

Business Economics Program Sessions

Wednesday, March 22, 2023

BUSINESS ECONOMICS

1:30 – 2:45 p.m. .... Logan Room, 3<sup>rd</sup> Floor

Theme: Economic Development Related to the Firm or Industry

Chair: Daniel H. Boylan, Purdue University, Fort Wayne

The Impact of Craft Breweries on Local Economic Development: A North Carolina Case Study

Suzanne A. Altobello, University of North Carolina at Pembroke

Daniel J. Parisian, University of North Carolina at Pembroke

John O'Dell, University of North Carolina at Pembroke

Abstract

Craft breweries are more than simply places to drink beer. They bring family and friends together; are

speed broadband services in several rural areas and tribal lands. The program policies and procedures became the regulation in 2021. The research findings show evidence that e-Connectivity is a crucial infrastructure for modern-day's economic growth and sustainability of rural American businesses.

Economic Impacts of the Robotics Technology on Remote Greenhouse Farming in Northwest Indiana  
Amlan Mitra, Purdue University Northwest

Abstract

The world-wide demand for agricultural products is rapidly growing. However, despite the growing population, labor shortage becomes a limiting factor for agricultural production. Further automation of agriculture is an important solution to tackle these challenges. Recent research suggests that remote harvesting of high-value crops, such as apples, tomatoes, and broccoli, is currently mainly performed by humans, rendering it one of the most labor-intensive and expensive agricultural tasks. This explains the large interest in the development of selective harvesting robots.

This paper reports on an economic impact study conducted at Purdue University Northwest sponsored by the U.S. Economic Development Administration. The study provides an overview of the state of the art in selective harvesting robotics in greenhouse tomato production in Northwest Indiana. The economic impacts and the cost-benefit analysis of manual versus remote harvesting using robotics technologies are discussed, and future research directions are proposed.

Too Small to Survive: Legislative Burden on Small Banks  
Daniel H. Boylan, Purdue University Fort Wayne  
Brooke A. Wintlend, Purdue University Fort Wayne

Abstract

Topic: Too Small to Survive: Legislative Burden on Small Banks

Research Question: Are small banks too small to survive because of the burden legislation imposes?

Null Hypothesis: Legislation does not impose a burden on small banks making them too small to survive.

Alternate Hypothesis: Legislation does impose a burden on small banks making them too small to survive.

Small banks across the country are receiving pressure from legislation due to the increase in rules and regulations. Without implementing change soon small banks will be overpowered by large ones. It is important to see the powerful impact small banks have on rural communities. Relatively large banks can handle change more than small banks. Change is hard for any company or organization but due to the lack

Testing Causality Between Money, Inflation and Economic Growth during 1990-2022: Evidence from South American countries  
Abdus Samad, Utah Valley University

Abstract

Applying econometric method of panel cointegration and the VEC (vector error correction), this paper examines whether there is a long run causal relationship between inflation, money supply, and real GDP in 7 South American countries during 1990-2021. VEC Granger Causality/Block Exogeneity Wald Tests is used in exploring the direction of causality among these variables. Additionally, pool OLS, and Fixed Effect Model vs Random Effect Model are applied for examining the impact of money supply and real GDP on inflation. The significance of the majority of the test statistics of the Padroni test concludes the establishment of cointegrations among the variables of order I(1) and this implies that there is long-term relationship the cointegrated variables. The findings imply that there is a long-run panel cointegration between the tested variables. The significance of the coefficient of ECT suggests long term relation, and inflation is Granger caused by money supply (M2) and GDP. VEC Granger Causality/Block Exogeneity Wald Tests finds bidirectional causality between money supply and GDP, unidirectional causality from M2 and GDP to price level. As the Hausman test supports the appropriateness of FIM, results of Pool panel OLS and FEM finds that money supply and real GDP has significant impact on inflation.

Is Secular Stagnation a Reality? Consequences for Current Policy Making  
Valerica Vlad, Penn State Behrend

Abstract.

During the 1930s the USA economy had been struggling with the Great Depression. It was then when Alvin Hansen proposed the concept of secular stagnation to refer to an economy with little or no potential for growth. Back then, the average growth rate of US economy, from 1930 to 1939, was 1.4%. Fast-forward, after the great recession, from 2010 to 2019, the average growth rate had been only 1.5%. This paper claims that secular stagnation has been the status quo of the US economy (for a long time.) It uses two approaches in trying to provide support for its claim. In the first approach, a set of decadal binary variables is used to synthesize a path of the long-run evolution of the US economic growth (from 1930 to 2020.) The main result suggests that the growth trajectory of the US economy can be shaped as a Kondratiev-wave. For more than ten years the economy has been on a low-growth "tail" of that K-wave. The second approach is a simple trend determination (using moving averages). All calculated trends show that the US economy has been showing signs of declining in its growth-potential even before 'great recession,' (2006) and there is no sign of positive change for the foreseeable future. We may conclude that the economy is going through secular stagnation. If this the case, we must feel liberated to apply more monetary contraction. Maybe we must go 'Volcker" style.

