Business Economics Program Sessions
Wednesday, March 25, 2026

BUSINESS ECONOMICS

1:30 – 2:45 p.m. …….. Logan Room, 3rd Floor

Theme: Graduate Research Session I

Chair: Seth Andrews, Andrews University

Gender Disparities in the Paycheck Protection Program Loan Forgiveness
Ruby Morr, University of Illinois Chicago
Vladimir Kotomin, Illinois State University

Abstract: Previous research finds that minority borrowers faced challenges in both the loan approval and forgiveness stages of the Paycheck Protection Program (PPP). We study the differences in PPP loan forgiveness between genders. We find that female borrowers are more likely to have their loans forgiven and have them forgiven faster, after controlling for borrower and loan characteristics. We conjecture that female business owners who received PPP loans are more thorough and/or tech savvy, on average, than their male counterparts owning comparable business, likely due to higher selection hurdles women faced at the approval stage.

Three-way Multivariate Analysis of Imports of Goods and Services through the lens of Population, Continent, and Pre- and Post-Pandemic.
Keila Rogers, Andrews University,
Jerry Chi, Andrews University

Abstract: This study employs a three-way multivariate analysis to investigate the relationships between population, continent, and pre- and post-pandemic periods and the import of goods and services. Pre- and post-pandemic showed that during the post-pandemic, the 1st year and 5th year had significant positive outcomes $R^2 = .294$ and $R^2 = .067$, respectively; both $p < .001$). The continent had a significant but minimal impact, initially positive but ultimately negative. Population shows no statistical significance. Curvilinear regression analyses show us that it is linear rather than a U shaped pattern as shown by 20.4% of the variance ($p < .001$), with no significant curvilinear effects ($R^2 = .017$, $p = .129$).

8 Year Study of the Effect of the September 11 Attacks on Global Wheat, Rice, and Corn Prices: A Multivariate Analysis
Seth Andrews, Andrews University,
Jerry Chi, Andrews University

Abstract: This study examined how global corn, wheat, and rice prices changed following the events of September 11, 2001, in order to understand market sensitivity during periods of international crisis. Using historical price data across multiple years before and after the attack, the analysis compared mean price trends and variability for each crop. Results showed that corn and wheat experienced noticeable short-term volatility and moderate price increases, reflecting disruption in trade expectations and

transportation systems. Rice prices were more stable, likely due to different supply chains and domestic reliance. Overall, the findings suggest that global grain markets respond

BUSINESS ECONOMICS

3:00 – 4:15 p.m. …….. Logan Room, 3rd Floor

Theme: Graduate Research Session II

Chair: Samuel Afriyie, Park University

Two-way Multivariate Analysis on Artists' Gender and Genre on the Number of Monthly Listeners
Keila Rogers, Andrews University,
Jerry Chi, Andrews University

Abstract: This study investigates whether genre and sex influence the number of monthly listeners. Data was collected using a two-way multivariate analysis from Kaggle, a publicly available dataset. The independent variables were sex (male and female) and genre (pop, hip-hop, R&B, rock, country, reggaeton, and EDM). The dependent variables were current monthly listeners and peak monthly listeners.

The data shows that gender is a significant factor in listener counts ($F = 5.618$, $p = .004$ for current listeners; $F = 6.317$, $p = .002$ for peak listeners), and female artists have higher average listener numbers than male artists. In comparison, the genre was not significant ($p > .05$).

Trade Resilience and Capital Fragility under NAFTA and USMCA (GRADUATE)
Samuel Afriyie, Park University

Abstract: This paper evaluates how institutional reforms under the United States-Mexico-Canada Agreement (USMCA) have reshaped trade resilience and capital flows across North America, using a unified gravity model to compare the economic and financial dynamics of the NAFTA and USMCA eras.

