

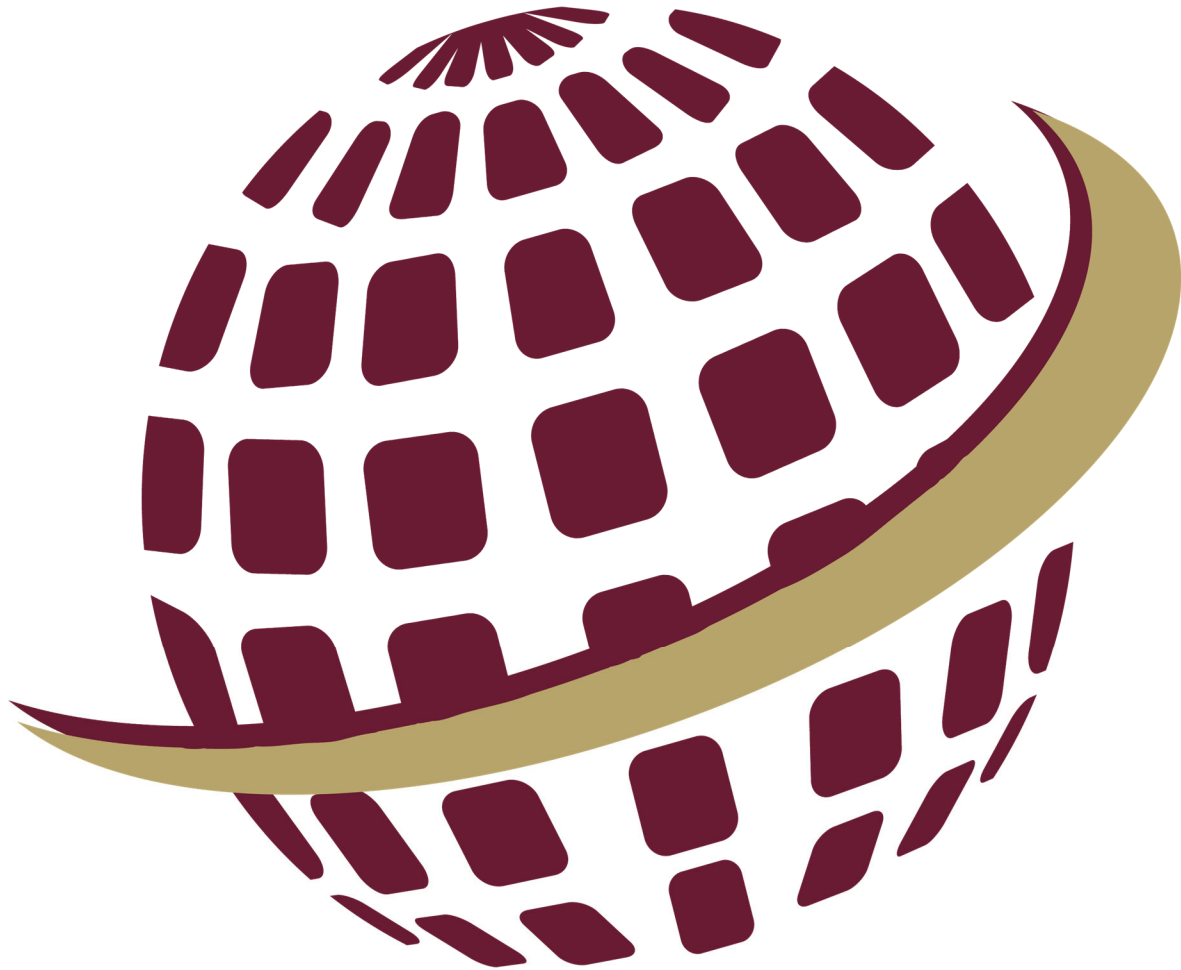
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**Texas A&M International University  
A. R. Sanchez, Jr. School of Business  
Center for the Study of Western Hemispheric Trade**

In Partnership with

**Universidad Autónoma de Tamaulipas  
Facultad de Comercio, Administración y Ciencias Sociales**

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**27th Annual  
Western Hemispheric Trade Conference  
April 12 - 14, 2023**

**Conference Proceedings**

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# ABOUT THE CENTER

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The Center for the Study of Western Hemispheric Trade (CSWHT) at Texas A&M International University (TAMIU) is a public service institute founded to study globalization with a special emphasis on the Western Hemisphere. The Center is a part of the A. R. Sanchez, Jr. School of Business (ARSSB), and it supports the college as well as the entire Texas A&M International University community by organizing conferences, seminars, lecture series, and other public events, in addition to conducting and promoting research.

Ongoing activities of the Center include the International Bank of Commerce & Commerce Bank Keynote Speaker Series, TAMIU's Annual Western Hemispheric Trade Conference, the regular publication of *The International Trade Journal*, the flagship and highly successful academic journal now in its 36th year of publication, and its online *Working Paper Series* which provides a forum for disseminating works-in-progress reflecting the broad range of research activities of TAMIU's ARSSB faculty and students.

## Mission

The Center has as its mission to study and promote research on globalization with special emphasis on the Western Hemisphere. The Center aims to increase awareness and knowledge about Western Hemispheric countries and their economical, political, and social interactions. The Center spotlights Texas A&M International University and the City of Laredo as key resources of information, research, training, and conferences focusing on the Western Hemisphere. Consistent with the mission of the School of Business, the Center promotes education and teaching through its various programs.



The CSWHT was created in 1995, and TAMIU's Western Hemispheric Trade Center opened its doors in September 2001.

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## CONTENTS

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Welcome .....	1
R. Stephen Sears and George R. G. Clarke	
Conference Agenda .....	3
About Our Speakers .....	7
Conference Committee.....	11

### Session 1: Economics and Finance I

Peer-to-Peer Lending: A Friend or Foe to the Payday Lending-Crime Relationship .....	13
Leiza Nochebuena-Evans, Murray State University; Augustine Tarkom and Nathaniel P. Graham, Texas A&M International University	
Evidence on Gender and Corruption from Firm-Level Panel Data .....	14
George R.G. Clarke, Texas A&M International University	
Economic Freedom Determinants across U.S. States: A Bayesian Model Averaging Approach .....	35
James W. Saunoris, Eastern Michigan University; James E. Payne, The University of Texas at El Paso	
Foreign Investments of Japanese Life Insurance Companies .....	36
Steven Shu-Hsiu Chen, Texas A&M International University	

### Session 2: Labor and Employment

Virtual Realistic Job Preview and its Effect on Job Commitment in Hybrid Staffing Context.....	37
Xiaochuan Song, Texas A&M University-Kingsville; Pelin Vardarlier, Istanbul Medipol University	
Impacts of Forced Immigration: The Venezuelan <i>Diaspora</i> and the Brazilian Labor Market .....	38
Rafael Alfena Zago, Texas A&M International University	
The Negative Effect of Abusive Supervision on Employees and the Role of Impostorism .....	63
Xiaochuan Song, Texas A&M University-Kingsville; Marilyn Whitman, University of Alabama	

### Sesión 3: Mercadotecnia, Redes Sociales y Seguridad en Línea

La importancia de las marcas gráficas y la correcta aplicación de la psicología del color según su contexto .....	64
Roberto Carlos Lozano Díaz, Universidad Tecnológica de Nuevo Laredo	
Las redes sociales y su influencia en la toma de decisiones .....	66
Nallely Billar Reyes and Marcos Antonio Córdova Jiménez, Instituto Tecnológico de Nuevo Laredo; José Fernando Hernández González, Universidad Autónoma de Tamaulipas; Susana Leen Escobedo Huerta, Instituto Tecnológico de Nuevo Laredo	
El impacto del social media en el posicionamiento de marca en pequeños negocios locales .....	67

Vianey Cárdenas Medrano, Karen Abigail Martínez Zepeda, and José Fernando Hernández González  
Instituto Tecnológico de Nuevo Laredo; Susana Leen Escobedo Huerta, Universidad Autónoma de  
Tamaulipas

Robo de identidad (phising) en los estudiantes de la Facultad de Comercio, Administración y Ciencias Sociales .....	68
Emmanuel de Jesús Ancira Martínez, Adán López Mendoza, Ramón Ventura Roque Hernández, and Rolando Salazar Hernández, Universidad Autónoma de Tamaulipas	

#### **Session 4: Global Business Issues**

Global Agriculture First to Benefit SDGs to People, Prosperity, Peace, and Planet: Geo-Social, Economic, Political Analysis .....	69
M.B. Dastagiri, Shailaja Thota, and Ramesh Naik M., ICAR-National Academy of Agricultural Research Management	
Global Politics of Technology: A Review of the Current Status and A Research Agenda .....	92
Jie Yan, University of Texas at El Paso; Dorothy Leidner, University of Virginia	
Does Religiosity Have a Dark Side? Evidence from Board Gender Diversity .....	93
Xiaohu Guo, The University of Alabama; Lukai Yang, Texas A&M International University	
From Rhetoric to Action: Understanding Employee's Conviction that Impacts Lean Adoption .....	94
Sam Sale, Clara Downey, and Russell Adams, The University of Texas Rio Grande Valley	

#### **Session 5: Marketing and Finance (Undergraduate and Graduate Student Presentations)**

The Influence of Country-Level Social Capital on a Firm's Cash Conversion Cycle .....	95
Nana Twum Owusu-Peprah, Texas A&M International University	
Dove's Marketing Strategy: How to Successfully Challenge Beauty Standards and the Perception of the Ideal Self .....	96
Karyme Castillo Castro, Texas A&M International University	
Asset Redeployability and Corporate Risk-Taking .....	97
Patrick Glavee, Augustine Tarkom, and Nana Twum Owusu-Peprah, Texas A&M International University	
Opportunity or Challenge? Impact of Product Market Threats on a Firm's Bankruptcy Risk .....	98
Xinhui Huang, Texas A&M International University	

#### **Session 6: Economics and Finance II**

Political Regimes, Governance, and Sustainable Development .....	115
Leonel Prieto, Arman Canatay, Muhammad Amin, Tochukwu Emegwa, and Saha Hossain, Texas A&M International University	
Central Bank Independence, Financial Openness and Cross-Border Flows of Capital .....	116
Constant Yayi, Texas A&M International University	
Why are Some Entrepreneurial Ecosystems More Favorable than Others? Comparing Brazil and México.....	117
Sergio Enrique Robles-Avila, Baldwin Wallace University; Martha Corrales-Estrada, Tecnológico de Monterrey	

Experimenting with Project Time Estimates: Some Reflections and Takeaways.....	118
Balaji Janamanchi, Texas A&M International University	

### **Sesión 7: Temas de Negocios Internacionales**

Critical Audit Matters and Culture .....	119
Ángel Arturo Pacheco Paredes, Texas A&M International University; Clark M. Wheatley, Florida International University	
Una revisión internacional sobre el impacto del nepotismo en el entorno laboral .....	120
Salvador de Guadalupe Mota Gamez and Cynthia Lizeth Ramos Monsivais, Universidad Autónoma de Tamaulipas	
Análisis de la educación superior en México y Chile: Un estudio comparativo .....	121
Miriam Castañón Vargas, Universidad Autónoma de Tamaulipas	

### **Session 8: PLSAS Multidisciplinary Research Applications**

Employing WarpPLS in a Doctoral Course on Structural Equation Modeling: First Student Project .....	122
Muhammad Rofiqul Islam, Emily De Los Cobos, and Ned Kock, Texas A&M International University	
Employing WarpPLS in a Doctoral Course on Structural Equation Modeling: Second Student Project .....	123
Prashanth Gopal, Zahidul Karim, and Ned Kock, Texas A&M International University	
Employing WarpPLS in an Undergraduate Course on Data Analytics and Business Decision Modeling: First Student Project .....	124
Scott Avant, Ricardo Garza, Carlos Leija, Mario Villarreal, Man Kin Yuen (Elias), and Ned Kock, Texas A&M International University	
Employing WarpPLS in an Undergraduate Course on Data Analytics and Business Decision Modeling: Second Student Project.....	125
Javier Alvarado, Diego Cenicerros Domingues, Miriam E. Loera, Felipe Contreras, Simileoluwa Odunuga, and Ned Kock, Texas A&M International University	

### **Sesión 9: Actividades Corporativas en Estados Unidos y México II (Estudiantes de Licenciatura)**

McDonald's: Diferencias y similitudes entre México y EUA .....	126
Isela Yaqueline González González, Juan Alberto Muñoz Valdez, and Johan Ediel Delgadillo Zamora, Universidad Autónoma de Tamaulipas- UAMRR; Carley Pope and James Kingsley, High Point University	
Diferencias y similitudes de KFC México y KFC Estados Unidos .....	128
David Brestovasky and Jackson Marchese, High Point University; Ingrid Tapia Sánchez, María Paulina Moctezuma Guerrero, and María Fernanda Carapia Bernal, Universidad Autónoma de Tamaulipas- UAMRR	
Importancia del idioma inglés en la contratación de estudiantes en Reynosa, Tamaulipas .....	130
Arelí Yesenia Rodríguez-Elizondo and Fernando Enrique Ortiz-Rodríguez, Universidad Autónoma de Tamaulipas- UAMRR; Gerardo Tijerina and Miguel Sahagun, High Point University	

## Session 10: Entrepreneurship and Finance

Supportive and Participatory Institutions in Emerging Markets: Do They Contribute to Entrepreneurial Favorability in China and India? .....	136
Sergio Enrique Robles-Avila, Baldwin Wallace University; Martha Corrales-Estrada, Tecnológico de Monterrey	
How does the COVID-19 Pandemic Affect the Relative Market Efficiency of European Credit Derivative and Equity Markets? .....	137
William J. Procasky, Texas A&M University-Kingsville; Anwen Yin, Texas A&M International University	
Interdependence of Property Prices and Building Vacancy Rates in Residential and Commercial Real Estate Markets: Hong Kong and Singapore.....	138
Steven Shu-Hsiu Chen, Texas A&M International University	
Design of Trade Agreements: Texts, Methods, and Rationale.....	139
Bashar Malkawi, University of Arizona	