The Impact of the Financial Crisis of 2008/09 on Employment in the Outsourced Facility Service Sector in the US

Alexander Redlein, Vienna University of Technology  
Eva Stopajnik, Vienna University of Technology

Abstract

Facility Services (FS) are not listed as one whole industry sector in the North American Industry Classification System (NAICS). Many industry reports are based on this system, and as a consequence, there are not enough reports about the FS sector. This leads to a lack of transparency in the sector. This article tries to close that gap by answering the following research questions: How did employment in the

outsourced FS sector develop from 2008 to 2019 and what is the impact of the financial crisis of 2008/09 on the outsourced FS sector?

Results show that in 2019 the total FS sector employed more than 9 million people. This means that more than 9% of all employees in the business economy worked in the FS sector. The largest industry sector in 2019 in the business economy in the US were accommodation and food services. FS take place five in the industry ranking. The outsourced FS sector, as well as the business economy constantly increased since 2010. While the business economy increased by 16%, the outsourced FS sector increased by 24.5%. After the financial crises of 2008/09, the FS sector and business economy decreased in 2009 and 2010. The share of FS in the business economy shows that FS declined slightly less than the business economy after the recession. This phenomenon has already been observed in Europe (Redlein, Stopajnik 2021). Reasons for that are that many FS like maintenance works are essential and must be carried out even during a crisis.

Thursday, March 23, 2023

BUSINESS ECONOMICS

8:00 – 9:00 a.m. .... Logan Room, 3rd Floor

Theme: Undergraduate Research Session I

Chair: Quentin Sodano, Purdue University Fort Wayne

Economics of Legalization of Marijuana in Indiana  
Daniel H. Boylan, Purdue University Fort Wayne  
Quentin Sodano, Purdue University Fort Wayne

Abstract

In today's political and social climate, the legalization and removal of marijuana from the Schedule I federal list of controlled substances has been a major topic of discussion across the United States. As more states pass legislation to legalize marijuana, either it be for medicinal or recreational means, a market is being created that has economically beneficial possibilities that include increased funding for schools, state infrastructure, and increased budgets for state and local governments. This research seeks to highlight the economic effects of the legalization of marijuana in Michigan and connect the exponentially growing cannabis tax revenues, and comparing them to Indiana's current prohibitory laws. Beginning with recent announcements by President Joe Biden, followed by the history of marijuana, into analytics; where states have quantifiable evidence of the benefits of marijuana legalization. An analysis will



of households file for bankruptcy protection with assets, which may be exempt from liquidation. In certain states, the exemptions are set by the state in which a household files for bankruptcy. In other states (known as "debtor choice states"), households may choose to exempt assets under state or federal exemption rules. The more generous the exemptions (especially as they apply to the household's assets) the lesser is the value of assets liquidated and used to repay creditors. Second, many priority unsecured



Intangible Assets and Financial Statement Comparability in the Hospital Industry

Dan Friesner, North Dakota State University

Andrew Brajcich, Gonzaga University

Abstract

Over the past 30 years, firms have become (and will likely become increasingly) reliant on specific forms of assets that are purely knowledge-based to create value, facilitate production, and ensure continued financial viability. Most of these assets are reported in a firm's balance statement as intangible assets. Firms may accumulate a variety of different types of intangible assets, and the productive lifespan of each type of intangible asset may vary considerably across firms. As a result, accounting for intangible assets in accounting statements is a challenging endeavor. By extension, external parties who wish to utilize financial statement information for various decisions (equity investments, lending activities), may find it more difficult to compare financial statement information across firms who report substantial intangible assets. Within the context of Financial Accounting Standards Board (FASB) terminology, the presence of substantial intangible assets in a firm's balance sheet may reduce "financial statement comparability" across firms (Do, Finance Research Letters, 40, 2021, Article 1016932021). While the increasing use of intangible assets is not surprising in certain industries (information technology, pharmaceutical industry, etc.), it is also becoming prevalent in other indu



Exploring Seasonality in Consumer Bankruptcies

Donald D. Hackney, Gonzaga University

Dan Friesner, North Dakota State University

Heather L.R. Tierney, Purdue University Fort Wayne

Jayme V. Gerring, The Federal Reserve Bank of Cleveland

Disclaimer " The views expressed herein are solely those of the authors and do not necessarily reflect the views of The Federal Reserve Bank of Cleveland."