Thursday, March 26, 2026

BUSINESS ECONOMICS

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

Theme: Undergraduate Research Session I

Chair: Jenifer McGill, Bringham Young University, Hawaii

How Does the Independence of Central Banks Affect How Well Inflation Is Managed?
Joshua Fairchild, Purdue University Fort Wayne

Operationalizing PESTEL: A Structured Method for Linking Macro-Environmental Indicators to Strategic Outcomes Across Diverse Sectors

Bill Batbayar, Bringham Young University, Hawaii,
Jenifer McGill, Bringham Young University, Hawaii

Abstract: Managers, educators, and policymakers widely use the PESTEL framework to assess political, economic, social, technological, environmental, and legal forces shaping strategic decisions. Despite its popularity, however, PESTEL remains weakly operationalized: analysts routinely construct bespoke versions, producing inconsistent indicator selection, limited comparability across contexts, and difficulty linking macro-environmental conditions to strategic outcomes. This study addresses this gap by operationalizing PESTEL through an evidence-based indicator catalog derived from a structured review of 150 published PESTEL applications spanning academic, private-sector, and government/non-profit settings. Indicators were extracted at the document level, retained within author-assigned dimensions, and systematically coded using a standardized codebook with explicit decision heuristics. Intercoder reliability was assessed using Krippendorff's alpha ($\alpha = 0.83$), and indicator prevalence was quantified to identify patterns of consensus and ambiguity. Results show convergence around a small set of high-frequency indicators within each PESTEL dimension, alongside recurring boundary ambiguities—most notably between Political and Legal, and between Economic and Social indicators. Government and private-sector applications exhibit stronger alignment than academic applications. The resulting catalog advances PESTEL from a qualitative checklist toward a transparent and replicable measurement framework, enabling comparison, aggregation, and linkage to strategic and policy outcomes through a parsimonious core-plus-extension indicator model.

Chair:

9:15 – 10:30 a.m. …….. Logan Room, 3rd Floor

Theme: Special Topics in Applied Economics

Chair: Nkosinamandla Shezi, University of South Africa

Understanding the Relationship between Criminal Record and On-the-job Performance

Kathy Paulson Gjerde, Butler University
Peter Prescott, Butler University

Abstract: Using a sample of 218 individuals employed in entry-level positions in 2021 at four logistics and manufacturing firms located in the United States, this study examines the relationship between criminal record and on-the-job performance, controlling for traditional demographic and workforce-experience-related factors. We find that a criminal record does not uniformly predict poor performance. Rather, the type of conviction matters in that misdemeanor convictions are associated with lower odds of being high performers, while felony convictions show no measurable effect. We also find that longer periods of unemployment before securing a job are linked to higher performance, suggesting that individuals who struggle in the labor market may display stronger attachment once employed.

Dominance Disrupted? Empirical Evidence on the NIL and Transfer Portal Era in NCAA Division I Men's Basketball

Kathy Paulson Gjerde, Butler University

Peter Prescott, Butler University
Jaclyn Lawrence, Indiana University Indianapolis

Abstract: This study examines the impact of the NCAA's 2021 policy changes permitting unrestricted name, image, and likeness (NIL) compensation and greater player mobility on dominance in NCAA Division I men's basketball. Using a dynamic panel model, we analyze six seasons of data from 75 teams in the Power 6 conferences. Contrary to predictions that these policy changes would entrench dominance among elite programs, we find that across-season dominance declined in the two years following NIL's implementation. This result suggests a diffusion of power, at least in the short term. Additionally, we explore how coaching changes, player continuity, transfer reliance, and athletic department spending affect team success. While player experience and continuity, as well as spending, contribute modestly to team performance, coach credentials and recruit rankings have no statistically significant predictive power. These findings offer timely insights into how structural changes in collegiate athletics may be reshaping long-term competitive dynamics.

SPORT CELEBRITY ENDORSERS CREBILITY INFLUENCING PURCHASING INTENTIONS TOWARDS ENDORSED BRANDS: A MEDIATION AND MODERATION APPROACH.