## Sesión 11: Cuestiones de Finanzas y Comercio

Aplicación de métodos de análisis financiero para la toma de decisiones en época de crisis financiera .....	140
Sofía Mitre Camacho, Universidad Autónoma de Tlaxcala; Gabriela Ortega Cervantes and Silvia Patricia Muñoz Castellanos, Universidad Autónoma de Tamaulipas; Estefany Díaz Mitre, Universidad del Valle de Tlaxcala	
Actions Applied by the Mexican Government to Boost Foreign Trade during the Pandemic and Post-Pandemic .....	146
Juan Agustín Tapia Alba, Universidad Popular Autónoma del Estado de Puebla; Cesaire Chiatchoua, Escuela Superior de Economía-Instituto Politécnico Nacional	
Modelo teórico de la Norma ISO 9001: 2015 y el desempeño organizacional de las agencias aduanales .....	159
Francisco Magdaleno Ramírez, Universidad Autónoma de Nuevo León	
Comportamiento de la balanza comercial de productos agropecuarios de México, 1993-2022 .....	160
Gregorio Castro Rosales, Cristina Mondragón Sánchez, and Víctor Manuel Gerónimo Antonio, Universidad Autónoma Agraria Antonio Narro	

## Sesión 12: Fabricacion y Produccion (Estudiantes de Maestría)

Determination of Factors that Alter Copper Concentration on Solder SAC 305 in Wave Solder Equipment .....	162
Edgar Benjamín García Viramontes, Instituto Internacional de Estudios Superiores	
Estudio de los factores para la reducción de tiempo muerto en el proceso de montaje superficial.....	163
Edgar Beas Montoya, Instituto Internacional de Estudios Superiores de Reynosa	
Training Model for Salary Associates in Valves Productions Lines.....	164
Astrid Frenesi Garza Zapata, Instituto Internacional de Estudios Superiores	

### **Session 13: Labor and Management**

- Mitigating Extraneous Cognitive Load When Designing and Developing Online Asynchronous Courses: Lessons Learned ..... 165  
Shuhong Luo, Texas A&M International University
- Understanding Talent-Driven Movements in the Workplace ..... 166  
Cynthia M. Montaudon-Tomas, Universidad Popular Autonoma del Estado de Puebla; Anna Amsler, Independent Consultant; Ingrid N. Pinto-López and Alicia L. Yañez-Moneda, Universidad Popular Autonoma del Estado de Puebla
- An Institutional Perspective on Strategic Alignment of International Human Resource Management in Emerging Market Multinational Enterprises..... 167  
Rusty V. Karst, Texas A&M University - Corpus Christi; Nolan Gaffney, University of North Texas; Andrew Johnson, Texas A&M University - Corpus Christi

### **Session 14: Globalization and Trade**

- WTO Free Trade Agreements Impact on Globalized World GDP, FDI, Trade, and Poverty: Geo-Political, Trade, and Economic Analysis ..... 168  
M.B. Dastagiri, ICAR-National Academy of Agricultural Research Management; R. Vijaya Kumari, PJSTAU; Shailaja Thota, ICAR-National Academy of Agricultural Research Management; Bharath Kumar Mannepilli, Banaras Hindu University; Munni Manta, ICAR-National Academy of Agricultural Research Management
- U.S. Foreign Aid to Bangladesh: Trends and Prospects ..... 191  
Anisul M. Islam, University of Houston-Downtown
- Impact of Globalization and Multinational Corporations on Farmer Suicides in India: An Overview, Effects, Strategies, and Policies ..... 198  
Aketi Gayatri Jahnavi, Christ University; M.B. Dastagiri, ICAR-National Academy of Agricultural Research Management
- COVID-19 Effects on the Freight Transportation System in México: A Demand and Supply Shock Analysis ..... 208  
Miguel Gastón Cedillo-Campos, Texas A&M International University; Carlos Daniel Martner-Peyrelongue, Alfonso Herrera-García, María Gabriela García-Ortega, José Elías Jiménez-Sánchez, Instituto Mexicano del Transporte; Daniel Covarrubias, Texas A&M International University

### **Sesión 15: Producción, Mercadeo y Consumo**

- Análisis espacial de la especialización municipal de la producción de fresa en México, 2003-2020..... 209  
Víctor Manuel Gerónimo Antonio and Martin Eugenio Torres Rodríguez, Universidad Autónoma Agraria Antonio Narro
- Estrategias de la mezcla de mercadotecnia para la comercialización de artesanías mexicanas aplicado por las MYPES de Nuevo Laredo, Tamaulipas ..... 211  
Juan Enrique González Rocha, Paula Villalpando Cadena, Patricio Galindo Mora, and Mónica Blanco Jiménez, Universidad Autónoma de Nuevo León
- Hábitos digitales y uso de internet en jóvenes de entre edades de 18 a 40 en la ciudad de Nuevo Laredo ..... 213  
Iván de Jesús Lorenzo López Uvalle and Martha Cristina Carmona Reyes, Universidad Tecnológica de Nuevo Laredo

Factores sociodemográficos asociados al consumo de bebidas azucaradas en los hogares mexicanos, 2002 y 2020 .....	215
Víctor Manuel Gerónimo Antonio and Nazaret Flores Espínola, Universidad Autónoma Agraria Antonio Narro	

**Sesión 16: Actividades Corporativas en Estados Unidos y México I (Estudiantes de Licenciatura)**

Choque cultural de la marca Cheetos .....	217
Melina López Rueda, Estibaliz Hernández Gracia, and Daniel Alejandro Peña Ramírez, Universidad Autónoma de Tamaulipas- UAMRR; Ryan Bruin and Aidan McMeekin, High Point University	
Starbucks .....	219
Aura Cardenas Arguillin, Lizbeth Lomas Vasquez, and Marisol Mata Andrade, Universidad Autónoma de Tamaulipas- UAMRR	
7-Eleven.. .....	221
Cárdenas Catarino Reyes and Marco Antonio Sequeda Mendez, Universidad Autónoma de Tamaulipas- UAMRR; Joseph Nodar, High Point University	

**Session 17: Globalization and Finance (Graduate Students)**

The Importance of Internal Organizational Communication and its Impact on Organizational Climate.....	222
Josefina Rodríguez, Instituto Internacional de Estudios Superiores	
Pattern, Prevalence, and Consequence of Civic Engagement: A Study of Hispanic Career Professionals in Webb County... ..	223
Alejandra Peña, Texas A&M International University, Laredo, Texas, USA	
Political Regimes, Trade Openness and National Cultures: A Comparative Analysis of Democratic and Autocratic Regimes .....	224
Tochukwu J. Emegwa, Texas A&M International University	
The Debt Ceiling Crises, Political Uncertainty, Interest Group Competition .....	225
Sean K. Byrne, Texas A&M International Univeristy and California State University, Stanislaus	

**Session 18: Trade and Finance**

The Increasing Impact of Spain on the Equity Markets of Brazil, Chile, and México .....	246
Andres Rivas, PFS Investment; Rahul Verma, University of Houston-Downtown; Antonio Rodríguez, Texas A&M International University; Pedro H. Albuquerque, Aix-Marseille University	
Investor Sentiment and Cash Conversion Cycle: The Mediating Role of Macroeconomic, Finance and Real Activity Uncertainties.....	247
Augustine Tarkom and Lukai Yang, Texas A&M International University	
Analyzing the Effect of Eliminating Tariffs Imposed During the US-China Trade War on US Inflation.....	260
Farzana Noor Bindu and Oluwagbemiga Ojumu, Prairie View A&M University	
A Logistechs Living Lab at the US-MX Border .....	261
Daniel Covarrubias and Miguel Gastón Cedillo-Campos, Texas A&M International University	



## **Sesión 19: Educación y Empleo**

- Salud mental y bienestar en una institución de educación superior en México posterior a la pandemia de COVID-19 .....262  
Ingrid N. Pinto-López, Alicia L. Yañez-Moneda, Cynthia M. Montaudon-Tomas, Universidad Popular Autónoma del Estado de Puebla; Anna Amsler, Independent Consultant
- Un acercamiento práctico al potencial de uso de Chat Bing en la educación.....263  
Carlos Manuel Juárez Ibarra and Ramón Ventura Roque Hernández, Universidad Autónoma de Tamaulipas
- Descripción del método Adizes - Gestión del capital humano: Nuevos escenarios para el reclutamiento y selección de personal .....265  
Armando Ortiz Guzmán, Pablo Guerra Rodríguez, José Nicolás Barragán Codina, and Paula Villalpando Cadena, Universidad Autónoma de Nuevo León
- Ergonomía como elemento preventivo y de seguridad en las actividades laborales .....276  
José Luis Díaz Roldán, Paola Edith Malagón Velasco, and Diana Elizabeth Moreno Odabachian, Universidad Autónoma de Tamaulipas

## **Sesión 20: Sustentabilidad y Ciberseguridad**

- Comunidades portal a áreas naturales protegidas: Enfoque de innovación e intervención sistémica. ....287  
Frida Carmina Caballero Rico, Universidad Autónoma de Tamaulipas
- Entre generaciones: Gestión y transferencia del conocimiento para la conservación biocultural .....288  
Nelson Guadalupe Ruíz Salazar, Jesús Osiel Sánchez Treto, and Frida Carmina Caballero Rico Universidad Autónoma de Tamaulipas
- Ciberseguridad en la industria del transporte y la logística en Nuevo Laredo .....289  
Rolando Salazar Hernández, Clarisa Pérez Jasso, María Dolores López González, and Adán López Mendoza, Universidad Autónoma de Tamaulipas
- Estrategias de prevención de delitos informáticos en las escuelas secundarias de la ciudad de Nuevo Laredo .....290  
Cecilia Reyes Rodríguez, Adán López Mendoza, Rolando Salazar Hernández, and Ramón Ventura Roque Hernández, Universidad Autónoma de Tamaulipas

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# WELCOME

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Dear Conference Participant:

Texas A&M International University's (TAMIU) A. R. Sanchez, Jr. School of Business (ARSSB) takes pride in welcoming you to its 27th Annual Western Hemispheric Trade Conference. The Conference is co-sponsored by the Center for the Study of Western Hemispheric Trade (CSWHT) in partnership with México's Universidad Autónoma de Tamaulipas (UAT) Facultad de Comercio, Administración y Ciencias Sociales. The Conference is being held April 12 - 14, 2023.

This year's Conference will be a combination of on-site and online activities. Please review the agenda and academic session schedule carefully. If a room number is assigned to a session/presentation (for example, STC 230), the activity will be held on-site at TAMIU and will be broadcast live via Webex for our virtual participants. If the location is Webex, that session/presentation will be held completely online.

We are proud to present three outstanding keynote speakers: Neil Irwin, Author and Chief Economic Correspondent at Axios; Tonantzin Carmona, a David M. Rubenstein Fellow at Brookings Metro; and Dr. Leora Klapper, a Lead Economist in the Development Research Group at the World Bank. We hope you will be able to attend their keynote addresses.

A total of 75 papers will be presented throughout 20 academic sessions. Participants in this year's Partial Least Squares (PLS) Applications Symposium are included in the academic sessions. The PLS Applications Symposium is chaired by Dr. Ned Kock, Regents Professor and Chair of the ARSSB's Division of International Business and Technology Studies.

We thank our corporate sponsors for their support: Commerce Bank and International Bank of Commerce.

We are pleased to welcome you as our guest and participant in this year's Conference and hope you have the opportunity to build professional contacts, find potential collaborators, receive helpful feedback on your work, as well as provide constructive commentary on the research being presented. The electronic proceedings for this Conference are forthcoming and will be available on our website: <http://freetrade.tamiu.edu/>.

Sincerely,



R. Stephen Sears, Ph.D.  
Dean and Radcliffe Killam  
Distinguished Professor of Finance  
A. R. Sanchez, Jr. School of Business  
Texas A&M International University



George R. G. Clarke, Ph.D.  
CSWHT Director, Distinguished Professor of  
Economics, and PNC Bank Chair  
A. R. Sanchez, Jr. School of Business  
Texas A&M International University

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# CONFERENCE AGENDA

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## Wednesday, April 12, 2023

- 5:30 p.m. **Welcoming Reception** ..... Student Center (STC) Ballroom  
**Sponsored by IBC Bank & Commerce Bank**
- 6 p.m. **IBC Bank & Commerce Bank Keynote Speaker Series**..... STC Ballroom  
Webex Location: <https://go.tamiau.edu/irwin>
- Welcoming Remarks: Thomas R. Mitchell, Ph.D. Provost and VP for  
Academic Affairs, TAMIU  
Introduction: George R. G. Clarke, Ph.D., Director, CSWHT, ARSSB, TAMIU
- Our New Economic Era***  
Neil Irwin, Author and Chief Economic Correspondent, Axios

## Thursday, April 13, 2023

- 9 a.m. **On-Site Check-In Begins**..... STC Rotunda, 2nd Floor
- Continental Breakfast** ..... STC Ballroom
- 10 a.m. **Concurrent Academic Sessions**  
Webex Location: <https://go.tamiau.edu/whtc-sessions-1-4>
- Session 1: Economics and Finance I .....STC 225  
Session 2: Labor and Employment .....STC 230  
Sesión 3: Mercadotecnia, Redes Sociales y Seguridad en Línea .....STC 231  
Session 4: Global Business Issues .....Webex
- 11:45 a.m. **Break**
- 12 p.m. **Lunch Begins**..... STC Ballroom
- 12:30 p.m. **Luncheon Keynote Address** ..... STC Ballroom  
Webex Location: <https://go.tamiau.edu/carmona>
- Welcoming Remarks: Pablo Arenaz, Ph.D., President, TAMIU  
Introduction: R. Stephen Sears, Ph.D., Dean, ARSSB, TAMIU
- Cryptocurrencies & U.S. Communities of Color***  
Tonantzin Carmona, David M. Rubenstein Fellow, Brookings Metro
- 1:45 p.m. **Break**

**All times listed are Central Daylight Time (CDT).  
All on-site presentations will be broadcast live via Webex for our virtual participants.**

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# CONFERENCE AGENDA

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## Thursday, April 13, 2023 (cont.)

**2 p.m. Concurrent Academic Sessions**

Webex Location: <https://go.tamtu.edu/whtc-sessions-5-8>

Session 5: Marketing and Finance (Undergraduate and Graduate Student Presentations) ..... STC 225  
Session 6: Economics and Finance II ..... STC 230  
Sesión 7: Temas de Negocios Internacionales ..... STC 231  
Session 8: PLSAS Multidisciplinary Research Applications ..... Webex

**3:30 p.m. Break & Refreshments**

**3:45 p.m. Concurrent Academic Sessions**

Webex Location: <https://go.tamtu.edu/whtc-sessions-9-12>

Session 9: Actividades Corporativas en Estados Unidos y México I (Estudiantes de Licenciatura) ..... Webex  
Session 10: Entrepreneurship and Finance ..... STC 231  
Sesión 11: Cuestiones de Finanzas y Comercio ..... Webex  
Sesión 12: Fabricacion y Produccion (Estudiantes de Maestría) ..... Webex

**5:15 p.m. Break**

**5:30 p.m. Reception Begins** ..... Western Hemispheric Trade Center (WHT) Foyer, 1st Floor

**6 p.m. Dinner** ..... WHT Foyer, 1st Floor

Welcoming Remarks: R. Stephen Sears, Ph.D., Dean, ARSSB, TAMTU

## Friday, April 14, 2023

**9 a.m. Concurrent Academic Sessions**

Webex Location: <https://go.tamtu.edu/whtc-sessions-13-16>

Session 13: Labor and Management ..... Webex  
Session 14: Globalization and Trade ..... Webex  
Sesión 15: Producción, Mercadeo y Consumo ..... Webex  
Sesión 16: Actividades Corporativas en Estados Unidos y México II (Estudiantes de Licenciatura) ..... Webex

**10:30 a.m. Break**

**All times listed are Central Daylight Time (CDT).**

**All on-site presentations will be broadcast live via Webex for our virtual participants.**

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# CONFERENCE AGENDA

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## Friday, April 14, 2023 (cont.)

