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Abstracts from the 2014 Oklahoma Research Day

Held at the University of Central Oklahoma

01. Business Administration

03. Economics

01.03.02 Merger and Acquisition Activities in the U.S. Oil and Gas Industry

Michael, Wright , Kuang-Chung Hsu, Zhen Zuh

University of Central Oklahoma

Within the last decade, the U.S. oil and gas industry has piqued the interest of both domestic and foreign investors alike, offering a relatively high rate of return. This became especially true as the industry has experienced increasingly more financialization in recent years. In addition to the increased financialization of the oil and gas markets, the increased economic growth in the Asian economies has affected the supply and demand forces, which have been largely responsible for the rising oil and gas prices. However, these global forces have not impacted the oil and gas markets uniformly, as U.S. oil is a commodity of the global market, and U.S. natural gas is almost entirely produced and consumed domestically. In a world of highly integrated financial markets, we would expect some degree of investment to be driven by international financial flows in the U.S. oil and gas industry, however there appears to be more to the trend than just the infusion of foreign capital. In our study, we examine merger and acquisition transactions in the U.S. oil and gas industry between the years 2006-2013 in order to gain some insight as to the other factors that have been driving the trend of M&A activity in general, as well as the trend of foreign direct investment in the U.S. oil and gas industry.

01.03.03 Is the Stock Market Sticker Shocked? A Study of Market Response to Recent CAFE Regulations in the U.S.

Michael, Wright , Mariya Burdina, Zhen Zuh

University of Central Oklahoma

The Corporate Average Fuel Efficiency (CAFE) standards have been used for decades as a means to reduce oil consumption by standardizing a minimum fuel efficiency for new passenger cars and light-duty trucks. The Obama Administration has been a big proponent for the use of CAFE policy to attain these results and to decrease carbon emissions and oil consumption. In 2010, the Obama Administration began to write a third piece of legislation to increase the CAFE standards. In August of 2012, legislation was passed to incrementally increase the CAFE standards to an unprecedented level of 54.5 miles per gallon for vehicles produced between the years 2017 – 2025. If automakers fail to comply with the new standards, they will incur penalties. This increase in the CAFE standards has led to the speculation of rising vehicle prices, the uncertainty of automakers' ability to comply, and the effect that the new standards will have on the automakers' profitability. Using event-study methodology, this study analyzes the market returns of eight domestic and international auto manufacturers as a means to measure the market's reaction to the increase in the CAFE standards and the events leading up to its final legislation. Together these eight automakers comprise nearly ninety percent of the U.S. auto industry. Our results suggest that the market reacted neither negatively nor positively to the announcement of the new CAFE standards. To our knowledge this is the

01.03.04 The Net Effect of Access to Education on Economic Growth

Mihai, Nica , Susanne Rassouli-Currier

University of Central Oklahoma

One of the most important issues facing policy makers is that of stimulating economic growth. This growth can occur both in the form of new business creation as well as growth of existing firms. As such, many researchers have focused on the identification of factors, both macroeconomic and microeconomic, that lead to economic growth. While necessitating short-term sacrifice, economic growth is generally accompanied by job creation and in the long-run, should lead to community development, increased tax revenues, higher living standards and economic stability etc. Ideally, access to education by both owners and employees will lead to an increase in entrepreneurial activity. However, this increase in entrepreneurial activity may lead to intense competition for resources and thus an ambiguous net effect on the economic growth. The maintained hypothesis in this paper is that, while education may improve innovation, create new firms and enhance productivity for existing firms, the possible increase in entrepreneurial activities and intense competition for resources may have a negative effect on the growth rate resulting in a constant rate of growth at best. Assuming a competitive economy, the rate of growth may perhaps be negative in the long run. To investigate this hypothesis, the authors use the data from the World Bank's Enterprise Surveys with an appropriate estimation method to adequately capture the said net effect (<http://www.enterprisesurveys.org/>).