Nkosinamandla Shezi, University of South Africa

Abstract: The purpose of this study was to investigate the role of sport celebrity endorses credibility influencing purchase intention towards the endorsed brands through mediation of sport celebrity identification and moderation of Successfulness of the sport celebrity endorser. Quantitative research method was used to collect data from a total of 350 sport fans in Johannesburg, Gauteng province South Africa. The collected data was analysed using Smart PLS. One of three dimensions of source credibility namely Attractiveness was found to be statistically significant via the mediation of sport celebrity identification. While Expertise and Trustworthiness was not significant via the mediation of sport celebrity identification. Similarly, one of three dimensions of source credibility namely Attractiveness was found to be statistically significant influencing sport celebrity identification via the moderation of successfulness of the sport celebrity. Understanding the concept of sport celebrity endorsement is vital for marketers planning to partner with celebrities in the sport industry as a marketing communication tool.

BUSINESS ECONOMICS

10:45 a.m. – 12:00 p.m. …….. Logan Room, 3rd Floor

Theme: Topics in Applied Macroeconomics

Chair: Jinsuk Yang, University of Southern Indiana

An Event Study using Stock Data

Nikolas L. Albertson, TradeWell Securities and Purdue University Fort Wayne
Heather L.R. Tierney, Purdue University Fort Wayne
Jeffrey Cline, Purdue University Fort Wayne
Jayme V. Gerring, The Federal Reserve Bank of Cleveland

The Macroeconomic Consequences of the Ambazonia Struggle: A Multisectoral Analysis of Cameroon's Developmental Insecurity

Januarius Asongu, Saint Monica University

Abstract: This article examines the macroeconomic consequences of Cameroon's protracted Ambazonia independence struggle, arguing that what began as a regionally concentrated political conflict has evolved into a systemic shock to the national economy. Moving beyond sector-specific analyses, the study employs a multisectoral macroeconomic framework to trace how conflict-induced disruptions in the Northwest and Southwest regions have propagated through fiscal systems, trade networks, labor markets, investment behavior, and human capital formation. Drawing on institutional reports, macroeconomic data, and economic modeling literature, the analysis demonstrates that the conflict has suppressed GDP growth, strained public finances, distorted inflation and trade dynamics, and degraded Cameroon's productive and human capital base. The cumulative effect is a condition of developmental insecurity, in which political instability and economic stagnation reinforce one another. The article concludes that without a credible political settlement, the economic costs of the Ambazonia struggle will continue to compound, undermining long-term stability and development.

Impact of Sudden Interest Rate Shocks on Pricing Bias of Option Models: Black-Scholes Model and Fractional Black-Scholes Model.

Jinsuk Yang, University of Southern Indiana,
Sang Woo Heo, University of Southern Indiana,
JiYoon Jung, Marshall University

Abstract: This research is to examine the accuracy of option pricing models - classical Black-Scholes model (BSM) (Black et al. 1973), a quadratic approximation model MBAW (MacMillan 1986), and corresponding fractional approximation models: FBS (Elliott et al. 2003, Necula 2007, and Biagini et al. 2008) and FMBAW. Despite their limitations, these models are widely utilized by many financial professionals due to their mathematical closed-form solutions. Such solutions not only facilitate the models' implementation but also provide a quantifiable measure of the expected returns and risks associated with various options.

BUSINESS ECONOMICS

1:30 – 2:45 p.m. …….. Logan Room, 3rd Floor

Theme: Topics in Applied Microeconomics

Chair: Dan Friesner, University of Akron

Are Consumer Bankruptcy Filings Fundamentally Changing over Time?