**11 a.m. Concurrent Academic Sessions**

Webex Location: <https://go.tamui.edu/whtc-sessions-17-20>

Session 17: Globalization and Finance (Graduate Students).....Webex  
Session 18: Trade and Finance.....Webex  
Sesión 19: Educación y Empleo.....Webex  
Sesión 20: Sustentabilidad y Ciberseguridad.....Webex

**12:30 p.m. Break**

**1 p.m. Keynote Address.....Webex**

Webex Location: <https://go.tamui.edu/klapper>

Welcoming Remarks: R. Stephen Sears, Ph.D., Dean, ARSSB, TAMIU  
Introduction: George R. G. Clarke, Ph.D., Director, CSWHT, ARSSB, TAMIU

***The World Development Report 2022: Finance for an Equitable Recovery***

Leora Klapper, Ph.D., Lead Economist, Development Research Group, World Bank

**2:30 pm Announcement of Student Awards & Closing Remarks.....Webex**

Webex Location: <https://go.tamui.edu/klapper>

George R. G. Clarke, Ph.D., Director, CSWHT, ARSSB, TAMIU

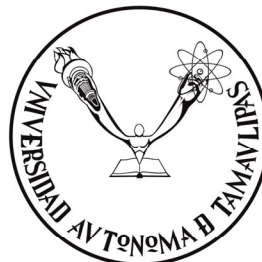
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## INSTITUTIONAL PARTNERS

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**A. R. SANCHEZ, JR. SCHOOL OF BUSINESS**



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# ABOUT OUR SPEAKERS

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## Neil Irwin

Neil Irwin is the Chief Economic Correspondent at Axios, and formerly served as a senior economic correspondent at the *New York Times*. He is the author of *How to Win in a Winner-Take-All World: The Definitive Guide to Adapting and Succeeding in High-Performance Careers* and *The Alchemists: Three Central Bankers and a World on Fire*, a bestselling account of the world's central bankers' battle to subdue the global financial crisis.

Irwin has written for The Upshot, the *Times's* site for analytical reporting on politics, economics, and everyday life. There and now at Axios, he applies economic logic to help explain and understand the world around us. He has written on topics as varied as the global economy and financial markets, trends in sports fandom, and the rise and fall of food fads.

Previously, Irwin was a columnist at the *Washington Post* and economics editor of Wonkblog, the Post's site for analytical journalism. From 2007 to 2012, he was the Post's beat reporter covering the Federal Reserve and the economy. He has often appeared on television analyzing economic topics, including on the PBS Newshour, CNBC, and MSNBC.

*The Alchemists*, published in 2013 by the Penguin Press and now available in paperback, was a *New York Times* Bestseller and was short-listed for the Goldman Sachs-Financial Times Business Book of the Year Award. It appeared on best-books-of-the-year lists from the *Wall Street Journal*, *Washington Post*, and NPR.

Irwin was a Knight-Bagehot Fellow in Economic and Business Journalism at Columbia University, from which he has an M.B.A. His undergraduate studies were at St. Mary's College of Maryland, where he served on the Board of Trustees from 2007 to 2013.

### ***Our New Economic Era***

**Keynote Address | Wednesday, April 12, 2023 | 6 p.m. CDT**

**Student Center Ballroom | Live Broadcast available at <https://go.tamtu.edu/irwin>**

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# ABOUT OUR SPEAKERS

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## Tonantzin Carmona

Tonantzin Carmona is a David M. Rubenstein Fellow at Brookings Metro. Throughout her professional career, she has designed and implemented inclusive and equitable public policy solutions to meet the needs of historically disinvested communities. Her research interests include racial equity, wealth and inequality, public finance, and civic technology.

Carmona's most recent scholarship at Brookings has focused on the risks and drawbacks of cryptocurrencies, particularly for Black and Latinx communities seeking to access financial services or build wealth.

Additionally, through cutting-edge research, policy frameworks, and solutions, Carmona aims to reshape policy conversations around Latinx wealth in the United States.

Carmona has been cited in Bloomberg Tax, Quartz, Tech Crunch, Tech Monitor, StateScoop, Route Fifty, and City & State New York. Carmona has also appeared on NPR Marketplace's "Make Me Smart" podcast, and she has been published in *Bloomberg* and *Crain's Chicago Business*.

Prior to her work at Brookings, Carmona's professional background spanned roles in public policy, communications, community outreach, politics, and philanthropy. Previously, Carmona spearheaded citywide and intergovernmental policy initiatives when she served as the Chief of Policy for the Chicago City Clerk and as the Director of the Office of New Americans at the City of Chicago Mayor's Office. As Chief of Policy, Carmona led the Chicago Fines, Fees & Access Collaborative, which culminated in significant reforms of the City's regressive public finance policies. She launched Chicago's municipal ID card, which simultaneously serves as a transit and library card, and she led the creation of several immigrant integration policies in Chicago, including the city's first language access ordinance. Carmona also championed federal policies through her work as the Illinois Political Director for the 2020 presidential campaign of U.S. Senator Elizabeth Warren and as Senator Warren's Deputy Press Secretary on Capitol Hill.

Carmona holds an M.P.A from the Harvard Kennedy School of Government and a B.A. in political science from Northwestern University.

### ***Cryptocurrencies & U.S. Communities of Color***

**Keynote Address | Thursday, April 13, 2023 | 12:30 p.m. CDT**

**Student Center Ballroom | Live Broadcast available at <https://go.tamtu.edu/carmona>**

In this presentation, Carmona will examine a recent trend that involves communities of color and high adoption rates of cryptocurrencies and possible reasons for why these communities might be drawn to cryptocurrencies. A brief overview of cryptocurrency and financial inclusion narratives will follow, as well as a discussion of the potential risks and downsides of cryptocurrency for communities of color. The presentation will culminate with a discussion of how cryptocurrencies relate to the concept of "predatory inclusion."

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# ABOUT OUR SPEAKERS

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## Leora Klapper, Ph.D.

Leora Klapper is a Lead Economist in the Development Research Group at the World Bank. She is a founder of the Global Findex database, co-editor of the *World Bank Economic Review*, and was Director of the *World Development Report 2022: Finance for an Equitable Recovery*.

She has published widely in refereed journals on corporate and household finance, fintech, banking, and entrepreneurship. Her current research studies the impact of digital financial services, especially for women. Previously, she worked at the Board of Governors of the Federal Reserve System and Salomon Smith Barney.

She holds a Ph.D. in financial economics from New York University Stern School of Business.

### ***The World Development Report 2022: Finance for an Equitable Recovery***

**Keynote Address | Friday, April 14, 2023 | 1 p.m. CDT**

**Webex: <https://go.tamtu.edu/klapper>**

The global public health crisis triggered by the COVID-19 Pandemic also created the largest economic crisis in more than a century, and governments enacted a swift and encompassing policy response that helped alleviate the worst social and economic impacts, often by adding to already high levels of sovereign debt and exacerbating a number of economic fragilities. But delays in addressing public and private debt sustainability are associated with protracted recessions, rising inflation, and reduced spending on social safety nets, public health, and education, which have disproportionate impacts on the poor. The *World Development Report 2022: Finance for an Equitable Recovery* examines the central role of finance in today's economic recovery. It highlights the consequences most likely to affect emerging economies, and advocates a set of policies to mitigate the interconnected financial risks and steer economies toward a sustainable and equitable recovery.



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# Peer-To-Peer Lending: A Friend or Foe to the Payday Lending-Crime Relationship

Leiza Nochebuena-Evans<sup>1</sup>

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## Abstract

This study focuses on two financial alternatives, payday and peer-to-peer loans, and their impact on crime. We study whether peer-to-peer lending is an improved alternative to payday loans or whether the additional access to liquidity via the peer-to-peer lending market reinforces the payday lending-crime relationship. We take advantage of the differences in the U.S. regulatory environment of payday lenders and find that there is a direct relationship between payday lending and peer-to-peer lending. Peer-to-peer lending provides temporary relief, but such relief transforms itself to a financial burden causing an increase in both property and violent crime while simultaneously reinforcing the payday lending-property crime relationship.

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# Evidence on Gender and Corruption from Firm-Level Panel Data

George R.G. Clarke<sup>1</sup>

A.R. Sanchez, Jr. School of Business, Texas A&M International University, Laredo, Texas, USA

## Abstract

Cross-sectional studies have found firms owned and managed by women report paying fewer, and lower, bribes than similar firms owned and managed by men. These studies often suggest the reason firms controlled by women report paying fewer bribes than firms controlled by men is that women discourage their firms from doing so when they can. Unobserved firm characteristics, however, might affect both who runs the firm and the firm's vulnerability to bribe requests. To test whether the earlier cross-sectional results are robust, we estimate firm-level fixed effects regressions using panel data from the World Bank Enterprise Surveys (WBES). We find that although including firm-level fixed effects weakens the results, some continue to suggest gender and corruption are linked. The strongest results, however, are for respondents rather than top managers and owners. This finding is puzzling because owners and top managers should influence firm culture and behavior more than the lower level managers and professionals who frequently act as respondents. One possible explanation is that women misreport bribes more than men when acting as the respondent.

## I. Introduction<sup>2</sup>

Earlier firm-level studies using cross-sectional data have linked gender to corruption, mostly finding that firms controlled by women are less likely to be involved in corruption than other firms. Breen and others (2017) show that firms owned by women report paying lower bribes than firms owned by men. Similarly, Swamy and others (2001) shows firms managed and owned by women paid fewer bribes than other firms. Some studies, however, have found conflicting results. Most notably, although Pavlik and Bastos (2023) find firms managed by women pay lower bribes and are less concerned about corruption than other firms, they find the opposite for firms owned by women.<sup>3</sup> Individual-level studies have also linked gender and corruption; Mocan (2008), for example, finds women are less likely to report that officials have asked them for bribes than are men.

Firms owned and managed by women might be less likely to report paying bribes because either firms owned and managed by women behave differently than other. Probably the most common explanation for the difference between firms controlled by women and men is women disapprove of corruption more strongly than men and, therefore, foster firm cultures opposed to

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<sup>2</sup> The data used in this paper are from the Enterprise Surveys (<http://www.enterprisesurveys.org>), The World Bank. Responsibility for all errors, omissions, and opinions rests solely with the author. I thank Joao Pedro Bastos and Jamie Bologna Pavlik for comments on an earlier draft.

<sup>3</sup> They also disaggregate their sample in various ways arguing that corruption might affect women-controlled firms differently in different countries. Based on this, they find corruption is more harmful to women in countries that have greater gender inequality. Pavlik and Bastos (2023) use the World Bank Enterprise Surveys, the same data as Breen and others (2017) and this paper. Their sample, however, is larger than Breen and others (2017) because they include surveys conducted after Breen and others (2017)'s sample ends. Their sample is also much larger than this paper's sample because they include all firms not just panel firms.



bribery.<sup>4</sup> Consistent with this, fewer women say it is acceptable to pay bribes than men.<sup>5</sup> Women might avoid paying bribes because they are more public-minded, ethical, risk-averse, or law-abiding than men.<sup>6</sup>

Alternatively, women might be less likely to pay bribes because officials treat firms controlled by women differently than firms controlled by men. Officials might treat women differently from men because of cultural norms. For example, if officials believe women are more honest than men, and thus more likely to report them, they might avoid taking bribes from firms controlled by women. Alternatively, officials might demand higher bribes from firms owned by women if they want to discriminate against them.

The preceding two explanations assume people honestly report paying bribes. As with other sensitive survey questions, however, people might not answer questions about corruption truthfully.<sup>7</sup> If women misreport bribe payments more frequently than men, then they would report paying fewer bribes than men even if men and women behave similarly. Women might misreport bribes more frequently if, on average, they worry more about giving socially desirable answers than men.<sup>8</sup>

This paper contributes to the literature on gender and bribe payments in two ways. First, the paper explores whether the relationship between gender and corruption is due to omitted firm characteristics that affect both bribes and ownership and control. For example, firms facing heavier regulatory burdens and firms that receive government contracts might pay more bribes than other firms because they meet with government officials more frequently. But firms heavily reliant on government agencies might prefer well-connected owners and managers to help them navigate the bureaucracy. If, on average, women in developing countries have less political influence than similar men, they might manage and own these firms less frequently than men.<sup>9</sup> We do this using Chamberlain (1980)'s conditional logit model to control for fixed firm-level effects. We find that unobserved firm characteristics do not fully explain the link between gender and corruption. Some coefficients on gender stay negative and statistically significant even after controlling for firm-level fixed effects.

Second, the paper compares how the top manager, owner and respondent affect reported bribes, possibly giving information about the relationship between gender and corruption. We find that although firms owned and managed by women report paying fewer bribes than other firms, the coefficients become statistically insignificant after including firm-level fixed effects. In contrast, the respondent dummy's coefficient stays negative and statistically significant. Further, the respondent's gender affects bribes more than the manager's and owner's gender whether the regression includes firm-level fixed effects or not.

The stronger results for respondents than for managers and owners would be puzzling if women prevented bribe payments through their effect on firm culture or behavior. Although respondents are usually managers or professionals, they are frequently not the top manager or owner. Top managers and owners should therefore affect bribes more than respondents if they affect bribes through firm culture or behavior. On the other hand, if gender affects reported bribe payments because it affects misreporting, we might expect the respondent's gender to affect reported payments more than the manager's or owner's gender.

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<sup>4</sup> See, for example, Dollar and others (2001), Swamy and others (2001) or Breen and others (2017).

<sup>5</sup> Using data from the World Values Survey, Swamy and others (2001) and Torgler and Valev (2010) show that women are less likely to say accepting bribes is appropriate.