Abstract

A random sample of data drawn from the U.S. Bankruptcy Court's Eastern District of Washington's Public Access to Court Electronic Records (PACER) database over 2003, 2005, 2007, 2009, 2011, 2014, 2016, and 2020 is used to examine whether consumer bankruptcy filings exhibit statistically significant seasonal variations. Households, who have filed under either Chapter 7 or Chapter 13 of the U.S. Bankruptcy Code, are randomly sampled, which amounts to 400 household bankruptcy filings or 10% of the population of filings in a given year, whichever is the lesser of the two. For each filing the month in which the petition is filed is recorded, along with the Chapter under which it is filed, the filer's reported income and outstanding debts, as well as selected demographic characteristics. Debtor average monthly income, average household monthly income, average unsecured debt, and the number of bankruptcy filings are examined for seasonality. The data exhibits an additive trend with respect to seasonality meaning that the seasonality and remainder are constant and not increasing as it would be with a multiplicative trend. Seasonality in bankruptcy filings is able to be seen when the data is organized by month across the years. The largest spikes seem to be in March and October. The Seasonal-Trend Decomposition using LOESS (STL) Model is able to pick up the spikes in March and hence, bankruptcy data does exhibit seasonality.

BUSINESS ECONOMICS

1:30 – 2:45 p.m. .... Logan Room, 3<sup>rd</sup> Floor

Theme: Topics in Applied Microeconomics

Chair: Nikhil Shah, Purdue West Lafayette

Property Ownership and Firm Performance: Firm-Level Analysis of Post-Communist Economies

Zafar Nazarov, Purdue University Fort Wayne

Aziz Gozиеv, University of Chicago

Abstract

This study investigates the relationship between property ownership and firm performance. We contribute to the empirical literature by exploring this relationship solely for the firms in transition economies using the BEEPS survey with information on 14,000 firms. The introduction of market-oriented institutions across transition economies after the collapse of the Berlin Wall wasn't identical, splitting the economies into two groups: with strong market-based institutions (Eastern European economies) and weak institutions (Commonwealth of Independent States). The comparative analysis across two types of states

profitability and productivity. In the states with weaker institutions because of the presence of a higher risk of capital expropriation, there is a negative selection into property ownership.

Can We Forecast Electric Car and Automotive Convergence Production: "Get a Horse?"

Anthony Paul Andrews, Governors State University

Abstract

EV production doubled production in a declining auto market with Tesla an estimated 60% market share and Kia more than tripling the number of their 2021 production.<sup>1</sup> With several production components to unfold, it is easy to recognize that the point in time in which EVs overtake regular production is a prediction point critical to the industry. In addition, the possible reconfiguration of the entire industry is vying for dominance in such a reconfiguration. This paper provides a model to estimate the convergent point when period point of convergence between market and EV convergence to occur. The methodology proposes Vector Auto Regression (VAR) and Vector Error Correction Process to investigate possible shocks to the system and follows the process developed in Hansen (2022), Kirchgässner, Wolters, and Hassler (2007); and Lükepohl (1993).

Mergers and Acquisitions: A Quantitative Approach to Human Resource Modelling

Nikhil Shah, Purdue West Lafayette

Darlene Russ-Eft, Purdue University

Daniel Boylan, Purdue Fort Wayne

BUSINESS ECONOMICS

3:00 – 4:15 p.m. .... Logan Room, 3<sup>rd</sup> Floor

Theme: Topics in Market Analysis

Chair: Thomas R. Sadler, Western Illinois University

Incorporating the Market's Demand and Supply by Spatial Modeling and Using Internet of Things: A Machine Learning Approach

Homa Tajjani, Purdue University Fort Wayne

Hadi Alasti, Purdue University Fort Wayne

Abstract

Spatial distribution of the demand over a given large area is considered for estimation of a proper supply function. The demand data is polled to the information fusion center (IFC) using on-site Internet of Things (IoT) devices. It is assumed that the demand steady state function is correlated, which means two near outlets have similar demand states. The spatial distribution of the demand is modeled using its contour lines. In the course of time and during iterations, the spatial distribution of the demand is cleared and a

results in reduction of the number of polling from IoT devices. The number of the contour lines and their levels are identified after an iterative process.

The IoT devices send the available and the sold items upon polling from IFC, wirelessly. Each IoT device updates its data for one or several items, periodically. The approach allows each outlet to keep track of its available items in warehouse and request for supply before selling out each item.

The proposed approach notifies the supply provisioning system for changes and adapts the supply

failure may result in risk managers having to incur greater capital requirements and or increased borrowing costs to maintain their hedge positions. This in turn may result in risk managers reducing hedged positions, incurring higher risks, and in extreme cases incentivizing firms to abandon hedging strategies altogether. We hypothesize that large traders play a significant role in price movement while certain market imbalances are present. To test this hypothesis, we use a non-linear regression technique

Adam Smith's Market for Moral Sentiments  
John R. Stinespring, University of Tampa

Abstract

In his book (1984), Derek Parfit attempted to create a new theory of beneficence called Theory X. This theory would answer important questions in population ethics. Parfit's most promising attempt at the theory relied upon an innovation he called

Elva Resendez, Purdue University Fort Wayne  
Shubham Singh, Purdue University Fort Wayne  
Mike Slaubaugh, Purdue University Fort Wayne

comprehensive resources available to professors and students alike. And they are familiar paths, by now, to both groups.

The emerging desire of students to access learning material anytime anywhere, meanwhile, has now been