Dan Friesner, University of Akron
Donald Hackney, Gonzaga University

Abstract: The primary objective of the consumer bankruptcy process is to allow households who have become financially insolvent to re-establish themselves financially. Bankruptcy filings have been shown

to fluctuate in accordance with general economic conditions. One issue that has not been examined in the literature is whether filer financial positions have fundamentally changed over time. Most of the literature simply assumes that the definition and threshold for insolvency is consistent over both time and across households. This may or may not be the case. The purpose of this study is to conduct a longitudinal analysis of bankruptcy filings in an effort to determine whether the financial positions of households have fundamentally changed over time. The financial statement comparability methodology of Friesner and Brajcich (2023) is used to characterize similarity or differences in households' overall financial positions at the time of a bankruptcy filing. The methodology is applied to a panel of bankruptcy filings in the U.S. Bankruptcy Court of Eastern Washington over a time period of approximately 20 years.

Are Chapter 13 Consumer Bankruptcy Filings Fundamentally Different from Chapter 7 Filings?
Dan Friesner, University of Akron
Donald Hackney, Gonzaga University

Abstract: This manuscript applies Friesner and Brajcich's (2023) financial comparability methodology to assess whether the assets and liabilities of Chapter 7 and Chapter 13 bankruptcy filers are comparable, or not comparable, to each other. The methodology is applied to a longitudinal panel of bankruptcy filers drawn from the U.S. Bankruptcy Court Eastern District of Washington State over a roughly 20 year time period that includes the implementation of the BAPCPA-based means test.

Are Medical Bankruptcies Fundamentally Different from Other Bankruptcy Filings?
Dan Friesner, University of Akron
Donald Hackney, Gonzaga University
Matthew McPherson, Gonzaga University

Abstract: Medical bankruptcy refers to a situation where a household accumulates significant levels of debt from the consumption of healthcare services, becomes financially insolvent due to this accumulation of debt, and files for protection from its creditors under the U.S. Bankruptcy Code. A robust literature exists that attempts to identify the exact amount of medical debts (relative to other types of debts) that constitutes a "true" medical bankruptcy. Rather than attempt to identify which filings are "truly" medical bankruptcies, this study asks a more fundamental question. Are households filing for bankruptcy protection with an array of assets and liabilities that include medical debts, fundamentally comparable (or not comparable) to those without medical debts? If they are not comparable, then policy reform should focus on interventions outside of the bankruptcy process to support those households. Concomitantly, if the distribution of assets and liabilities between those with, and without, health care debts are fundamentally non-comparable, then it may be advisable to consider revisions to the U.S. Bankruptcy Code to better identify and support the financial re-establishment of households experiencing medical bankruptcies. The study's research question is evaluated using a longitudinal panel of bankruptcy filings in the U.S. Bankruptcy Court District of Eastern Washington.

BUSINESS ECONOMICS

3:00 – 4:15 p.m. …….. Logan Room, 3rd Floor

Theme: Topics in Firm and Market Analysis

Chair: Dai Trang Nguyen, University of Economics Ho Chi Minh City

Market Orientation, Innovation, and Telecommunication Firm's Performance in an Emerging Market: The Strategic Nexus Of Sustainable Competitive Advantage
Dai Trang Nguyen, University of Economics Ho Chi Minh City
Candra Chahyadi, Eastern Illinois University

Abstract: In today's volatile, uncertain, complex, and ambiguous environment, sustaining superior performance poses particular challenges for firms in emerging markets, where rapid growth often coexists with institutional instability and resource constraints. Drawing on the resource-based view and dynamic capabilities theory, this study examines how market orientation (MO) and innovation capability (IC) contribute to firm performance in the telecommunications industry. Adopting a mixed-method research design, the study first conducted qualitative interviews with industry experts to refine constructs and contextualize measurement items. Subsequently, a survey of managers from firms in telecommunications was analyzed using partial least squares structural equation modeling. The findings reveal three main contributions. First, MO significantly enhances IC, demonstrating the interdependence of dynamic capabilities rather than their isolated effects. Second, MO and IC exert no direct influence on firm performance but instead operate through sustainable competitive advantage (SCA), confirming the full mediating role of SCA. Third, the study reconceptualizes SCA as a two-dimensional construct differentiation-based and innovation differentiation capturing the unique technological and competitive dynamics of telecommunications. By combining qualitative insights with quantitative validation, this study advances theoretical understanding of the capability-advantage-performance nexus and provides practical guidance for emerging-market firms to strategically leverage MO and IC in creating long-term competitiveness.