<sup>6</sup> See Croson and Gneezy (2009) and Shurchkov and Eckel (2018) on the mixed evidence related to public-mindedness. See O'Fallon and Butterfield (2005) on ethics and Shurchkov and Eckel (2018) or Croson and Gneezy (2009) for the stronger evidence on risk aversion.

<sup>7</sup> Tourangeau and Yan (2007) discuss misreporting in response to sensitive survey questions in general. Several papers discuss ways of identifying individuals who misreport bribes and ways to mitigate misreporting. See, for example, Iarossi (2006), Recanatini and others (2000), or Azfar and Murrell (2009).

<sup>8</sup> Studies have found social desirability concerns women more than it concerns men in other contexts (Bernardi and others, 2009; Bossuyt and Van Kenhove, 2018; Dalton and Ortegren, 2011).

<sup>9</sup> Although controlling for industry might partly control for these differences, this might do so imperfectly if regulations and opportunities for contracts differ within industries.

## II. Effect of Gender on Corruption

The idea that women are less prone to give and take bribes than men is not new. Among suffragists' arguments for giving women the right to vote was that doing so would help clean up the notoriously corrupt politics of the late 19<sup>th</sup> and early 20<sup>th</sup> century United States (Dumenil, 2007; Mintz, 2007). Similarly, some people argued that increasing women's participation in government would also reduce corruption. For example, Gordon (2017, p. 117) writes: "[Daisy Barr] campaigned to have a woman added to the Indianapolis police force—a typical Progressive era cause motivated by the belief that women were less corrupt and harder on moral offenses than men." This belief remains common today. For example, local governments in Lima and Mexico City staffed their traffic police entirely or mostly by women in the late 1990s to reduce corruption (Swamy and others, 2001).

In the early 2000s, two studies using country-level data explored the relationship between gender and corruption (Dollar and others, 2001; Swamy and others, 2001). Both found corruption was lower in countries where women held greater political or economic power. Although later country-level studies questioned their results, the papers remain influential.<sup>10</sup>

Some experimental studies support the country-level studies' empirical findings.<sup>11</sup> Most experiments involve two players; the first playing a firm and the second playing a public official.<sup>12</sup> Although details vary across experiments, the person playing the firm can usually increase their earnings by offering the person playing the public official a side-payment. If the person playing the firm offers a bribe, the person playing the public official must decide whether to accept it and whether to reward the bribe-giving firm. To discourage bribe-taking and giving, some experiments randomly punish some corrupt firms and officials. Other experiments punish innocent third-parties if the corrupt transaction occurs. In a recent literature survey, Chaudhuri (2012, p. 13) concluded: "across a wide variety of experiments, studying different aspects of corruption, it is either the case that women behave in a more pro-social and less corrupt manner than men or that there were no significant gender differences". Frank and others (2011) finds similar results. The experimental evidence, however, does not unambiguously support the hypothesis; differences are often statistically insignificant. For example, women were significantly less likely to offer bribes in only two of seven experiments and to take bribes in only two of eight experiments covered in Chaudhuri (2012)'s survey.<sup>13</sup>

### *Micro-level evidence on gender and corruption*

Several studies have explored the relationship between gender and corruption using micro-level data, with results that mostly support the country-level and experimental studies.<sup>14</sup> Studies using individual- or household-level data have found women are less likely to report paying—or being asked for—bribes than men (Justesen and Bjornskov, 2014; Mocan, 2008; Oliveros and Gingerich, 2020). Similarly, some studies have found firms are less likely to report paying bribes when women own or control them (Breen and others, 2017; Clarke, 2021; Swamy and others, 2001). One notable exception is Pavlik and Bastos (2023), which found that women-owned firms paid higher bribes and were more concerned about corruption than other firms, especially in countries

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<sup>10</sup> According to Google Scholar, both papers have been cited over 1000 times. Recent studies that have questioned the robustness of results include Sung (2003), which found the correlations become insignificant after controlling for democratic rights, and Debski and others (2018), which found controlling for culture also weakened the relationship.

<sup>11</sup> Chaudhuri (2012) and Frank and others (2011) provide excellent surveys of the experimental literature on corruption and gender. Armantier and Boly (2013) discusses the external validity of these experiments.

<sup>12</sup> In most, but not all, games the two players are university students rather than actual firm owners and government officials.

<sup>13</sup> The fifteen experiments were from five studies, most of which contained both bribe givers and bribe takers. One study had experiments in four countries. Chaudhuri (2012) contains only one laboratory experiment where women acted more corruptly than men. In this study, Armantier and Boly (2011, 2013) found women in Canada and Burkina Faso were more likely to reciprocate after receiving bribes than men. They also found similar results in a field study. Two other laboratory experiments, however, have found women were less likely to reciprocate than men (Lambsdorff and Frank, 2011; Rivas, 2013).

<sup>14</sup> Swamy and others (2001) also presented some results from a firm-level survey from Georgia.

with greater gender inequality. In contrast, they found firms managed by women paid lower bribes and were less concerned about corruption than other firms.

We can explain the micro-level evidence in several ways. First, women might report paying fewer bribes than men because women are less willing to pay bribes than men. They might, therefore, not offer bribes to corrupt officials, refuse to pay bribes when officials demand them, or avoid situations where officials demand bribes. Second, corrupt officials might treat women differently than men, resulting in them demanding fewer bribes from women. Officials might do so if they believe women are more likely to report them. Finally, women might bribe officials as often as men, but deny doing so more frequently during surveys. Women might lie about paying bribes, for example, if they are more sensitive about the social desirability of bribing officials. We discuss the empirical evidence for each explanation in the following sections.

### ***Are women less willing to pay bribes than men?***

The simplest way to explain why women are less likely to report paying bribes than men is that women try harder to avoid paying bribes.<sup>15</sup> They might do so by avoiding situations where they need to pay bribes or they might refuse to pay when officials demand bribes.<sup>16</sup> If women take more steps to avoid paying bribes, we might observe women paying fewer and lower bribes than men.

If women try harder to avoid paying bribes than men, an obvious question is why they do. One possibility is women disapprove of corruption more than men. Empirical evidence supports this idea; when asked about corruption, women are more likely to condemn it than men. Using data from the World Values Survey, Swamy and others (2001) and Torgler and Valev (2010) show women are less likely to say accepting bribes is appropriate. Similarly, Bernardi and others (2009) found fewer women said it was acceptable to bribe police officers to avoid speeding tickets in three of their study's four countries.<sup>17</sup> In contrast, Alhassan-Alolo (2007) found that women working in three public institutions in Ghana had similar views about three hypothetical scenarios involving corruption as men in the same institutions.

A second possibility is that women might avoid paying bribes because they are simply more law-abiding than men. Much evidence supports this assertion. Women accounted for only 27 percent of arrests in the United States in 2020.<sup>18</sup> As well as committing fewer violent crimes, women also commit fewer non-violent offenses such as writing bad checks, extortion, fraud, burglary, driving under the influence, and drug abuse.<sup>19</sup> Consistent with this, women accounted for only 18 percent of arrests related to corruption. Similar patterns hold elsewhere; women account for fewer arrests and imprisonments than men in all countries with available data.<sup>20</sup> For example, only 14 percent of suspected offenders in Europe were women (Aebi and others,

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<sup>15</sup> Further, it is important to note that even if men and women behave differently, that does not imply any differences are innate. Cultural and societal norms might induce men and women to act differently even if men and women were identical in other ways.

<sup>16</sup> Clarke (2021) finds that firms controlled by women interact with government officials less often than firms controlled by men. In contrast, firms controlled by women do not appear to be any less likely to pay bribes when they do interact with public officials.

<sup>17</sup> The countries were Ecuador, South Africa, and the United States. In the final country, Colombia, men and women were equally likely to say it was acceptable. They also show that gender differences become insignificant after controlling for social desirability response bias.

<sup>18</sup> Data is from the FBI's Uniform Crime Report website (<https://www.fbi.gov/services/cjis/ucr/>).

<sup>19</sup> Women accounted for less than half of arrests in thirty-two of the Uniform Crime Report's thirty-four categories, with prostitution and embezzlement being the exceptions.

<sup>20</sup> Women make up about 7 percent of the prison population in countries with available data (Walmsley, 2017). In no country did women account for more than 25 percent of prisoners. For 113 countries with data on arrests, women accounted for only 18.9 percent of arrests between 2003 and 2020. The highest share was 32 percent. Data on arrests is based on data from the United Nations Office on Drugs and Crime (<https://dataunodc.un.org/>). These sources include both developed and developing countries and countries from all regions of the world.

2021).<sup>21</sup> Victimization data, self-reports, and police reports show similar patterns as data on arrests and imprisonments (Warr, 2002).

A third possibility is that women might avoid paying bribes because the average woman is more risk-averse than the average man.<sup>22</sup> Risk aversion might also explain why women are more law-abiding than men; risk-averse individuals might worry about committing crimes—including bribing public officials—because they fear arrest or imprisonment. Moreover, paying bribes is risky for another reason; bribe-givers cannot be sure bribe-takers will deliver the benefits they promise. And if corrupt officials do not deliver, bribe-givers have little legal recourse. If women are, on average, more risk-averse than men—as observational and experimental studies have found (Croson and Gneezy, 2009; Shurchkov and Eckel, 2018)—fewer women than men might pay bribes.

A final possibility is women might avoid paying bribes because they have greater public spirit or are more ethical than men. Ethics or public-mindedness might also explain why women commit fewer crimes and condemn corruption more strongly than men. Experimental and empirical studies on public-mindedness and ethics, however, do not strongly support this long-standing belief.<sup>23</sup> Only some studies find women are more public-minded than men (Croson and Gneezy, 2009; Shurchkov and Eckel, 2018).<sup>24</sup> Similar results hold for ethics; O'Fallon and Butterfield (2005) concluded only about half of empirical studies find significant ethical differences between men and women.<sup>25</sup>

In summary, women might report paying fewer bribes than men because they avoid paying bribes. They might do this because they are more averse to corruption, law-abiding, risk-averse, ethical, or public-minded than men.

### ***Do corrupt officials treat women differently than men?***

Although women might report paying fewer bribes than men because they are more averse to corruption, other explanations are possible. Corruption involves two parties—the person paying the bribe and the official taking it. Even if women and men were equally willing to pay bribes, corrupt officials might treat women and men differently, leading to different outcomes.

When thinking about how corrupt officials treat bribe payers, it is useful to distinguish between bribery and extortion.<sup>26</sup> Some people might offer bribes to officials in return for favors. For example, they might offer a bribe to avoid following government regulations, avoid paying taxes, get permits quicker, or win government contracts. We will refer to these cases as bribery. For example, a restaurant might bribe a health inspector to avoid upgrading their facilities. Similarly, a reckless truck driver might bribe a police officer to escape a speeding ticket. In other cases, firms might pay bribes even though they are following relevant rules. We refer to these cases as extortion. For example, the same restaurant might bribe an official who threatens to temporarily shut them down for a non-existent health violation. Similarly, the truck driver might bribe the police officer to avoid made-up charges and long delays at illegal traffic stops.<sup>27</sup>

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<sup>21</sup> Data are for 2015. In no European country with available data did women account for more than 30 percent of offenders. Once again, this was also true for non-violent crimes: on average, women made up 21.7 percent of fraud offenders, 20.6 percent of forgery offenders, 18.8 percent of money laundering offenders, and 16.7 of corruption offenders.

<sup>22</sup> Of course, they might be more law abiding because, on average, they are more risk-averse than men. But this is not the only possible explanation.

<sup>23</sup> See above for a discussion of this belief.

<sup>24</sup> For example, experimental studies on cooperation, trust, and public goods give mixed results (Croson and Gneezy, 2009; Shurchkov and Eckel, 2018)

<sup>25</sup> They note, however, that when studies find differences, women are usually more ethical than men.

<sup>26</sup> Several papers discuss the distinction between bribery and extortion. See, for example, Mendez (2014) or Mendez and Sepulveda (2007). This distinction is also related to the distinction between corruption that greases the wheels of bureaucracy rather than puts sand in the wheels. See, for example, Bardhan (1997) or Meon and Sekkat (2005).

<sup>27</sup> The Economist (2002) gives an example of this, describing travelling from Douala to Bertoua in Cameroon in a delivery truck. During the 313-mile trip, police stopped the truck the journalist was travelling in forty-seven times. Police would often request bribes on made up charges. For example, at one roadblock “[the police officer] invented a new law about carrying passengers in trucks, found the driver guilty of breaking it, and confiscated his license.” When the driver objected, the officer responded “Do you have a gun? I have a gun, so I know the rules.”

One reason officials might treat women differently from men is that women might know fewer high-level officials and powerful individuals than men. In countries where discrimination is common, women might find themselves especially disadvantaged. Social connections, however, might affect bribes differently in cases related to bribery and extortion.

People with weak social networks might find it harder to bribe officials to get favorable treatment than people with stronger networks. To mitigate the risks associated with giving and receiving bribes, corrupt officials might only accept bribes from people they know and trust.<sup>28</sup> Although people with access to corruption networks might pay more bribes, they will benefit from improved access to government contracts and fewer bureaucratic entanglements. If women in developing countries, on average, have weaker networks than men, this might limit their opportunities to bribe officials to obtain special favors (Goetz, 2007).

Although people who lack social connections to powerful individuals might be unable to access corruption networks, they might face frequent extortionary bribe demands. Although police officers and low-level officials might worry about demanding bribes from well-connected individuals who could complain to the corrupt official's superior, they might worry less about people with weaker networks. If women's social networks are weaker than men's, they might face extortionary demands more frequently than men.

Corrupt officials might also treat women differently from men because they believe men and women are different. Their beliefs could reflect social norms, animus, or their opinions about men's and women's relative willingness to pay bribes.

Unfortunately, little direct evidence on how corrupt officials treat men and women exists. One piece, however, comes from the World Bank Enterprise Surveys (WBES). The WBES asks several questions about bribes during transactions such as tax inspections and license applications. The interviewer first asks whether the firm has recently engaged in the transaction and then asks firms that answer 'yes' whether the official expected or requested a bribe. Because the questions ask whether the official expected or requested a bribe, not whether the firm paid a bribe, it should capture the official's behavior if respondents interpret the question as asked. If respondents interpret the question broadly to include cases where the firm offers bribes, the firm's behavior might affect the answer. Based on this question, Clarke (2021) finds firms owned and managed by men and women were equally likely to say officials expected or requested bribes. This might suggest corrupt officials treat firms controlled by men and women similarly.