01.03.05 Performance Under Pressure on the PGA Tour

Neil, Metz , Chris Stiles, Michael Yost

University of Central Oklahoma

Worker pay is often based on performance. Employers may design a pay structure which gives out large rewards for the very best performance in an effort to elicit maximum effort from the workers. However, experimental evidence suggests large rewards may create psychological pressure which instead leads to under-performance. Previous studies have tested this 'choking' phenomenon using the world of sports, but such studies often lack a direct link between performance and reward. This study uses PGA TOUR putting and tournament earnings data from 2012 to more directly analyze the effect of pressure on performance. A player's earnings are based on his standing in a tournament, and so putting on the final hole of a tournament is the player's last opportunity to impact his earnings. This situation can create enormous monetary pressure for the player. This study utilizes the potential change in earnings from a made putt on the final hole of a tournament as a measurement for the amount of pressure a player faces. Variation in the potential earnings from a made putt are used to determine if the pressure associated with a large reward leads to under-performance.

01.03.06 Competitive Balance: Championship Future Wagering Market in the NFL and NBA

Steven, McEwen , Neil Metz

University of Central Oklahoma

There are several metrics used by researchers to measure competitive balance in sports. Most commonly, these measures examine variation in wins or championships. This study uses the futures wagering market for a championship to measure competitive balance in the NFL and NBA. The futures market provides an opportunity to measure competitive balance in two new and interesting ways. First, initial futures odds (before the season has started) give a measure of the expected outcome for an entire season. In a perfectly balanced league all teams would have an equal chance of winning the championship (i.e. 32 teams in NFL, with equal chances of 3.125%). Using futures odds, one can measure how far initial expectations are from this competitive ideal. Second, futures odds change throughout a season as they factor in prior outcomes. Tracking the way in which futures odds change over time measures the predictability of a season. Leagues in which each team has little variation in their championship odds over the course of the regular season have predictable seasons. And a more predictable season most likely leads to lower fan interest. The uncertainty of sports outcomes is a large component of fan interest, and up to this point the literature has used betting markets to examine uncertainty for individual games (Bowman et. al. 2012). This study proposes a way to measure uncertainty in the outcome for a team's season, which likely plays an equally important role in fan interest.

01.03.07 State Incentive Programs and Their Effect on Wind Energy Expansion

Christopher, Stiles , Evrard Koffi, Zhen Zuh

University of Central Oklahoma

This research is developed with the intention to outline the various state policies that either promote or restrict the development and generation of wind energy within the parent state. With this basic understanding of policy structure, it is important to understand the effect of these policies on the growth and implementation of wind energy as an even more relevant source of energy production on both a state and national scale. Through the collection and analysis of generation data from each state, we hope to determine the source of wind generation expansion by comparing these statistics with the policies of each state to understand whether expansion in each particular state is primarily due to policy structure or rather more weighted on the efficiency of generation based on the wind climate of the region.

01.03.08 Experimental Evidence on the Performance of Emission Trading Schemes In The Presence of an Active Secondary Market

Chintamani, Jog , Georgia Kosmopoulou

University of Central Oklahoma

As auction based emission trading schemes (ETS) become more common in addressing climate change, it is of interest to study the effects of bargaining power in resale markets on original as well as post-resale allowance allocations in terms of prices and efficiency. This paper provides an experimental study of first price private value asymmetric auctions followed by a $\frac{1}{2}$ - double auction resale market opportunity. We compare the $\frac{1}{2}$ - double auction to other resale regimes with an uneven distribution of market power and contrast initial bids, resale prices and efficiency. Despite the conventional wisdom that full efficiency requires the absence of market power, we find that $\frac{1}{2}$ - double auction resale markets lead to lower efficiency than the monopsony resale regime. The level of efficiency achieved, however, is close to the highest across mechanisms that have differential bargaining power at the resale stage.

