massachusetts through current laws regarding lotteries and charitable gambling. My journey into the evolution of gambling has brought up many ethical questions well worth deliberating, including: *Is the current perception that the poor are the largest segment of the population to gamble accurate? How do compulsive gamblers develop their addiction? Do legislators and community members act out of greed when it comes to revenues from casino gambling?*

After establishing both background and conceptual context for this analysis, I strive to explain why many people outwardly support casinos but change their opinions when the option comes to their own neighborhoods. A recent poll identifies the legalization of marijuana in Massachusetts as one reason that voter support is waning. Gender differences also arise from the polling as another reason. I isolate what factors are needed to build a preeminent casino empire in the state by evaluating Springfield, Revere, and Everett as the top proposals.

I conclude my analysis with an educated recommendation for the towns chosen by addressing the main externalities associated with casino gambling. I use the curriculum from my Urban and Regional Development class in endorsing the three casino locations and suggesting tactics for decreasing crime in these areas. My interest in Insurance as a career and my studies in Risk Management give me a model through which the state can oversee the losses of its residents. My general knowledge of IT systems, financial statement analysis, and ethical theories allow me to express my own opinions on the current issues the state is grappling with. The results of my analysis are far-reaching and go beyond the Commonwealth to many areas considering the development of casinos. Even the most timid gambler will walk away with a wider breadth of knowledge upon reading “Not in My Backyard: The Paradox of Voter Support for Casino Location Decisions in Massachusetts.”
Sanjay Raha

Advisor: Professor P. Thompson Davis, Department of Natural and Applied Sciences

"Desertec: A Financial Analysis of Powering the World with the Saharan Sun"

The purpose of this project is to examine solar energy as a viable long-term source of electrical power. With an ever increasing demand for energy, there has been a shift in focus towards projects that rely on renewable sources as opposed to fossil fuels. This is because fossil fuels are a finite resource, and also produce greenhouse gases that contribute to global warming. One renewable energy project is Desertec, a concept that was formed in the early 2000s and aims to power the world through renewable energy sources with a focus on harvesting solar energy from desert sun.

Research methods included a review of the current state of the solar technology proposed to be used by Desertec; an analysis of the financial feasibility of taking on an initiative of this size, including the potential cost and environmental benefits it could yield; and an examination of the progress that has been made thus far, including some of the obstacles that stand in the way.

Early findings are theoretically promising, but logistically uncertain. Currently, the solar and energy transmission technology does indeed exist to facilitate Desertec. A mere six hours of solar-generated electrical energy received by the world’s deserts is enough to supply all of humankind for a year at current electric rates; moreover, 90 percent of the world’s population lives within 3,000 km of deserts. Through the use of high-voltage, direct-current transmission lines, electrical power can be delivered to people with minimal losses. The expansion of solar energy could greatly reduce greenhouse gas emissions and help curb global warming. However, the initial capital costs, which are estimated to be as high as $500 billion, would require years to offset, depending on future prices and the development of other energy sources. The funding issues, in combination with political and economic concerns, have already caused setbacks and make the future of Desertec uncertain.
Session II
3:00 — 4:45pm
Room: Adamian 362
Moderator: Dean Leslie Doolittle
Last summer, I had the tremendous opportunity to work as an intern in the marketing department at an international management consulting firm. In the consulting business, referrals are more valuable than gold. New business is generated through referrals and reputation, so it is crucial for a firm to engage people who can speak highly of the firm. Thus, marketing efforts are tailored toward both current clients and former employees (alumni). My job was to connect with these alumni.

In order to be a better employee, I browsed the internet to learn more about different marketing tactics. The more I read about marketing, the more I realized how valuable referrals were in the non-consulting world, too. I started to wonder if firms in other industries could implement a program similar to the one from which my company was reaping immense benefits. I decided to conduct research to find an answer to my questions. Through this research, I aimed to discover if such a program is compatible with more traditional marketing disciplines. This paper details the alumni engagement practices, describes the risks associated with the practices, and discusses the reasoning and relevance of these practices from a marketing standpoint.

My research has led me to draw multiple conclusions. First, the practice of sharing limited amounts of intellectual property with alumni in order to gain new business has the potential to succeed beyond the consulting industry. However, a company would not want to implement such an engagement program without carefully outlining goals and examining the program in relation to other marketing options. Independent of the practicality of its implementation, such a program is compatible with multiple marketing disciplines, including branding, direct marketing, inbound marketing, and database marketing. Additionally, it may help a firm to stay on top of trends and succeed into the future.