Although there is little direct information on whether corrupt officials treat men and women differently, other evidence shows people treat men and women differently in situations unrelated to corruption. For example, when people play ultimatum games in laboratory experiments, some players treat men and women differently.<sup>29</sup> Most notably, the first player, whether a man or woman, offers less to the second player when the second player is a woman (Eckel and Grossman, 2001; Solnick, 2001).<sup>30</sup>

People also treat men and women differently during negotiations over prices and wages. Ayres and Siegelman (1995) ran a field experiment where they sent customers to car dealers to negotiate new car purchases using identical negotiating techniques. They found dealers proposed higher starting prices and gave higher final offers to women and African American customers than they did to white men. Similarly, economists and psychologists suggest negotiations over starting wages might partly explain gaps between men's and women's wages (Bertrand, 2011; Mazei and others, 2015; Save-Soderbergh, 2019).

Although the evidence related to car sales and starting wages suggests public officials might treat women less favorably than men during negotiations over bribes, the reverse is also possible. One reason they might do so is that they might believe women are less likely to pay bribes than

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<sup>28</sup> Consistent with this, Ufere and others (2012) discuss how connectors, often former generals, set up meetings between entrepreneurs and public officials. Similarly, Bertrand and others (2007) discuss how facilitators help people get driving licenses in India.

<sup>29</sup> Ultimatum games are games where two players divide a set amount of money between themselves. Player one offers player two a split and then player two accepts or rejects the bid. If player two reject the offer, neither player gets anything. The sub-game perfect Nash equilibrium is for player one to offer the smallest amount possible and player two. Thaler (1988) describes the game and the experimental evidence on how people play the game in laboratory settings.

<sup>30</sup> Although Eckel and Grossman (2001) found women received smaller offers, the difference was statistically insignificant.

men and more likely to report them. They might believe this if they think that women are more honest than men.<sup>31</sup>

### ***Do women misreport bribe payments more often than men?***

The earlier explanations assume women report paying fewer bribes than men because they pay fewer bribes. However, women might report paying fewer bribes because they are less truthful about paying them during interviews than men. During surveys, people tend to underreport illegal, immoral, and embarrassing behaviors. For example, studies have found that people lie about having high interest loans, using alcohol and illegal drugs, using birth control, having had an abortion, having gastrointestinal problems, committing crimes, and even listening to soft-rock (Clausen and others, 2010; Karlan and Zinman, 2008; Preisendorfer and Wolter, 2014; Tourangeau and Smith, 1996).

Gender differences in reporting also exist. For example, women consistently report fewer opposite-sex partners than men.<sup>32</sup> If women misreport bribes more frequently than men, women would report paying fewer bribes even if they bribed officials as frequently as men. A significant negative coefficient might mean women pay bribes less often than men but might also mean women are more honest about paying them.

The surest way to know whether men and women are equally honest about paying bribes would be to compare what they report paying with what they actually pay. Given corruption's clandestine nature, however, measuring actual bribes is difficult. Unsurprisingly, therefore, we do not know of any studies that have directly compared actual and reported bribes. We must therefore rely on indirect evidence.

Although no studies directly compare actual with self-reported corruption, some studies have compared actual and self-reported behavior for other crimes. Using a sample of Dutch men and women convicted of welfare fraud, Van Der Heijden and others (2000) found women were more likely to deny being convicted than men. Similarly, Preisendorfer and Wolter (2014) found German women who had been convicted of minor offenses denied it more often than similar German men. In contrast, Johnson and others (2012) found American women and men were equally likely to misreport cocaine use.<sup>33</sup>

The broad literature on honesty provides additional indirect evidence on whether men and women might answer questions about bribes equally truthfully. Based on a survey of the experimental literature on honesty, Rosenbaum and others (2014, p. 192) conclude:

*The bulk of the evidence from the majority of studies across the various experimental sub-categories which were able to detect significant gender differences suggests that women exhibit greater propensities to tell the truth than their male counterparts.*

The authors note women are less likely to misrepresent coin tosses, engage in academic dishonesty, keep excessive change, or overstate how many times they solved mathematical problems. Although this evidence does not directly relate to misreporting bribes, women might also be more honest than men when asked whether they pay bribes. If women are more honest,

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<sup>31</sup> For example, both men and women in Spain agreed that public officials who are women are less likely to take bribes (Rivas, 2013). In addition, taxi drivers in Colombia reported transit officers who are women were less likely to accept bribes than officers who are men (Lambsdorff and Fink, 2006).

<sup>32</sup> Since each sexual encounter between opposite sex partners involve one man and one woman, we would expect men and women to report similar numbers in a closed population. But this is not the case. For example, based on a sample of UK residents, men reported an average of 14.1 opposite sex partners, while women reported 7.1 (Mitchell and others, 2019). Differences in how frequently men and women purchase sex from sex workers—who might be excluded from samples—or how men and women define sexual encounters only partly explain the difference (Wiederman, 1997).

<sup>33</sup> Johnson and others (2012) asked people whether they had used cocaine recently. They then tested the respondents' hair, saliva, and urine for recent cocaine use. Their results were based on comparisons between people whose reported use differed from their test results with people whose reported use and test results matched. They found women were neither more nor less truthful than men.

studies using reported bribe payments will over- not underestimate women's relative propensity to pay bribes.

Although the experimental literature on honesty suggests women might answer questions about corruption more honestly than men, indirect evidence about social desirability suggests the opposite. Some studies have found that women are more concerned about giving socially desirable answers to sensitive questions than men (Bernardi and others, 2009; Bossuyt and Van Kenhove, 2018; Dalton and Ortegren, 2011). Concerns about social desirability might cause women to misreport corrupt activities more often than men. Consistent with this, although women were more likely than men to say bribing police officers is wrong, the difference becomes statistically insignificant after controlling for social desirability bias (Bernardi and others, 2009).<sup>34</sup>

The literature on reticence supplies more indirect evidence related to misreporting. Although identifying people who misreport bribe payments is difficult, Azfar and Murrell (2009) show how researchers can use forced response questions to identify some of these people. They ask respondents a series of forced response questions and label those who do not follow the instructions as reticent. They then show that reticent respondents are less likely to report paying bribes than other people.<sup>35</sup> They—and later researchers who have used similar methods—interpret their results as suggesting reticent respondents misreport corruption.<sup>36</sup>

If women were more reticent than men—and reticent interviewees underreport bribes—this could explain why women report paying fewer bribes than men. Single country studies, however, found women were no more reticent than men (Azfar and Murrell, 2009; Clausen and others, 2010). Moreover, Clarke (2020) confirmed this in a larger cross-country study. Clarke (2020) did, however, find interviewees who were women or who worked at small firms managed or owned by women were more reticent than other respondents at small firms. He notes, however, that because women also report paying bribes at large firms, reticence alone is unlikely to explain why women report paying fewer bribes.

A final indirect way to assess whether women misreport bribes more often than men is to see whether techniques that reduce misreporting affect women's answers more than men's.<sup>37</sup> Oliveros and Gingerich (2020) compare how men and women answer direct questions about corruption and similar questions using sensitive survey techniques (SSTs). Based on these comparisons, they estimate men and women lie to similar degrees when asked survey questions directly.<sup>38</sup>

In summary, gender might affect survey respondents' answers in several ways. First, gender might affect how frequently people offer bribes to corrupt officials. Because women disapprove of corruption more than men, they might pay fewer or lower bribes. Second, corrupt officials might treat women differently than men. If they believe women are more honest than men, they might demand fewer bribes from women. Third, even if men and women are equally likely to pay bribes, women might admit doing so less frequently than men. Although the evidence is inconclusive, some studies find women are less candid than men.

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<sup>34</sup> The study covered Colombia, Ecuador, South Africa, and the United States. Women scored higher on the social desirability index than men in all four countries (Bernardi and others, 2009). Using stepwise regression, they find their social desirability index is still in their final model, although gender does not.

<sup>35</sup> Azfar and Murrell (2009) use a sample of individuals from Romania. Other studies have confirmed that reticent people appear to misreport corruption in other countries as well (Clarke and others, 2015; Clausen and others, 2010; Jensen and Rahman, 2011; Karalashvili and others, 2015; Kraay and Murrell, 2016).

<sup>36</sup> Also consistent with the idea that reticent managers misreport information during surveys, Clarke (2019) attempted to cross-check the managers' answers with other information. The results showed the difference between how much the manager reported paying employees and how much the employees report being paid was larger when the manager was reticent.

<sup>37</sup> Fox and Tracy (1986), Lensvelt-Mulders and others (2005), and Coutts and Jann (2011) describe ways to do this.

<sup>38</sup> Their calculations assume people tell the truth when answering questions that use SSTs. In practice, however, SST are only partly effective (John and others, 2018). Indeed, the literature on reticence relies on random response models failing to honest answers. If SSTs encourage only some truth telling, interpreting these results is more complicated.

### III. Data

This study uses data from the World Bank Enterprise Surveys (WBES).<sup>39</sup> The World Bank has using a uniform sampling methodology in over 150 countries since 2006.<sup>40</sup> The central WBES team also standardized the questionnaire in 2006, which meant all countries used the same core survey.<sup>41</sup> Since 2006, the central WBES team has modified the survey several times, mostly by adding and dropping questions on individual topics. Because the questions on gender were not added to the core survey until 2008, we only include surveys conducted after this time.<sup>42</sup>

The WBES covers registered private firms in manufacturing, services, and retail and wholesale trade with at least five employees.<sup>43</sup> Firms are asked questions about their performance and the local business environment, including several questions about corruption.

Although the WBES's main goal is to produce a representative sample of the private sector for each survey, repeated surveys in the same country include panel firms from earlier samples. Unlike a true panel, which would survey the same firms every survey, the WBES randomly re-surveys only some panel firms.<sup>44</sup> Using this data, we put together all possible panels for WBES countries through 2022. Because we want to included firm-level fixed effects, we have to exclude non-panel firms from the analysis. As a result, our sample is far smaller than cross-sectional analyses using the same data, such as Pavlik and Bastos (2023). Because our small sample is small, we do not try to disaggregate our results further.<sup>45</sup> An appendix table provides a list of the countries and the surveys.

#### ***Question on Corruption***

The main WBES question on corruption, and the one this paper focuses on, is:

*(j.7) We've heard that establishments are sometimes required to make gifts or informal payments to public officials to "get things done" with regard to customs, taxes, licenses, regulations, services etc. On average, what percent of total annual sales, or estimated total annual value, do establishments like this one pay in informal payments or gifts to public officials for this purpose?*

This question has advantages over other WBES questions about corruption. First, it measures corruption quantitatively. Quantitative questions are easier to interpret than perception-based measures.<sup>46</sup> Second, all sample firms answered this question. In contrast, the survey's other quantitative questions only covered firms engaged in specific transactions. For example, the question about bribes during tax inspections was asked only to inspected firms.

The question has two notable features. First, participants can answer as percent of sales or in local currency. We, therefore, must use a separate question on sales to calculate firms' bribes

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<sup>39</sup> The data are available for free after registration at the following website:

<https://www.enterprisesurveys.org/en/enterprisesurveys>

<sup>40</sup> See World Bank (2021) for a description of the methodology. Although Enterprise Surveys were conducted before 2005, the questionnaire and sampling methodology were not standardized until 2006.

<sup>41</sup> In addition to the core survey questions, country and regional teams at the World Bank can add a limited number of unique questions to address specific country or regional concerns. Country and regional teams have, however, cannot alter or drop core survey questions without permission from the central WBES team.

<sup>42</sup> All Enterprise Surveys completed since 2008 contain the three questions that were added to the core survey in 2008. In addition, the question on the respondent's gender was included in the 2007 Croatia survey. Finally, surveys in 2006 and 2007 included the question: "Are any of the owners female?" They do not, however, include information on whether women have full, majority, or minority ownership." As a result, we exclude these surveys from the main analysis.

<sup>43</sup> Although the government can partly own the enterprises, the survey is meant to exclude fully government firms (European Bank for Reconstruction and Development and World Bank, 2013). In practice, more than 98 percent of the firms are fully private and a few (less than 0.05 percent of firms) are fully government owned.

<sup>44</sup> World Bank (2021, 2022) describe the sampling methodology for panel firms in detail.

<sup>45</sup> Pavlik and Bastos (2023) find that corruption is more harmful to women in countries where gender inequality is greater.

<sup>46</sup> See, for example, Bertrand and Mullainathan (2001) or for a general discussion about problems with subjective data. Razafindrakoto and Roubaud (2010) discuss problems associated with subjective data on corruption. Clarke (2011a), Recanatini and others (2000) and Kaplan and Pathania (2010) discussions problems with the WBES subjective data.



identically. Although the response method should not affect how much firms report paying, it does. Firms that answer as percentages report paying far higher bribes than firms that answer in local currency. Moreover, this is not due to either observed or unobserved differences between firms (Clarke, 2011b). To avoid problems associated with this misreporting, we use a dummy variable indicating whether the firm said firms pay bribes instead of using the amount of the bribe.

Second, the question is indirect, asking what the interviewee believes other firms do. Indirect questions allow respondents to answer without admitting to breaking laws or social norms, possibly making them more candid.<sup>47</sup> Most studies, however, either implicitly or explicitly assume the interviewee answers thinking about their firm.<sup>48</sup> For brevity, we will use the same convention when discussing results. For example, if the exporter dummy's coefficient is positive, we will write 'exporters are more likely to report paying bribes' rather than 'exporters are more likely to report firms like theirs pay bribes'.

## ***Questions on Gender***

The enterprise survey includes three questions on gender. The survey asks about the top manager's, owners' and respondents' gender. For questions about whether the manager and owner were women, the three valid answers were 'yes', 'no' and 'don't know'. The question about the respondent had two valid answers: 'male' and 'female'. Although interviewees could also refuse to answer, few interviewees did.

The first question asks about the owner's gender: "Amongst the owners of the firm, are there any females?" The possible responses are yes, no, and don't know. If the respondent answers 'yes', they answer a second question: "What percentage of the firm is owned by females?"<sup>49</sup> The can either give the percentage or answer 'don't know'. Using these questions, we calculate three separate dummies indicating women partly, majority, and fully own the firm. We focus on majority owned firms because women owners are more likely to influence firm culture when they have greater control. As robustness checks, we include separate regressions for firms that women partly and fully own.

Only 1.8 percent of respondents answered 'don't know' or gave an invalid code in response to the first question.<sup>50</sup> More people, however, answered 'don't know' to the second question (5.7 percent). In the main analysis, we treat these observations as missing and drop them from the regression. As a robustness check, we include an extra dummy for firms where the respondent answered 'don't know' or gave an invalid code.<sup>51</sup>

The second question asks: "Is the top manager female?" The valid answers are 'yes', 'no', and 'don't know'. We calculate a single dummy indicating the top manager is a woman using this question. About 0.3 percent of respondents answered 'don't know' and an added 0.01 percent refused to answer.<sup>52</sup> We treat these observations as missing. In the robustness checks, we include a dummy for these answers rather than dropping the observations.