01.03.09 A New Approach to College Student Retention: Facts and Opinions

Susanne, Rassouli-Currier , Kristofer Thompson, Suzanne Clinton

University of Central Oklahoma

The low student retention rate has been one of the most talked about issues in post secondary educational institutions. Recent statistics at some universities suggest that the problem persists and in some cases has become worse in recent years. Unfortunately, the literature addressing this issue consists of very few studies. Among these few, most investigate the factors affecting the retention rate by major and course (Microeconomics, Macroeconomics, Science and Engineering etc.) rather than student retention at the aggregate college/university level. The topic is mostly discussed at various university meetings to identify possible factors affecting student retention. Unfortunately, most opinions are merely speculation without any empirical evidence. This study attempts to shed light on the problem, using a Stochastic Frontier Regression model (SFR). The data for the explanatory variables, i.e., factors affecting student retention, such as unemployment rate, availability of financial aid, gender and socioeconomic factors (among others) over a ten year period (2002-2012) for the University of Central Oklahoma will be employed. In addition we will use the survey results administered to various UCO students. The hope here is that the results of this study may help Administrators / Faculty to better understand factors related to student retention and, for example, engage students in activities/projects beyond the classroom in an attempt to affect retention rates.

01.03.10 Student Engagement: The Key to Student Retention

Susanne, Rassouli-Currier , Christofer Graff, Suzanne Clinton

University of Central Oklahoma

Student retention is a very popular topic among colleges and universities, perhaps due in part to the fact that retention rates impact funding provided by state and private entities. In this professional development workshop, presenters focus on methods by which universities can engage students beyond the classroom to enhance retention efforts. Potential topics of discussion include research grants for faculty/student pairs, mentoring programs, study tours, and student activities. Presenters hope to learn from participants' experience with the same at their own institutions.

01.03.11 Instrumental Variable Estimates of the Effect of Management Practice on Korean Firm Performance

Jieun, Chang , Youngho Kang

Southeastern Oklahoma State University

Because of endogeneity concerns in management research, there are only few economic literature that estimates the effect of management practices on firm performance. Prior studies on management practice use primogeniture measures as an instrumental variable or conduct random assignments of Indian firms to find the effect of management practice on firm performance. However, primogeniture is not a firm-level instrumental variable. Random assignment is a very costly method that requires repetitive surveys. This paper aims to suggest firm-level instrumental variable approach which requires lower costs to empirically examine the effect of management practice on firm performance. Empirical findings in this study suggest the positive influence of management practice on firm performance based on firm survey data that includes 353 Korean firms in manufacturing industry in 2011. To correct for endogeneity problem in management practice, three firm-level instrumental variables are used: the motivations for organizational reform, delegation of decision-making authority, and IT investment in organizational reform. Instrumental variables in this study satisfy exogeneity and relevance condition. By using these valid instrumental variables, this study suggests that better management practice leads to higher level of firm performance without any repetitive surveys or random assignments.

01.03.12 The Energy Markets Impact On The Oklahoma Economy

Devin, Usher , Michael Phillips

University of Central Oklahoma

Oklahoma has been a major energy hub in the United States for the last fifty years. We believe the Oklahoma energy industry has an impact on the national energy markets. Oklahoma has been mostly concentrated on oil exploration and production over the last half century. However, we have entered into a new era of diversified energy, incorporating renewable, natural gas, and bio-tech. Our goal is to examine the past booms and busts of the Oklahoma economy, and correlate those with the past booms and busts of the national energy markets, then determine the degree of impact each energy market has on the Oklahoma economy.

01.03.13 Power Consumption and Prices of Coal and Natural Gas

Zachary, Perkins , Dacus Doornbos, Steven McEwen

University of Central Oklahoma

In this study, we will investigate the empirical relationship between gas consumption by the power sector and prices of coal and natural gas. It is argued that fuel switching occurs when gas prices reach a sufficiently low level. Our study will contribute to the understanding of the connection between gas price and electrical power gas consumption in the following aspect: 1. At what level of gas prices will fuel switching likely happen? 2. To what degree the past increase in the share of gas consumption by the power sector is related to the gas prices or the general trend in the economy to utilize cleaner energy? 3. Did the price volatility in natural gas hinder the usage of natural gas in the power sector? In 2011 natural gas contributed 25% of the kWh produced domestically. Coal made up 42% of this total output. The following year in 2012 natural gas emerged to producing 30% of the total output and coal fell to 37%. This demonstrates a change in fuel sources by the electrical generation fleet opting for the more inexpensive fuel. By concentrating on the interrelationship among coal and natural gas fuel markets this study will demonstrate the dynamic relationship of alternate prices levels and at which price point the shift from one fuel to the next occurs.

