The Honors School
Fall Research Conference
2008

Fourth Honors School Research Conference

Wilson Auditorium
Wednesday, December 10th, 1:00 p.m.—4:00 p.m.

It is with great pleasure that The Honors School presents its
Fourth Honors Research Conference

Student presenters include research in the fields of:

- Anthropology
- Business Accounting
- Business Finance
- English
- Math

Order of Events

1:00 p.m. Welcoming Remarks

Andrew Katz (BUBA)  Joseph York (MA/EDS)
Tara Parente (BUBF)  Leanne Clarke (MA)
Chris D’Antuono (BUBA)  Keri Sansevere (AN)
Erin Humphries (MA)  Brittany Scott (EN)

Additional student completing Thesis but unable to attend:

Sunaina Kaushal (BY)

** Please see last page of program for Thesis title, Chief Advisor, and Second Reader.
Christopher D'Antuono  
**Tax Policy’s Effects on the Economy in Times of Recession**  
Chief Advisor: Prof. Douglas Stives  
Second Reader: Dr. Steven Pressman

The economy is currently spiraling downwards towards recession. Efforts are being made to stimulate the economy through many different methods. One important way the government can affect the economy is through tax policy. The subject of this project is how tax policy can affect the national economy in times of recession. This topic is important because in the near future we will all be hearing what the new presidential administration’s plans are to curtail the recession. Certainly, tax policy will be a part of these plans. This project analyzes what tax policies may be effective and which will fail. It also concentrates on tax policy that has already been passed, namely, the economic stimulus package of last summer, and the new housing assistance tax act. Despite many recessions and even a great depression, our current problems are unlike any other in history. Our economic problems are stemming from a sub-prime mortgage crisis and a decline in housing prices. Tax policy is a widely understood topic but it has not been tested against the problems we now face. This project encompasses my discrete contribution to the field by explaining how the use and influence of tax policy will expand in the future and how this will affect our current economy.

Andrew Katz  
**Natural Monopolies: A Study of One of Our Nation’s Most Undervalued Niche Markets**  
Chief Advisor: Prof. Douglas Stives  
Second Reader: Prof. Daniel He

This thesis will look at perhaps the most underrated section of the U.S. economy, in terms of profitability. In many other countries, the term ‘natural monopoly’ has little value to it due to lax laws concerning formations of entities such as cartels, trusts, and monopolies. However, in the U.S.A. the aforementioned entities are illegal under most circumstances making it of the utmost importance to find legal ways to dominate an industry. As it turns out, this method is the formation of ‘natural monopolies.’ These ‘natural monopolies’ exist so successfully for a number of reasons that center around the establishment of one’s business in an industry where it is extremely difficult for competitors to generate sizeable profits in a completely legal manner.

Tara Parente  
**Credit Derivatives: An analysis of the viable factors responsible for the capricious conditions in the credit derivative markets.**  
Chief Advisor: Dr. Andreas Christofi  
Second Reader: Prof. John D. Burke

This research explores the factors contributing to the capricious conditions in the credit derivative markets. Throughout this research much has been revealed. Credit derivative use creates disarray due to discrepancies in valuation models, undisclosed business techniques, and firms assuming less risk. An accumulation of these factors ultimately creates a disturbing environment. Banks, financial firms, and many other companies are no longer assuming risks due to the use of credit default swaps and collateralized debt obligations. If these firms would assume some risk, they would actually hold interest in whether or not there is a high risk of default. They would also understand how firm risk default is highly correlated. Firms should ultimately be required to hold a specific amount of risk instead of hedging most of it. Requiring firms to hold a certain amount of risk will uphold prudent lending and financial policies. Moreover, the buying and selling of these instruments requires some major improvements regarding the valuation models, the undisclosed techniques, and assumptions of risk.
Imagine doing a Google Image search on the internet and having various hidden messages floating across the screen that are impossible to detect by the human eye. Which images contain a hidden message? How do you figure it out? The answer to these questions begins with understanding steganography. Steganography is often referred to as the concealing of digital information within computer images or files. The expansion of internet utilization has caused many investigators to develop methods to ensure security across computer systems. In my own investigation into the secret world of steganography I used a method called LSB (Least-Significant Bit) Embedding. A mathematical program named Matlab was used to generate a grayscale image in which a message was concealed. After figuring out how to embed my own message I used Matlab to develop a program to test random pictures for potential secret messages. The results are appealing for one wanting to know more about the fast growing computer world.

Leanne Clarke
Covering Sets of Congruences

A collection of congruences with distinct moduli, each greater than 1, such that each integer satisfies at least one of the congruences, is said to be a covering system. In 1950, a famous mathematician by the name of Paul Erdős conjectured that “for each number N, one can cover the integers with finitely many congruences with distinct moduli all greater than N.” Erdős’ problem still remains open today and as of now, a mathematician by the name of Nielsen has taken the lead as he has created a covering system with the smallest modulus of 36. In my thesis, I have worked to create my own covering systems of congruences. In addition, I have created my own computer program in Maple to check if a set of given moduli do indeed cover all integers. Further, I was able to determine the upper and lower bounds on the number of moduli necessary to create a covering system with the smallest modulus equal to 2.

Keri J. Sansevere
The Most Ancient Village in Our Country: Interpreting Forgotten Colonial Material at the Salisbury Site

Excavated nearly seventy years ago by Dorothy Cross as part of the Works Progress Administration, the Salisbury Site has been called one of the oldest centers of Native American activity in the Delaware Valley. Since Cross’ excavation, archaeologists have focused their scholarship on interpreting the thousands of prehistoric artifacts excavated from the site while providing little or no explanation of 17th-century historic material, including nearly 600 tobacco pipe fragments. This paper will explore the forgotten colonial artifacts from the Salisbury Site through the lens of 21st century archaeology by researching early colonial history and artifact analysis. With this data, an expanded interpretation of the site will be presented.
Virginia Woolf remains an active participant in the feminist movement surviving through the accomplishments of her literary career. Many of her novels feature feminine protagonists in conflict with internal and external forces in efforts towards self-discovery. Woolf theorizes that this is obstructed by gender bias as subjected to varying social constraints. In theory this is escapable through what Woolf deems as the androgynous state of mind, wherein heterogeneous beings coexist harmoniously within equality- a utopia of sorts. This is conveyed by means of androgynous symbolism, particularly evident within the novel Orlando. This allows Woolf to enter the realm of her readers' subconscious where she may unknowingly educate those who are perhaps unreceptive of androgyny within the ultra conservative and conventional society in which her works were published. The examination of this thesis unfolds with an intense study of multiple novels and short stories produced by Woolf herself, support gathered by acclaimed literary critics, interviews of Woolf’s family and friends, and the portrayal of Woolf as she transgresses into 21st century society.

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Additional Student Completing Thesis

*Sunaina Kaushal
Serotonin Receptor Expression in the Juvenile and Adult Rat Brain

Chief Advisor: Dr. Dennis Rhoads
Second Reader: Dr. Michael Palladino

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Save the Date

Spring Honors Research Conference 2009

Saturday, April 25, 2009

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