Friday, March 27, 2026
BUSINESS ECONOMICS

8:00 – 9:15 a.m. …….. Logan Room, 3rd Floor

Theme: Society, Philosophy, and Economics

Chair: John Stinespring, University of Tampa

US Preparedness for Meeting UN Sustainability Development Goals: The Right-to-Work Divide
Vijay Gondhalekar, Grand Valley State University
Chandresh Baid, Grand Valley State University
Mark Kubik, Grand Valley State University

Abstract: The primary aim of our study is to examine differences in the US preparedness for meeting United Nations Sustainability Development (SDG) Goals between US states with Right-to-Work (RTW) laws and those without the laws. States with RTW laws (currently twenty-seven) exhibit strong conservative-leaning in national and local elections and there has been pushback against ESG and sustainability initiatives from conservative states. Using annual state-level data starting in 2000, we use state and year fixed effects regressions to examine differences between the two groups of states in their preparedness for meeting UN SDGs. In these regressions, we control for differences in state-level economic conditions and policies by accounting for differences in their population, per capita income, per capita consumption,

minimum mandated wage rates, and income tax rates. In a broader context, the findings would be insightful for pointing where systematic gaps if any may exist in the preparedness towards meeting the 2030 agenda for sustainable development adopted by the United Nations in 2017. The findings could therefore be useful for policymakers globally because the pushback against ESG and sustainability from conservative elements is not local only to the US.

US Railroad's Labor Demand, 1998-2014

Mark Jelavich, Northwest Missouri State University

Abstract: Over the past several decades US railroad employment has decreased while railroad output as increased. More recently precision scheduled railroading (PSR) may have added to this employment drop. Using annual data, US railroad employment is regressed on average annual rail employee salary, real rail output (in 2017 dollars), a measure of long term interest rates (as a proxy for cost of capital), and a diesel fuel price index. Rail employment was found to increase with output and decrease with wages; labor and capital appear to be substitutes, while labor and diesel fuel appear complementary. Some conclusions are drawn from these results.

Father of Behavioral Economics? The Endowment Effect in Smith's Theory of Moral Sentiments

John Stinespring, University of Tampa

Abstract: Adam Smith's *Wealth of Nations* is considered by many to be a foundational work for classical economics. Recent scholarship claims Smith's other book, *Theory of Moral Sentiments* deserves a similar stature for behavioral economics. This paper considers the claim by examining Smith's use of the endowment effect in his conceptualization of three pillars of his moral system: justice, prudence and beneficence. While writings such as Ashraf, Camerer, and Loewenstein (2005) and Zamir (2010) provide a cursory discussion of Smith's usage of the endowment effect, this paper provides the specific model underlying Smith's analysis. For Smith, the violation of a person's perceived endowment creates a loss and constitutes injury. Injuries that create justified resentment are considered injustices. Similar violations that result in foregone gains rather than losses of perceived endowments create disappointment but not resentment and as such do not constitute real injury in Smith's moral framework. Without injury Smith's "active principles" are not invoked and no moral action occurs. This compilation of evidence for the endowment effect supports the notion that Smith's *Theory of Moral Sentiments* may deserve similar stature for behavioral economics as his *Wealth of Nations* has for classical economics

BUSINESS ECONOMICS

9:30 – 10:45 a.m. …….. Logan Room, 3rd Floor

Theme: Undergraduate Session II

Chair: Ye Yint Phone Myint, Purdue University Fort Wayne

Female Leadership, Capital Ownership, and Innovation: Does Property Ownership Empower Female-led Firms in Weak vs Strong Institutions?