01.03.14 U.S. Natural Gas Futures And Spot Prices

Brandon, McLean , Ben Soumahoro, Zhen Zuh

University of Central Oklahoma

The present study investigates the relationship between futures and spot prices in the U.S. natural gas market. The economic theory of the futures prices suggesting the futures price and spot prices will converge at maturity due to both price movements. Our data from January 1997 to January 2014 will provide some stylized facts about the convergence of the prices. The study examines the pattern of the two prices in a month before the futures expiration. In addition, empirical evidence will be provided to show whether the pattern depends on seasons, price level or storage level. The study will be based on the theory of storage commodities and the result is expected to shed light on the further understanding of the convenience yield.

01.03.15 How can Blue Cross Blue Shield Maintain a High Market Share?

Cody, Woods , Kuang-Chung Hsu

University of Central Oklahoma

Previous research on the subject has shown Blue Cross Blue Shield to have both monopoly and monopsony power. In spite of focusing only on Micro level data or on a single national scale in the previous empirical literature, our paper focuses on how Blue Cross Blue Shield maintains and sustains a high market share in each state. Our panel data covers six years and fifty states, allowing our analyses to find the determinants of the market power of Blue Cross Blue shield across different states. Our results show that GDP, per capita income, crime rate, and other Macro variables play an important role in Blue Cross Blue Shield market monopoly power

01.03.16 Energy Consumption and State Economics

Kayleigh, James , Diego Rodriguez, Zhen Zhu

University of Central Oklahoma

The subject of whether or not energy consumption is related to state economic growth is one with no end result. To find whether or not the two are correlated and to discover the impact one has on another, the data needs to be identified, collected, and compared. First, a pool of states will be chosen. These states will have different levels of energy consumption according to their main sources of energy, such as oil, gas, electricity, etc. The different levels of economic growth will also be presented accordingly. Second, the states' energy consumption data and economic growth data will be collected. Third, with the necessary data in hand, an analysis will be feasible. With the newly developed information, insight to the relationship between energy consumption and economic growth at a state level will be presented.

01.03.17 An Investigation Into the Frequency of Alcohol References in Popular Genres of American Music

John, Gutierrez , John Maisch, Sofia Price

University of Central Oklahoma

The objective of this analysis is to explore whether or not alcohol references in popular music have increased, decreased, or remained marginally unchanged throughout a timespan of twenty years. Thus, it was hypothesized that the frequency of alcohol references in Country music has significantly increased from 1992 to 2012. Methodology included sampling from Billboard's genres and years of "Hot Country Songs", "Hot R&B/Hip-Hop Songs", "Hot Rock Songs", and "Hot Alternative Songs". From this sample, 742 songs were extracted and collated to concentrate on lyrical content, which examined songs that were designated as to referencing a particular alcoholic beverage type (malt beverage, spirits, or wine). These alcohol references were then classified as either being implicit or explicit. A simple linear regression illustrated a significant increase in the number of alcohol references in Country music with $b = .153$, $t(250) = 2.45$, $p < .05$. R&B/Hip-Hop also exhibited a significant increase in alcohol references with $b = .225$, $t(250) = 3.64$, $p < .05$. Alternative/Rock did not show a significant increase in references with $b = -.029$, $t(242) = -.454$, $p > .05$. Results indicated that Country had the most explicit references while R&B/Hip-Hop had the most implicit references. The findings also showed that Country had the greatest number ($n=37$) of malt beverage references while R&B/Hip-Hop had the greatest number of spirits ($n=60$).