This study has multiple implications. First, it suggests that companies should examine an intellectual property sharing program as part of their efforts to develop brand ambassadors and engage alumni. Furthermore, it implies that the engagement of alumni will be an increasingly important portion of the marketing mix in the near future. The success of intellectual property sharing and engagement programs will vary based on the company, but the presence of such programs will only increase as time marches on.
Sarah Holt

Advisor: Professor Mike Frank, Department of English and Media Studies


The United States has long been known as a font of technological advancement; it is home to the iPod, Windows operating systems, and bionic contact lenses. However, when it comes to fashion design, the United States seems to fall short. Put simply, Europeans have an appreciation for aesthetic innovation that Americans appear to lack.

Admittedly, it is too complex an issue to declare with absolute certainty why the French people have a greater appreciation for fashion as an art form than we do. Nevertheless, Americans’ apathy towards the creative nature of fashion design is certainly expressed in the United States’ intellectual property system. The clearest evidence of this apathy is in the difference between French and American intellectual property laws regulating the fashion industry: in the US, designers retain economic rights over the creations for a certain period of time; in France, on the other hand, they have both economic and moral rights. French designers always retain the ability to object to modifications to their original design, regardless of whether they have transferred economic ownership to another. Contrastingly, the United States doesn’t offer fashion designers any type of moral protection.

It is my argument that by granting both economic and moral rights to fashion designers, the US can boost creativity in the fashion industry and satisfy designers without economic costs. By implication, extending moral rights to the fashion industry will require the expansion of moral rights to all forms of artistic works covered under copyright law. In other words, adding protection to the fashion industry will serve as a gateway to grant moral rights to all kinds of artists.

A transition to an all-encompassing Dual intellectual property system similar to France’s will have many implications: it will help the United States to bring their intellectual property system up the level dictated by the Berne Convention; it will recognize the emotional value of art; it will please American fashion designers; and it will encourage the public to have a greater appreciation for the creativity of fashion designers. A push by the government will do a great deal to add aesthetic innovation to the United States’ repertoire of strengths.
Tomas Allen

Advisor: Professor Mike Frank, Department of English and Media Studies

"Should small American software companies actively pursue patent protections?"

Given the extremely rapid and exponential growth of the prevalence of software in our daily lives, and given the well-publicized globalized practice of outsourcing development to emerging nations, I aimed to determine if software patent protections are in the best interests of small startup companies in the United States in the 21st century.

My research consisted of first analyzing the history of software development in the United States, dating back to the first software programs in World War Two, noting how the definition and concept of “software” has changed since its inception. I then looked at the development of US patent law as it applied specifically to software but analyzing the impact of specific landmark legal rulings from cases relating to software patent infringement. This analysis allowed me to understand the process and feasibility of patenting software today in the United States. Two recent successful start-ups – Facebook and Twitter – were then used as case studies to examine best practices with regards to patenting for small American companies. These two companies provide strong evidence that companies are better off being the first to market than waiting for patent protections afforded by the current laws.

The next stage of my analysis was to determine if patent laws actually inhibit the growth and entry of startups in the software market. This was done by determining foreign markets with high rates of growth in their software industries, isolating other variables such as overall GDP growth, and then by comparing their software patent laws to determine if there are any legislative discrepancies with those in the United States. I discovered that those nations with more successful startup companies and higher industry growth rates actually had looser intellectual property laws than the United States. Finally, I discovered that if companies want to both benefit from best practices employed by Facebook and Twitter, whilst simultaneously protecting their property, they can look to copyright as a more suitable form of intellectual property protection.

My research of software patent protections and their economic impacts both domestic and foreign, as well as the current industry landscape and best practices, led me to conclude that strict software patents actually provide an economic disincentive for small American software startups.
The Innovative Design Protection and Piracy Prevention Act, or the IDPPPA, is a bill written by the senator of New York, Charles Schumer in 2010. It is meant to protect designers against the copycats who are ripping off their designs. This includes the counterfeit clothing being produced in China and India that is made to fool consumers as well as the fast fashion chains such as H&M and Forever 21 that fashionistas on a budget have come to love. Designers are claiming that these chains and counterfeits are destroying the exclusivity of their designs by making them available to everyone.

While at first glance this may seem drastic on the part of the designers, it has become increasingly necessary with the new speed at which the fast fashion chains are able to produce knock-off designer apparel. The designs are available for a fraction of the price even before the original has hit the stores. It is because of the flexibility of the current copyright laws that this is allowed to happen. A balance is needed between incentivizing designers and preventing costs from rising too high.