Emilia Russell, Purdue University Fort Wayne

Abstract: This paper looks into how female leadership and firms' ownership of fixed assets interact to influence innovation and performance, particularly in emerging and transitioning economies. While

women leaders often rely on innovation to overcome resource and institutional constraints, their ability to turn ideas into sustained firm growth depends heavily on access to assets and finance. Female-led firms frequently hold fewer fixed assets due to structural and institutional barriers rather than weaker managerial ability, which can limit more capital-intensive innovation. Overall, the study shows that innovation links leadership and capital structure to performance, and that supportive institutional environments are essential for allowing female-led firms to fully realize their innovative potential.

Gender Differences in Access to Leadership and Higher Wages in the Labor Market
Ye Yint Phone Myint, Purdue University Fort Wayne

Abstract: In my project, I plan to investigate whether gender disparity in managerial occupations exists after controlling for various socio-demographic and contextual factors such as education, work experience, occupation, and other labor market characteristics. The hypothesis testing will be performed using the random sample of workers in the United States. Leadership roles in this case would include administrative positions that direct the work of others and exercising authority in the workplace decision-making. Holding such leadership roles often translates to long-term professional development and job/financial stability. Therefore, I have constructed two foundational hypotheses to kickstart our research. Conceptually, in a society with equal opportunities and free of gender bias, neither group should experience a higher or lower likelihood of holding a managerial position in the workforce. Any observed differences can be explained by the factors conceptualized in the literature. As an extension to this research question, I also plan to incorporate a similar question to investigate possible wage differences between men and women, controlling for different possible labor market characteristics.

11:00 a.m. – 12:00 p.m. …….. Logan Room, 3rd Floor

Theme: Topics in Applied Macroeconomics

Integrating Financial Statement Comparability into Non-Profit Productive Efficiency Analysis
Dan Friesner, University of Akron

Abstract: In a recent study, Friesner (2025) proposed an adaptation of Tofallis' (2001) maximum correlation analysis methodology to measure the efficiency and/or productivity of multi-input, multi-output firms whose operating objectives are not strictly profit maximizing (and those objectives may differ from firm to firm), and which may exercise a degree of market power. However, that methodology assumes that firms included in the analysis utilize comparable production technologies. The current study extends the Friesner (2025) methodologies to relax this assumption. More specifically, it posits a two-step approach to efficiency and/or productivity measurement. First, it applies the financial statement comparability methodology developed by Friesner et al. (2025) to identify a subset of firms operating in a market (from a much broader set of firms) that utilize similar production technologies. The Friesner (2025) methodology is subsequently applied to this subset of more comparable firms to assess productivity and/or efficiency. These results are subsequently compared to those achieved by applying the Friesner (2025) methodology to the entire sample of firms. Differences between the two sets of results illustrate the prevalence and magnitude of potential biases that may occur when researchers fail to ensure that firms must be comparable in their inputs, outputs, and production technologies.

Do Inheritance and Estate Tax Rates Drive Migration? Evidence from IRS Filing Data
Clarence Barnes, Gonzaga University

Andrew Brajcich, Gonzaga University
Dan Friesner, University of Akron

Abstract: Conventional economic reasoning suggests that a negative (positive) relationship exists between effective tax rates and inward (outward) migration to (from) a given state. Empirical analysis examining the relationship between tax rates and inter-state migration have found mixed results. This analysis re-examines the impact of various types of taxes on state-level inward or outward migration. Our findings are threefold. First, we find that the relationship between tax rates and migration is different, depending on whether migration is inward, outward, or net migration. Second, we find that the relationship between taxes and migration is non-linear in nature. For example, the relationship between income taxes and inward migration is quadratic, with a positively signed first order coefficient estimate, and a negatively signed second order coefficient estimate. Lastly, we find limited evidence suggesting that inheritance taxes may impact outward migration (in a nonlinear fashion), but do not impact inward migration.