The final question asks about the respondent's gender. The person answering the survey is not necessarily the owner or top manager; respondents include accountants, lower-level managers, other administrative staff, and lawyers. After finishing the interview, the interviewer fills in a table indicating the respondent's position, tenure, and gender. The valid codes for gender correspond to 'male', 'female' and 'refusal'. Although interviewers must explicitly ask about

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<sup>47</sup> The evidence on how successful this is, however, is mixed. Studies suggest that people continue to underreport corruption even with indirect questions (Clarke and others, 2015; Clausen and others, 2010; Kraay and Murrell, 2016).

<sup>48</sup> That is, papers often regress bribes on the firm's own characteristics and divide bribes by the firm's own sales to get bribes as a percent of sales. Discussing this issue, Treisman (2007, p. 214) writes: "it is hoped and assumed that respondents reply based on their own experience" (p. 214).

<sup>49</sup> For sole proprietorships, the interviewer enters 100 percent for the second question rather than asking it.

<sup>50</sup> An added 0.04 percent gave a different, but invalid, response code. Almost all of these gave codes that often meant either 'refused to answer' or 'does not apply' although these were not valid codes for this question.

<sup>51</sup> Because of the way the question is phrased, people who do not identify as women would be implicitly grouped with men whether they identify as men or not. It is, however, possible the person might answer 'don't know'.

<sup>52</sup> Although 'refused to answer' was not a valid code for this question, the code is often used in other questions.

tenure and position during the interview, they might sometimes avoid asking the respondent's gender.<sup>53</sup> We use this question to make a dummy for the respondent's gender. About 0.04 percent of respondents refused to answer and 0.00003 percent of answers had invalid codes. We treat these observations as missing in the main analysis.<sup>54</sup>

## IV. Methodology

### *Hypotheses*

The first two questions ask about the top manager's and owner's gender. If women disapprove of corruption more than men or officials treat women more favorably, firms controlled by women should pay fewer bribes than other firms. This leads to our first hypothesis.

*Hypothesis 1: Firms that women own and manage are less likely to pay bribes than other firms.*

The third question asks about the interviewee's gender. Because interviewees should affect firm culture and behavior less than the top manager or owner, we expect their gender to affect bribe payments less than the top manager's or owner's gender. This leads to our second hypothesis.

*Hypothesis 2. The respondent's gender will affect corruption less than the manager's and owner's gender.*

However, the interviewee's gender might affect misreporting more than the manager's or owner's gender does. If women report paying fewer bribes because they lie about paying bribes, then the interviewee's gender might be more strongly linked with corruption than the top manager's or owner's gender.

### *Econometric methodology*

We assume the firm's propensity to report paying bribes depends on the top manager's, interviewee's, and owner's gender, firm characteristics, the country where it runs, and time. That is, firm  $i$  operating in country  $c$  at time  $t$ 's propensity to pay bribes is:

$$Propensity_{ict} = \alpha_i + \delta_c + \lambda_t + \beta Gender_{ict} + \gamma FC_{ict} + \varepsilon_{ict} \quad (1)$$

Because we only observe whether the firm reported paying a bribe, not its propensity to report paying bribes, we cannot estimate equation (1) directly. Instead, we observe a dummy,  $B_{isct}$ , which equals one if its propensity exceeds an arbitrary level and zero if not.

$$Reticent_{ict} = \begin{cases} 1 & \text{if } Propensity_{ict} > 0 \\ 0 & \text{if } Propensity_{sct} \leq 0 \end{cases}$$

We assume the error term,  $\varepsilon_{ict}$ , has a logistic distribution and so estimate a logit model.

We are most interested in the three dummies representing firms managed and owned by women and women interviewees ( $Gender_{ict}$ ). We expect the first two dummies to have negative coefficients (*hypothesis 1*), which would suggest firms that women control are less likely to pay bribes than other firms. We also expect the coefficient on the dummy representing women interviewees to be negative (*hypothesis 2*).

<sup>53</sup> They would, however, have to ask the respondent about their position and years with the establishment at some point in the interview and so they might ask the respondent's gender at the same time.

<sup>54</sup> In the robustness checks, we instead include an additional dummy for these observations.

The regression also includes some firm-level controls ( $FC_{ict}$ ). These include number of workers, an exporter dummy, ownership shares for foreign and government owners; and dummies indicating manufacturing, retail trade, and other service firms.<sup>55</sup> We include these controls because they might affect how vulnerable the firm is to bribe demands. For example, large firms might find it harder to avoid regulators' and tax inspectors' attention than smaller firms. Exporters might have similar problems, especially because they must deal with customs and trade regulations that domestic firms avoid. Finally private firms, especially foreign-owned private firms, might be more vulnerable to bribe demands than well-connected government-owned firms.

Finally, the regression also includes fixed effects to control for omitted firm- ( $\alpha_i$ ), country- ( $\delta_c$ ), and year-level ( $\lambda_t$ ) variables that might affect the firm's propensity to pay bribes. When we include firm fixed effects, the country fixed effects drop out due to collinearity.

Including firm-level fixed effects in non-linear regressions is difficult. The first problem is that including fixed effects is computationally burdensome in many non-linear maximum likelihood models. Unlike ordinary least squares regressions, we cannot control for fixed effects by simply subtracting group means from the dependent and independent variables. The second problem is that including fixed effects in logit and probit models leads to an incidental parameters problem (Greene, 2004). To ensure consistency, each group must contain many observations.

These problems are not overwhelming in the models that include country and time fixed effects. Because the regressions contain fewer than 100 countries and 16 years, including dummies does not result in serious computational problems. Further, with tens of thousands of observations, most countries and years contain hundreds of observations. We can therefore directly include country and time dummies.

The problems, however, become more severe when we include firm-level fixed effects. The regression would include about 19,000 firm-level fixed effects and would have only two or three annual observations for most firms. The large number of dummies would make the model computationally burdensome and would lead to an incidental parameter problem. We, therefore, adopt a different approach. Rather than including firm-level dummies directly, we estimate the quasi-maximum likelihood conditional Logit model proposed by Chamberlain (1980). When using this model, firms that always or never paid bribes are dropped; the firm-level fixed effects fully explain their decisions.

## V. Empirical Results

Table 1 shows the base results. We first run separate regressions for each gender dummy and then estimate a model that includes all three. As discussed above, the gender dummies are highly correlated; firms owned by women are more likely to have women as managers and respondents. We run two regressions for each dummy: one including country and year fixed effects and one including firm and year fixed effects. The models cannot include both country and firm fixed effects because the dummies would be perfectly collinear. Including firm fixed effects reduces sample size; the conditional logit model automatically drops firms that always and never reported paying bribes. The model drops them because the dummy fully predicts these firm's responses.

Hypothesis tests favor the models with firm-level fixed effects over the models with country-level fixed effects. Hausman tests consistently reject the logit model with country-level fixed effects in favor of Chamberlain (1980)'s conditional logit model with firm-level fixed effects (see Table 3).

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<sup>55</sup> See, for example, Breen and others (2017). The main differences between the control variable in this paper and in Breen (2017) are that we use number of workers rather than sales as a measure of firm size and omit per capita GDP. The reason for these differences is that workers are available for more firms than sales and so results in fewer dropped observations and because we include country and firm fixed effects to control for country-level differences that might affect bribes.

**Table 1: Likelihood that respondent reported that bribes are needed to get things done**

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<b>Respondent reported firms like theirs have to pay bribes to get things done</b>							
<b>Gender</b>								
Respondent is a woman	-0.247*** (-5.20)	-0.214** (-2.15)					-0.273*** (-4.01)	-0.443*** (-2.66)
Women own more than half of firm			-0.014 (-0.20)	-0.147 (-0.81)			0.081 (0.97)	-0.269 (-1.20)
Top manager is a woman					-0.133*** (-2.60)	-0.050 (-0.44)	0.022 (0.27)	0.330 (1.62)
<b>Firm Characteristics</b>								
Foreign ownership share	-0.003*** (-3.81)	-0.003 (-1.52)	-0.003*** (-3.03)	-0.004* (-1.88)	-0.003*** (-3.60)	-0.002 (-0.98)	-0.003*** (-2.69)	-0.002 (-0.84)
Government ownership share	-0.002 (-0.60)	-0.002 (-0.27)	-0.001 (-0.31)	0.014 (0.82)	0.000 (0.07)	0.002 (0.30)	-0.001 (-0.35)	0.015 (0.84)
Number of workers [nat.log]	0.025* (1.69)	0.110** (2.18)	0.039** (2.20)	0.132** (1.98)	0.010 (0.68)	0.128*** (2.60)	0.035* (1.94)	0.121* (1.73)
Firm is an exporter	0.279*** (5.82)	0.344*** (3.16)	0.177*** (3.11)	0.101 (0.73)	0.258*** (5.57)	0.407*** (3.87)	0.169*** (2.93)	0.080 (0.53)
Firm is in retail or wholesale trade <sup>a</sup>	0.010 (0.22)	0.221 (1.37)	-0.016 (-0.29)	0.220 (1.10)	0.008 (0.18)	0.184 (1.15)	-0.005 (-0.09)	0.354 (1.61)
Firm is in other services <sup>a</sup>	0.181*** (3.53)	0.239 (1.28)	0.167*** (2.84)	0.132 (0.52)	0.160*** (3.19)	0.189 (1.01)	0.178*** (2.97)	0.455 (1.59)
<b>Observations</b>	26,948	4,320	20,948	2,442	29,916	4,610	19,876	2,094
<b>Number of Countries</b>	88	65	87	53	91	75	86	51
<b>Number of Panel Individuals</b>	---	2,052	---	1,180	---	2,190	---	1,006
<b>Firm Dummies</b>	No	Yes	No	Yes	No	Yes	No	Yes
<b>Country Dummies</b>	Yes	No <sup>b</sup>	Yes	No <sup>b</sup>	Yes	No <sup>b</sup>	Yes	No <sup>b</sup>
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Pseudo R-Squared</b>	0.157	0.0842	0.188	0.0990	0.151	0.0899	0.188	0.0874
<b>H0: Fixed firm effects not needed</b> ( $\chi^2$ )		50.3		50.1		38.7		51.31
<b>(p-value)</b>		0.000***		0.000***		0.000***		0.000***

Source: Author's calculations based upon data from the World Bank Enterprise Survey data.

Note: All regressions are logit regressions. Non-panel firms are excluded from the sample in the regressions that omit firm dummies. The regressions with firm dummies are conditional logit models (Chamberlain, 1980). Note that firms that reported paying bribes in all periods or reported not paying bribes in any period are automatically dropped in the conditional logit model. \*\*\*, \*\* \* statistically significant at 1%,5% and 10% significance levels. <sup>a</sup> Omitted sector is manufacturing. <sup>b</sup> Country dummies are omitted from the regressions with firm dummies since they are colinear with the firm dummies in regressions with firm dummies.

## Main Results

*Respondent is a woman.* Fewer women than men said firms like theirs must pay bribes to get things done (see columns 1 and 2 in Table 1). The respondent dummy's coefficient is significantly negative in the regressions with both firm- and country-level fixed effects. When controlling for country-level fixed effects, women are about 2.6 percentage points less likely to say firms must pay bribes than men (see Table 2). In contrast, after controlling for firm-level effects, the difference is 5.0 percentage points.<sup>56</sup>

**Table 2: Marginal effects for firms with men and women as respondents, owners, and managers**

	Panel Firms with no fixed effects			Panel controlling for firm effects		
	Women	Men	Difference	Women	Men	Difference
Respondent	13.3%	15.9%	-2.6%	51.2%	46.1%	-5.0%
Owners	14.6%	14.5%	-0.1%	51.4%	54.8%	-3.3%
Manager	13.3%	14.6%	-1.3%	50.2%	51.4%	-1.2%

Source: Author's calculations based upon data from the World Bank Enterprise Survey data.

Note: Average marginal probabilities are calculated by calculating the predicted probabilities for each firm assuming that the firm had a man as respondent/owner/manager and averaging over all observations. The same is then done assuming the firm had a woman as respondent/owner/manager.

*Firms majority owned by women.* The point estimate of the coefficient on the owner dummy suggests firms majority owned by women are less likely to report paying bribes than other firms.<sup>57</sup> However, the coefficients are statistically insignificant whether we include country-level or firm-level fixed effects. Although the difference is larger (3.3 percentage points) when we include firm-level rather than country-level fixed effects (0.1 percentage points), the coefficients are statistically insignificant in both cases.

*Top manager is a woman.* We next compare firms whose top manager is a woman with firms whose top manager is a man. When we include country-level fixed effects, the manager dummy has a negative and statistically significant coefficient. This suggests that firms managed by women are about 1.3 percentage points less likely to report paying bribes than firms managed by men. Once we include firm-level fixed effects, however, the dummy's coefficient becomes smaller and statistically insignificant.

*Regressions containing all three dummies.* Because of multicollinearity, the results for managers, owners, and respondents discussed above come from three separate regressions. To check robustness, we next include all three dummies simultaneously (see columns 7 and 8). When we do so, the respondent dummy has the only significant coefficient. This new result also suggests the respondent's gender is more robustly linked with reported bribe payments than the manager's or owner's gender.

In summary, when we use firm-level panel data, we find that gender is linked with reported corruption (see hypotheses 1 and 2). These results are broadly consistent with results from earlier cross-sectional studies, especially when we include only country-level fixed effects. Our results are, however, different from earlier cross-sectional results in some ways. Most notably, after controlling for firm-level fixed effects, only the respondent dummy's coefficient remains significant. The respondent dummy's negative coefficient suggests women are less likely to report their firm pays bribes than are men. The stronger results for respondents hold whether we include the dummies separately or together.

<sup>56</sup> It is difficult to compare the raw percentage estimates across the regressions with and without firm fixed effects. First, the samples are different. Panel firms that always said bribes were needed or always said they were not needed are dropped when we control for firm effects. Since this is more likely in countries with little corruption—fewer than half of firms said bribes were needed in most countries—this biases the sample towards high corruption countries. Second, we do not estimate the individual fixed effect effects in the conditional logit model. The fixed effects are therefore set equal to zero when calculating marginal effect in this model.

<sup>57</sup> In the robustness checks, we look at firms partly and fully owned by women.