This is where the IDPPPA will be useful. The law is extremely specific in its wording to protect designers while at the same time allowing for creativity. It is important in fashion for designers to be able to “piggy-back” off others’ work in order to create trends and continued demand for their design. The IDPPPA allows them to do just this by guarding this unique feature of the fashion industry. The law asserts that the article of clothing in question must be so similar to the original design that it could be mistaken for it.

This new act is a big step for the fashion industry in the United States. American fashion is extremely important to the US and the world, and without protection is vulnerable to impurity. Many European countries have already established laws such as the IDPPPA to protect their coveted designers. This new law is necessary for US designers to have the same advantages as their European counterparts. Fashion is instrumental in how we present ourselves to the world, and should be protected accordingly. With help from the IDPPPA, this is possible.
Making the switch to alternative, renewable forms of energy is at the forefront of heated political, social, and economic debate. Knowing that fossil fuels are not only toxic to our environment, but finite resources, it is essential that we eventually transition to green energy for the benefit of the generations to follow. With this concept in mind, I examined whether multi-level marketing is a suitable approach to spreading the use of renewable energy and whether it can change the way our population understands and uses energy.

My research revealed that currently there is one leading multilevel marketing firm that has chosen to apply the principle to the green energy market; the firm is called Viridian, and they have experienced rapid success in the deregulated energy market for residential households and small businesses. Research methods included a comprehensive analysis of the firm’s business model, recent successes and innovations, as well as their market position moving forward to assess the feasibility of multilevel marketing as a sustainable approach to spreading green energy on a national or even international scale.

Multilevel marketing is notorious for its many failures in the past, deemed as unethical and susceptible to ‘pyramid’ schemes by many critics. These criticisms may be valid in some cases; however, most firms with a multilevel marketing structure offer products that are not as environmentally or socially beneficial as Viridian’s plan. Viridian supplies energy that is 50-100% greener than required by state regulations, and offers carbon offsets for up to 100% of natural gas emissions. Viridian also has partnered with the firm Solar City to make available cost-free solar panels to its customers.

Viridian is an environmentally-focused, socially responsible leader in the growing green energy market. The firm has experienced unprecedented growth since emerging in 2009, and expected growth is projected to be greater as more states deregulate the supply of energy. This growth is a product of multilevel marketing using independent associates of the firm who spread the mission to “green the grid” through their personal networks, exposing people to this affordable green energy option.

As market dynamics change and the demand for green energy continues to increase, Viridian will have to adapt intelligently to maintain its strong market position. However, considering the many benefits of Viridian’s green products as well as the socially aware and interconnected nature of the US population, multilevel marketing is a novel approach in the energy market that can substantially improve awareness and usage of green energy on a large scale.
Session II

3:00 — 4:45pm

Room: Lindsay 27

Moderator: Professor Phillip Uhlmann
The aim of my Capstone project was to look at the differences between the United States and Canada to determine some of the factors that led Canada through the greatest economic catastrophe since the Great Depression with much greater perseverance than most other countries. In doing so, I hoped to uncover some lessons that the United States could take away from Canada’s experience. The method of discovery for my project revolved primarily around research. I first identified several areas of difference between the two countries to find areas of comparison. The areas I chose to focus on were the role of the government in each of the countries, the role of each country’s past economy, as well as some outside economic factors.

When studying the government’s role in the countries’ survival of the economic recession, I specifically looked at the government’s role in regulating financial institutions. This was an area of particular importance, as a lack of financial institution regulations was a significant contributor to the collapse of the economy. When analyzing the past economic conditions of Canada and the United State, there are numerous different factors that could be explored which would reveal much about these countries. I narrow down my focus to three primary economic factors. These factors were gross domestic product (GDP), inflation rates, and unemployment rates. Other economic factors later examined included the greed fallacy, and leading indicators.