Given that hypothesis tests favor the models with firm-level fixed effects over the models with country-level fixed effects (see Table 1), this suggests the respondent's gender is more robustly linked with corruption than the manager's or owner's gender. But this stronger link is puzzling; we would expect the top manager or owner to affect firm behavior more than the respondent (see hypothesis 2). We discuss this further in the conclusions.

## Robustness Checks

*Alternative measures of ownership by women.* The results for majority women owned firms are weaker than the other results. In contrast to the respondent and top manager dummies' coefficients, the majority ownership dummy's coefficient is statistically insignificant whether we include country- or firm-level fixed effects. Previous studies, however, have often found that firms owned by women report paying significantly lower bribes than other firms.<sup>58</sup> Because this paper's weaker results might reflect how we define firms owned by women, we check their robustness using different definitions of ownership.

**Table 3:** Likelihood respondent reported that bribes are needed for firms fully and partly owned by women

	(1)	(2)	(3)	(4)
<b>Dependent Variable</b>	<b>Respondent reported firms like theirs have to pay bribes to get things done</b>			
<b>Gender</b>				
Firm has some women among owners	0.021 (0.60)	0.153** (2.25)		
All owners are women			0.002 (0.02)	-0.226 (-1.16)
<b>Firm Characteristics</b>				
Foreign ownership share	-0.003*** (-4.00)	-0.001 (-0.36)	-0.003*** (-3.02)	-0.004* (-1.89)
Government ownership share	-0.001 (-0.32)	0.006 (1.17)	-0.001 (-0.31)	0.014 (0.82)
Number of workers [nat.log]	0.010 (0.73)	0.138*** (3.28)	0.039** (2.22)	0.129* (1.94)
Firm is an exporter	0.259*** (6.14)	0.397*** (4.50)	0.176*** (3.10)	0.102 (0.73)
Firm is in retail or wholesale trade <sup>a</sup>	-0.029 (-0.70)	0.236* (1.86)	-0.016 (-0.29)	0.225 (1.13)
Firm is in other services <sup>a</sup>	0.125*** (2.83)	0.103 (0.70)	0.166*** (2.84)	0.136 (0.54)
<b>Observations</b>	34,414	6,844	20,948	2,442
<b>Number of Countries</b>	91	89	87	53
<b>Number of Panel Individuals</b>		3,194		1,180
<b>Firm Dummies</b>	No	Yes	No	Yes
<b>Country Dummies</b>	Yes	No <sup>b</sup>	Yes	No <sup>b</sup>
<b>Year Dummies</b>	Yes	Yes	Yes	Yes
<b>Pseudo R-Squared</b>	0.160	0.109	0.188	0.0994

Source: Author's calculations based upon data from the World Bank Enterprise Survey data.

Notes: All regressions are logit regressions. Non-panel firms are excluded from the sample in the regressions that omit firm dummies. The regressions with firm dummies are conditional logit models (Chamberlain, 1980). Note that firms that reported paying bribes in all periods or reported not paying bribes in any period are automatically dropped in the conditional logit model. \*\*\*, \*\*, \* statistically significant at 1%, 5% and 10% significance levels. <sup>a</sup> Omitted sector is manufacturing. <sup>b</sup> Country dummies are omitted from the regressions with firm dummies since they are colinear with the firm dummies in regressions with firm dummies.

<sup>58</sup> See, for example, Breen and others (2017) and Clarke (2021). In contrast, Pavlik and Bastos (2023) find the opposite.

We redefine the ownership dummy in two ways to check robustness. First, we count firms as owned by women when women even partly own the firm. We do this because women might influence firm culture even when they have minority shares. Second, we only count firms as owned by women when all owners are women. We do this because part ownership might influence firm culture less than full ownership. Table 3 shows the results from these robustness checks.

For firms partly owned by women, the coefficient is statistically insignificant when we include country-level fixed effects. However, the coefficient becomes positive and statistically significant once we include firm level fixed effects. This suggests that firms partly owned by women are more likely to report paying bribes than other firms (see column 2). Although this result might be puzzling, it is consistent with cross-sectional results in Pavlik and Bastos (2023) that found that firms partly owned by women paid higher bribes and were more concerned about corruption than other firms.

For firms fully owned by women, the results are similar to the results for firms majority owned by women. The coefficients are statistically insignificant whether we include country- or firm-level fixed effects. Overall, these robustness checks do not support the idea that the weak results for ownership are due to how we define ownership.

## VI. Conclusions and Discussion

Earlier studies using cross-sectional data have found that firms owned or managed by women pay fewer bribes than other firms (Breen and others, 2017; Swamy and others, 2001). In this paper, we check whether these earlier results are robust to controlling for fixed firm-level differences that might affect whether firms pay bribes and whether women control the firm. We do this using Chamberlain (1980)'s conditional fixed effects Logit model.

Our results mostly support the earlier cross-sectional studies; the point estimates suggest firms owned and managed by women and with women respondents pay fewer bribes than other firms. However, the ownership and management dummies' coefficients become statistically insignificant once we control for firm-level fixed effects. Only the respondent dummy's coefficient remains negative and statistically significant after we include fixed effects.

It is puzzling that the respondent's gender affects reported bribes most strongly and robustly. Most earlier papers argue that gender affects firm-level corruption because women discourage firms from paying bribes. But women will only prevent bribes when they affect firm behavior or culture. Because the owner and top manager have greater influence than lower-level managers and professionals, we would expect the owner and top manager's gender to be most important.<sup>59</sup>

The more robust results for respondents might reflect the respondent dummy's greater within firm variation. Whereas 23 percent of firms had respondents of different genders across surveys, only 15 and 11 percent of firms had managers and owners of different genders. Although within firm variation might explain the respondent dummy's coefficient's higher significance, it cannot explain its greater magnitude.

One explanation for the stronger results for respondents might be that gender differences in reported bribes reflect differences in misreporting rather than differences in actual bribes. Because the respondent answers the survey questions, their concerns about social desirability affect misreporting directly. In contrast, managers' and owners' concerns affect misreporting only indirectly.<sup>60</sup> If gender differences in reported bribes mostly reflect misreporting, the respondent's gender should be more important than the manager's or owner's gender.

Other evidence, however, fails to support the proposal that the respondents' gender affects underreporting more than the manager's or owner's gender. Studies on reticence provide the strongest evidence about the underreporting of corruption. Azfar and Murrell (2009) found people who ignore the instructions for sensitive forced response questions are less likely to report

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<sup>59</sup> As discussed above, although the top manager or owner is sometimes the respondent, they often designate someone else to answer on their behalf. Respondents include lower-level managers, accountants, and other employees.

<sup>60</sup> This should not imply that the manager and owner's gender will have no effect. The manager and owner affect firm culture and, therefore, might indirectly affect how comfortable the respondent is talking about corruption.

paying bribes than others. They claim these respondents, who they label as reticent, report paying fewer bribes because they underreport corruption.<sup>61</sup> Although Azfar and Murrell (2009) find women and men are equally reticent, Clarke (2020) found links between gender and reticence using a larger sample. But Clarke (2020) found the owner's, not the respondent's, gender affects the respondent's reticence most. Clarke (2020)'s results, therefore, do not support the idea that the respondent's gender affects underreporting more strongly than the manager's or owner's gender.

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<sup>61</sup> Clarke (2019) finds the difference between the wages that the manager claims to pay workers and the wages that the workers claim to receive is greater when the manager is reticent. This is consistent with the idea that reticent respondents misreport sensitive information.



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**Appendix Table 1: List of Countries in Panel**

Country Name	Years for panel	Country Name	Years for panel	Country Name	Years for panel
Afghanistan	2008,2014.	Guatemala	2006,2010,2017.	Peru	2006,2010,2017,
Albania	2013,2019.	Honduras	2006,2010,2016.	Philippines	2009,2015,
Angola	2006,2010.	Hungary	2009,2013,2019.	Poland	2009,2013,2019,
Argentina	2006,2010,2017.	Indonesia	2009,2015.	Romania	2009,2013,2019,
Armenia	2009,2013,2019.	Jordan	2013,2019.	Russian Federation	2009,2012,2019,
Azerbaijan	2009,2013,2019.	Kazakhstan	2009,2013,2019.	Rwanda	2006,2011,2019,
Bangladesh	2007,2013.	Kenya	2007,2013,2018.	Senegal	2007,2014,
Belarus	2008,2013,2018.	Kosovo	2009,2013,2019.	Serbia	2009,2013,2019,
Benin	2009,2016.	Kyrgyz Republic	2009,2013,2019.	Sierra Leone	2009,2017,
Bhutan	2009,2015.	Lao PDR	2009,2012,2016,2018.	Slovak Republic	2009,2013,2019,
Bolivia	2006,2010,2017.	Latvia	2009,2013,2019.	Slovenia	2009,2013,2019,
Bosnia and Herzegovina	2009,2013,2019.	Lebanon	2013,2019.	South Africa	2007,2020,
Botswana	2006,2010.	Lesotho	2009,2016.	Suriname	2010,2018,
Bulgaria	2009,2013,2019.	Liberia	2009,2017.	Tajikistan	2008,2013,2019,
Cambodia	2013,2016.	Lithuania	2009,2013,2019.	Tanzania	2006,2013,
Cameroon	2009,2016.	Malawi	2009,2014.	Timor-Leste	2009,2015,2021,
Chad	2009,2018.	Mali	2007,2010,2016.	Togo	2009,2016,
Chile	2006,2010.	Mexico	2006,2010.	Tunisia	2013,2020,
Colombia	2006,2010,2017.	Moldova	2009,2013,2019.	Turkey	2008,2013,2019,
Congo, Dem. Rep.	2006,2010,2013.	Mongolia	2009,2013,2019.	Uganda	2006,2013,
Cote d'Ivoire	2009,2016.	Montenegro	2009,2013,2019.	Ukraine	2008,2013,2019,
Croatia	2013,2019.	Morocco	2013,2019.	Uruguay	2006,2010,2017,
Czech Republic	2009,2013,2019.	Myanmar	2014,2016.	Uzbekistan	2008,2013,2019,
Dominican Republic	2010,2016.	Nepal	2009,2013.	Venezuela, RB	2006,2010,
Ecuador	2006,2010,2017.	Nicaragua	2006,2010,2016.	Vietnam	2009,2015,
Egypt, Arab Rep.	2013,2016,2020.	Niger	2009,2017,	West Bank and Gaza	2013,2019,
El Salvador	2006,2010,2016.	Nigeria	2007,2014,	Yemen, Rep.	2010,2013,
Estonia	2009,2013,2019.	North Macedonia	2009,2013,2019,	Zambia	2007,2013,2019,
Ethiopia	2011,2015.	Pakistan	2007,2013,	Zimbabwe	2011,2016,
Georgia	2008,2013,2019.	Panama	2006,2010,		
Ghana	2007,2013.	Paraguay	2006,2010,2017,		

Note: Data are from the World Bank's Enterprise Surveys. Table lists the years that make up the panel for each country. Not all observations will have panel data available for all years. Data for 2006 and 2007 are excluded from base regressions for respondents, majority owners, and managers, but are included for the regressions for any women owners.

# Economic Freedom Determinants across U.S. States: A Bayesian Model Averaging Approach

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## Abstract

This study examines the potential determinants of state-level economic freedom for a panel of the 50 U.S. states from 1994 to 2019. To address model uncertainty in the identification of robust determinants, we use Bayesian model averaging to test the robustness (to the inclusion and exclusion of other determinants) of 16 potential determinants that have been recognized in the extant literature. The results show robustness with respect to the positive impact of income, income growth, fiscal decentralization, and neighboring economic freedom and the negative impact of fossil fuel production, population density, unemployment rate, and democratic governorships.

**Keywords:** Economic freedom, Bayesian model averaging, Socioeconomic determinants

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# Foreign Investments of Japanese Life Insurance Companies

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## Abstract

This paper investigates the relationship between the investment returns or volatilities of Japanese life insurance companies and their discretionary decisions on foreign portfolio investments. These decisions include the proportion of foreign investments in the entirety of the companies' proprietary investments as well as the currency risk hedge. We also consider the "carry trade" scenario, which occurs when the market favors investing in high-yield currencies by borrowing the Japanese yen. We establish three important results. First, the currency hedge relates positively to the investment returns under the carry trade scenario but relates negatively otherwise. Second, the proportion of foreign investments relates positively to the investment returns. Third, the investment returns significantly decrease under the carry trade scenario.

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# Virtual Realistic Job Preview and its Effect on Job Commitment in Hybrid Staffing Context

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## Abstract

Realistic job preview (RJP) has been considered an effective way for organizations to provide job candidates with snapshots of both positive and negative aspects of the jobs they apply for. The recent application of virtual reality (VR) technology provides more flexibility to RJP. However, research examining the efficacy of VR-assisted RJP is still limited, not to mention the studies on VR-assisted RJP's capacity on influencing job applicants and new hires' person-organization fit (P-O fit), person-job fit (P-J fit), and turnover intention. In this paper, we review the development of RJP and VR-assisted RJP, discuss the benefits and concerns of VR-assisted RJP, and discuss the implications and future research directions of VR-assisted RJP.

**Keywords:** Realistic job preview, virtual reality, person-organization fit, person-job fit, turnover

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# Impacts of Forced Immigration: The Venezuelan *Diaspora* and the Brazilian Labor Market

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## Abstract

This paper estimates the impact of immigrant influxes on local labor markets, taking advantage of a natural experiment generated by a massive wave of forced migration of Venezuelans to Roraima, a state in northern Brazil, from 2016 onward. In 2018 alone, Venezuelan immigrants increased Roraima's population by at least 8%. Estimates indicate that a 1 percentage point increase in the share of migrants in the state population due to immigration resulted in 1.1% higher earnings for native workers in the formal sector, 0.3% fewer hours worked weekly, and 2.3% higher wages. All categories of workers experienced increases in earnings and wages due to migration, except those in agriculture and fishing. Two mechanisms seem to explain these findings: the higher demand for goods and services created by the massive entry of Venezuelan migrants, and a wage premium for natives. Instead of affecting earnings and wages, the intensification of competition for jobs in the state is expressed in fewer hours worked and increased dismissals, with a 0.4% higher probability of termination. Results are confirmed by employing a Synthetic Control Method.

**Keywords:** Natural Experiment; Venezuela; Brazil; Wages; Migration; Native workers; Synthetic Control Method.

**JEL Classification:** J61, O15.

## Acknowledgements

The author thanks Joan Hamory for outstanding research advice and Daniel Hicks, Gregory Burge, Chunbei Wang, and Fábio Costa Morais de Sá e Silva for helpful suggestions. I am grateful to Renata Alfena Zago for help with data collection, and to other key informants for their input on the data and background for this project. Any errors are my own.