My research revealed much about the past economic performance and development of these countries. Certain aspects provided Canada with a thick buffer to reduce the shock of the recession that was felt all across the world. One example would be the government’s strict regulations and requirements of Canadian banks. However, my research revealed that Canada may not have been as strong as I first thought. In the recent past there has been some questioning of Canada’s economic strength as they balance on the edge of their own economic recession. Though the country is facing its own problems, there is no doubt that Canada has a strong system in place to try and minimize the impacts of economic downturns. No country can be expected to be completely protected from the forces of the economy. In addition, there are many barriers to the United States learning from and adopting Canada’s economic buffers. The greatest of these is that Canada’s strength comes from its history and strong governmental impact, something that cannot be easily mimicked. Though there are some lessons that can be taken away, it is Canada’s history which has contributed greatly to its strong economic position today.
Watson is IBM’s cognitive technology which first gained mainstream attention after winning Jeopardy in 2011. The system is distinguished by not only its computing power but also by its ability to understand natural language, form hypotheses, and learn from its mistakes. As IBM looks to commercialize Watson, an early area in which the company has applied the technology is the health care industry. The purpose of my research was to predict the potential impact of Watson on health care in clinical settings and to develop recommendations on how to effectively manage these changes.

My analysis was conducted based on qualitative secondary sources including published journal articles, research studies, news articles and case studies around the use of Big Data in the medical field. Scenario planning was conducted by analyzing the Social, Technical, Organization, Regulatory, and Market (STORM) environment regarding Big Data and the Clinical Care Industry. Based on this analysis, I was able to forecast possible limitations to the widespread implementation of Watson and develop recommendations on how to mitigate these challenges.

My research indicated that there were four primary challenges to the implementation of Watson in medical settings. These challenges are summarized below:

1. Social discomfort with release of private medical records
2. Concerns about quality of care and the role of doctors in diagnosis process
3. Lack of technological and regulatory standards for usage and access to information stored in the Watson system
4. Uncertainty regarding liability and medical malpractice policies

Based on these findings, I built a set of recommendations that would limit the impact of these potential barriers. My recommendations are summarized below:

1. The United States Department of Health and Human Services should execute comprehensive policies regarding the visibility, release, and use of medical records.
2. Health care providers and medical centers should gradually expand the use of Watson’s capabilities.
3. IBM should continue to adapt the Watson system for medical usage and develop comprehensive security policies.
4. State regulatory agencies should standardize their standards for medical liability to include the impact of automated decision making systems.
Deforestation is considered one of the oldest problems of the world since the agricultural revolution; in fact 50% of the original forest that covered our world has been cleared in the last 40 years. Global deforestation is understood to be one of the key problems of climate change as it contributes 17% of total greenhouse gas emissions. Although tropical rainforests cover only 6% of the world’s land surface, they contain more than half of the world’s species of plants and animals. Because of this, I developed a mathematical model to calculate the value of a tree and if it is worth to cut down the rainforest or not. The models focused specifically in the Amazon Rainforest, the Indonesian Rainforests, and the Madagascan Rainforest.

Data for each region was extracted from the World Bank and the Food and Agriculture Organization of the United Nations (FAO). Variables were initially manually selected, removing those which measured similar outputs, used similar inputs, and those with potential duplication. Several regressions were then performed for each individual region. Those variables that were found to be significant to deforestation were kept and the others disregarded.

A final model was then developed to calculate the cost of deforestation, and thus conclude that a tree is worth more alive than dead. This consisted in getting data from the World Wide Fund (WWF) for the benefits that standing trees bring to the Amazon rainforest per hectare. Due to lack of data, this was assumed to be the same for the Indonesian and Madagascan rainforest as it was measured in US dollars per hectare. Data was also obtained from the FAO for the value extracted from trees that get cut down.

This study has some implications. First, data is hard to collect and not easily available so several assumptions were made. In addition, there is no way to quantify the value of the possibility of finding a cure for cancer, the value of oxygen provided by the trees, nor the probability of man kind developing a way to live without trees, oxygen, and animals. Lastly, it is extremely hard, if not impossible, to take into account every single cause of deforestation and use of the forest.
In the business world today, one of the fast growing issues is obtaining equal representation of women in leadership positions. There are many campaigns and programs currently trying to change the mindset about female stereotypes in the workplace because its implications affect women’s ability to gain positions of authority, and thus, overall success. Consequently, working women must learn how to overcome these stereotypes when trying to convince men and other women of their ideas. A skill known to increase one’s success is influence. The trained art of influence is arguably one of the most useful skills in the business world, but it is also the most underutilized. The art of influence is one’s ability to change someone or something. Overall, everyone has an underlying understanding of how to influence people, but few people take the time to develop the skill and realize its benefits. Although there are published materials allowing people to learn this skill, there is a gap that does not address how the stereotypes against women affect their ability to influence others. Therefore, business women need to learn the art of influence now, more than ever.

The purpose of this study is to find out how women can use persuasion to get what they want and how to use it as an advantage to overcome common stereotypes in the workplace. Thus, the significant condition for influencing at the best level is to understand people and their behaviors. For this reason, this research paper focuses on academic and popular literature to explore the gender differences neurologically and psychologically. The main focus areas are in communication, mental processing, persuasion and influence, and workplace stereotypes. The persuasion and influence tactics were then analyzed and compared with the psychological research to see which methods of influence are best for women to use to overcome workforce barriers. Lastly, a general survey was conducted to confirm the research.

The study had several implications. The results from the research showed that for women to be successful with influence tactics, they must have a likeability factor, whereas men did not need this factor. For this reason the general survey was done to see which gendered stereotypes affected likability. The survey had over 200 respondents and concluded that likability was different for each gender. In order for women to be liked they need to approach situations and, therefore, influence tactics differently. This survey helps identify which methods are best for females in the workforce. The tactics that females need to adopt help make them more relatable, allowing them to gain leadership positions and overcome barriers in the business world.
Leonidas Kontoes

Advisor: Professor P. Thompson Davis, Department of Natural and Applied Sciences

"The Effects of Climate Change on Northeast Ski Resorts: An Operational and Financial Perspective"

Climate Change has been a topic on the forefront of environmental, political, and economic issues since the reality of its damages became far too pervasive to ignore. The global average climate has already risen by 1.5 degrees Fahrenheit since 1900, and scientists have concluded that global temperatures will rise another 2 to 11.5 degrees Fahrenheit by 2100, based on low and high emission scenarios. For some members of society, warmth is regarded as good. However, for Northeast ski resorts, and related economies, reduced snowfall from climate change means the loss of a natural resource that they simply cannot do without.

This report analyzes the magnitude of economic impacts from Northeast ski resorts through secondary research such as journal articles, conference proceedings, newspaper articles, and various databases such as IBIS World. Primary research, including phone interviews with local business owners and student surveys, were also conducted. Further, in order to understand what measures ski resorts are taking to mitigate the effects of climate change, four interviews of general managers at Northeast ski resorts were conducted.

This research revealed that the Northeast region accounts for approximately 23% of total skier visits in the United States. Thus, the impact of ski resorts on local economies is huge. New Hampshire saw $1.15 billion in direct and secondary sales for the 2012-2013 ski season, whereas that for Vermont was even greater at $1.7 billion. A survey of students indicates that a majority of respondents would be willing to travel more than three hours to visit a resort, and that this same majority travels to ski resorts greater than four times each year. The direct and secondary spending from such visits is invaluable to local communities.

Three of four Northeast ski resort managers surveyed noted that climate change is a concern for the long-term wellbeing of their business models. In response to the adverse effects of climate change, resorts are expanding their products and services into climate-neutral offerings. Of these four ski resorts, all now offer summer services such as zip lines, miniature golf, and beach volleyball tournaments. Many ski resorts are also investing heavily in resources to mitigate the impacts of climate change, including use of low energy snow guns, as snowmaking accounts for 10 to 20 percent of resort expenditures. Also, Berkshire East is the first ski resort to be powered completely by wind energy. Thus, the economic future of Northeast ski resorts is contingent on many things, with snowfall being only one of many factors.
In November of 2011, a bill was passed in Massachusetts legalizing the construction of a casino in each of the three regions of the state. This past summer my hometown of Tewksbury, MA voted against the construction of a slot machine parlor in our town. One of the major arguments against the slot parlors construction was the fear held by many of the town’s residents that the presence of a casino in our town would cause an increase in illegal activity in the area. However, there were also many residents who approved of the casino’s construction, believing that it would increase commerce and employment opportunities for our town. I decided that for my capstone, I wanted to examine the actual effects that a casino has on an area’s crime rates, and if the economic benefit of the casino was potentially greater than the negative side effects.

To answer my question, I choose to look at Pennsylvania, where a bill passed in July 2004 allowed for the creation of the Pennsylvania State Gaming Board, a commission that was given the power to give out licenses for the creation of casinos. Since this bill was passed, various new casinos have been constructed across the state. I looked specifically at six counties with casinos from the years of 2002-2010 to determine through regression analysis if the presence of a casino had an impact on the various types of crime rates. In addition, I examined multiple other variables see if any had a more significant impact on crime rates than the presence of the casino. I also looked at the economic impact the casino had on the county using various economic indicators.

Though the regression analysis I run on this data, I will be able to see if the presence of a casino in a county does actually cause an increase in crime. I will also be able to tell is the county has another variable, such as median family income, that has a larger impact on crime rates than a casino.