## I. Introduction

The topics of immigration and forced migration have received increasing attention in the academic and policy-making communities in recent years. War and economic hardship have displaced millions of individuals around the world; according to the "Independent", 44,500 refugees seek asylum daily, and the total number of people planning to immigrate has reached 68.5 million (Sommerlad, 2018). The impacts of immigration have been studied more extensively in the United States and Europe due to their status as major immigrant destinations. However, many immigrants choose to settle in other nations, especially those nearby to their home countries, possibly constrained by limited resources and lack of knowledge of opportunities

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further afield. The present study examines the impacts of a recent massive influx of immigration from Venezuela to northern Brazil.

A key area of study in the immigration literature is the effects on native labor markets. Economists have developed several strategies in an attempt to causally and accurately estimate the impact of migrants on job market outcomes of locals since the 1990s<sup>2</sup>. Effects have been found to vary according to the skill and educational composition of the migrants compared to the native population, although it is not obvious that the two groups will compete for the same jobs (Altonji and Card, 1991). Short run impacts may also differ from long-run impacts, as over time population changes increase the demand for food, services and other economic activities, pushing local business and industries to increase their demand for labor (Altonji and Card, 1991; Jaeger, 1996).

A recent set of studies uses natural experiments to estimate the effect of immigration on native labor markets. One of the most famous events studied is the “Mariel boatlift”, a mass emigration of Cubans who traveled from Cuba’s Mariel Harbor to the United States between April 15th and October 31st of 1980. Migration increased the Miami labor force by 7%, and because the immigrants were relatively unskilled, less skilled occupations and industries had the highest percentage increase in labor supply (Card, 1990). Although early studies showed that the city of Miami was able to rapidly absorb the increase in labor supply, and hence there was no impact on native wages or on unemployment rates (Card, 1990), later work revisiting this natural experiment provides evidence that in fact the wage of high school less than high school in Miami in fact dropped by 10% to 30% (Borjas, 2017).

In South America, the issue of local labor market impacts of immigration has recently come to attention because of the Venezuelan *diaspora*. Its effects have been studied in Colombia (Caruso et al., 2019; Bahar et al., 2021; Bonilla-Mejía et al., 2020; Santamaria, 2020)<sup>3</sup>, Ecuador (Olivieri et al., 2020a,b)<sup>4</sup>, and Brazil (Ryu and Paudel, 2021). From 2016 to 2018, over 62,000 Venezuelans sought refugee status in Roraima State, Brazil<sup>5</sup>, increasing its population by more than 8% in 2018 alone. This massive inflow of immigrants into northern Brazil is a consequence of the recent deep political and economic crisis in Venezuela.

Using a Synthetic Control Method (SCM) followed by a Differences-in-Differences strategy, Ryu and Paudel (2021) find that, although the Venezuelan migration lowered labor force participation and employment rate, it had no significant impact on hourly wages in Roraima State, Brazil. However, results could be explained by the fact that the authors use a dataset that does not allow to differentiate migrants from natives<sup>6</sup>. The current paper improves upon that work estimating the effects of the Venezuelan *diaspora* to Brazil using both a natural experiment that exploits the actual variability in the number of migrants who arrived in Roraima State, and a SCM that uses information from the other 25 states plus the Federal District to construct a “Synthetic Roraima” that confirms the findings. Most importantly, the analysis is performed using microdata from an

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<sup>2</sup> Early studies of the impacts of immigration on labor markets relied on spatial variation in immigrant inflows as a source of identification. However, some argue that this approach suffers from endogeneity, as migrants tend to go to places with better job opportunities and higher wages. One attempt to alleviate this problem is to use past share of immigrants as an instrumental variable for current immigration (Altonji and Card, 1991). Yet, the biggest disadvantage of this method is that the share of historical immigrants is fixed, preventing the inclusion of controls to address potential sources of local heterogeneity (e.g., city fixed effects). An alternative method developed was the “shift-share IV”. The main goal was to generate variation at the local level by exploiting variation in national inflows (Card, 2001, 2009). However, the use of this instrument has been criticized due to likelihood of producing less negative results as compared to other approaches (David A. Jaeger and Stuhler, 2018) and changing directions of impact across different time periods within the same country (Borjas, 1999).

<sup>3</sup> Employing an instrumental variable approach, Caruso et al. (2019) find that a 1 percentage point increase in immigration from Venezuela reduces the wages of the informal sector in the country by 10 percentage points in urban areas. However, other recent studies do not find any effect on the labor market outcomes in Colombia.

<sup>4</sup> These studies find that not only have young, low-educated Ecuadorian workers in high-inflow regions experienced increases in informality (5%) and a 13% decrease in earnings compared to native workers with similar characteristics located areas with low or non influxes of Venezuelans, but that Venezuelans are experiencing significant occupational downgrading relative to their employment prior to emigration to Ecuador.

<sup>5</sup> This is likely a lower bound on the actual number of people who migrated to northern Brazil at this time. According to the Country’s Ministry of Interior, at least 199,365 Venezuelans passed through the area in 2017 and 2018, but not all remained in northern Brazil, and others entered the country without being detected.

<sup>6</sup> The literature has shown that immigrants tend to earn lower wages upon arrival than locals.

administrative company registry (“Relação Anual de Informações Sociais” - RAIS), a data set that allows the differentiation of natives from migrants.

I find that a one percentage point increase in the share of migrants in the state population caused by the massive influx of Venezuelans to Roraima State increased monthly earnings and hourly wages of natives, respectively, by 1.1% ( $p < 0.01$ ) and 2.3% ( $p < 0.01$ ). However, I also find that, as a result, natives work 0.3% ( $p < 0.01$ ) fewer hours per week and are 0.4% ( $p < 0.01$ ) more likely to be terminated from employment. Upon desegregating effects by level of education and occupation, I find evidence of heterogeneous responses across groups, with workers in lower-skilled occupations such as agriculture and fishing experiencing decreases in earnings and wages, and also that the probability of termination only increases for men.

This research aims to put South America in the spotlight in the immigration literature by providing evidence on how the forced migration crisis in Venezuela affects the local labor market of another less-developed country. The rest of the paper is organized as follows: Section 2 provides a historical background of the events in Venezuela that generated the conditions for immigration to Brazil, Section 3 presents the data and the estimation strategy; Section 4 discusses the main results, and Section 5 concludes.

## II. The Venezuelan *Diaspora*

The twenty-first century did not begin peacefully in Venezuela. Coming from a series of coup attempts in the 1990’s, the country elected Hugo Chavez as president in 1998, who was himself the leader of a 1992 coup attempt. Chavez was elected on a platform to bring a “Bolivarian Revolution” to the country, with the implementation of a new constitution aimed at implementing socialist and populist economic and social policies. To do this, the president would take advantage of high oil prices<sup>7</sup>. In 2001 alone, Chavez was able to pass 49 laws in Congress that aimed to reallocate land and wealth.

However, in response to a 2003 coup attempt, Chavez increased media controls<sup>8</sup>, and expropriated companies (including Exxon Mobil and ConocoPhillips), among other political actions, raising local and international concern. As oil prices dropped in 2010, the country’s economic problems intensified. In an attempt to control high inflation (21.07% monthly), in 2012 he promoted a control on the prices of basic goods such as fruit juice, toothpaste, disposable diapers, beef, milk, and corn (Neuman, 2012), and suggested that companies that did not follow the controls would be expropriated.

In April 2013, Nicolas Maduro was elected as presidential successor after Chavez died of cancer. The inflation rate was reaching 43% monthly, the price of oil again started to drop significantly<sup>9</sup>, and political opposition grew. At the end of 2014, inflation had reached more than 50%. The government announced cuts in public spending, and the social programs started by Chavez were put at risk. In 2016, the government increased petrol prices for the first time in 20 years. Unrest and discontent led to violent protests that killed several Venezuelans in the second half of 2016 and 2017<sup>10</sup>.

In 2018, “the UN warned of a migration ‘crisis’, estimating that economic woes and food and medical shortages [had] caused more than two million Venezuelans to leave their country since 2014. Most [were] settling in nearby Peru, Ecuador, Colombia and Brazil, leading to tensions in the region” (BBC, 2018). Venezuelans who lived near the Brazilian border were migrating to the neighboring country largely on foot (Governo do Brasil, 2020). On the other side of the country,

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<sup>7</sup> According to OPEC website, Venezuela’s oil revenues account for about 98% of export earnings (OPEC, 2018).

<sup>8</sup> In 2007, the government refused to renew the terrestrial broadcasting license of RCTV channel, a news channel critical of the President, causing massive protests and strong international condemnation.

<sup>9</sup> See Figure A1 for the relationship between oil prices and Venezuelan seeking refugee status in Brazil.

<sup>10</sup> In September 2016, hundreds of thousands of people participated in a protest in Caracas calling for the removal of President Maduro, accusing him of responsibility for the economic crisis. In 2017, several people died in confrontations with security forces during mass protests demanding early presidential elections and the revoking of a planned constituent assembly to replace the National Assembly.

Venezuelans were migrating to neighboring Colombia. Almost 1.3 million Venezuelan migrants were registered in Colombia in June 2019, as well as 768,000 in Peru, 288,000 in Chile, 263,000 in Ecuador, and 130,000 in Argentina (IOM, 2019)<sup>11</sup>. However, the latter countries do not share borders with Venezuela (see Figure 1), and migrants go to these destinations by plane or first enter Colombia or Brazil. Other countries, including Mexico, the United States, and Spain, also host significant numbers of refugees and migrants from Venezuela.

**Figure 1: South American Countries Receiving Venezuelan Migrants**

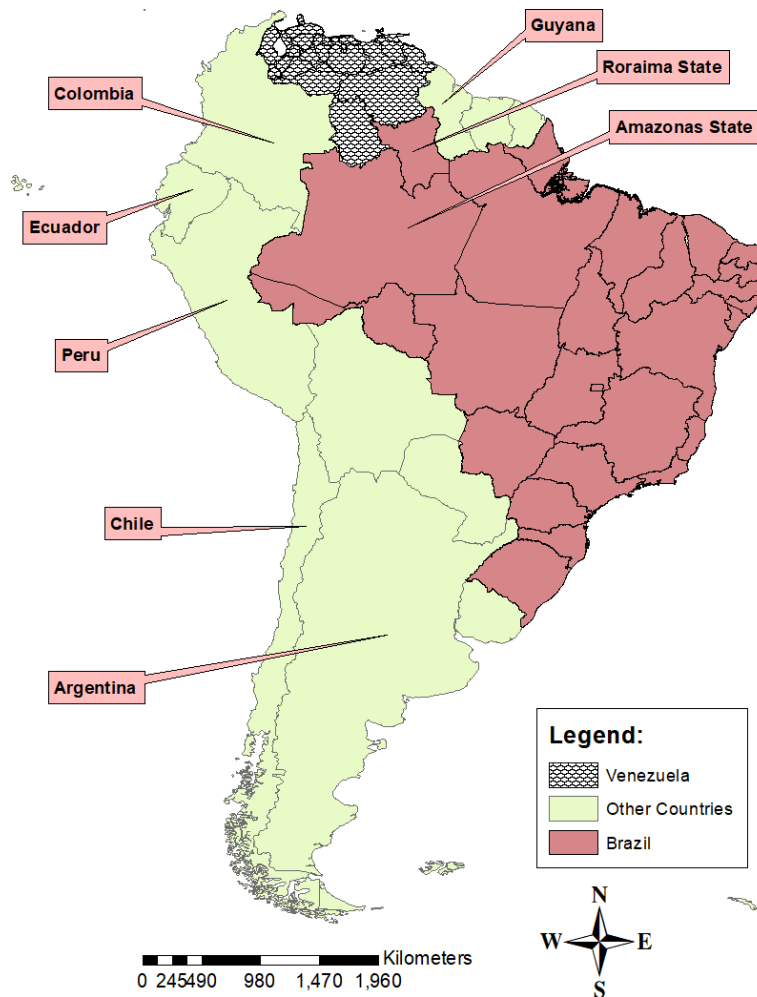


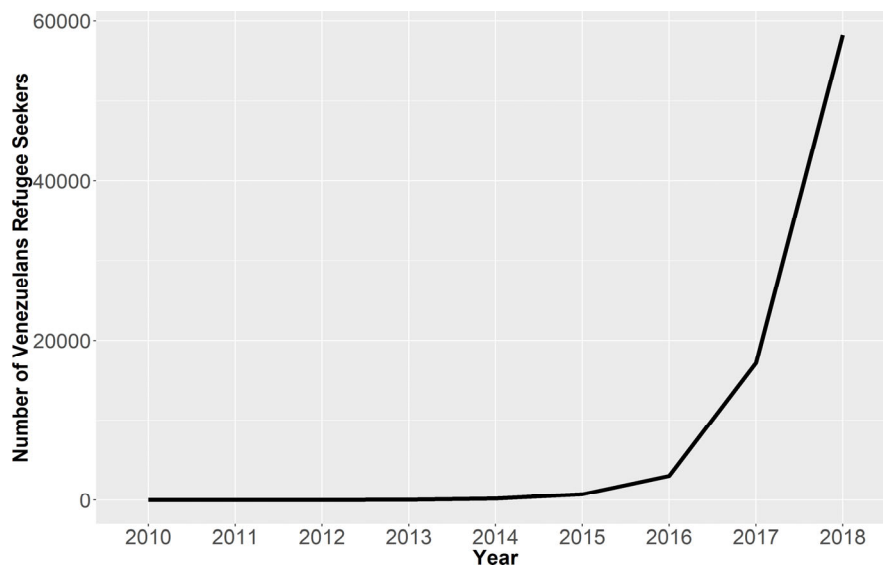
Figure 2 reports the number of refugee requests by Venezuelans in Brazil over time (Federal Police, 2019). These figures are likely a lower bound on the total number of people crossing the border, since some do not register their presence or request refugee status. However, Figure 2 shows that although there is some evidence of an increase in 2015 and 2016<sup>12</sup>, there is a clear massive influx of Venezuelan refugees starting in 2017.

<sup>11</sup> Although Guyana also shares a border with Venezuela, “populated areas in Venezuela are far removed from urban centers in Guyana, saving the country from a mass invasion of people seeking help. (Caribbean Life, 2019).”

<sup>12</sup> It is hard to identify the “tipping point” for more intense migration in 2016. In that year, the petrol barrel reached its lowest price in more than a decade, at \$34.7. See Figure A2 in the Appendix.

The northern state of Roraima is by far the main destination of Venezuelans who enter Brazil (see Figure 3), especially for those traveling on foot (Jornal Nacional, 2019; Marchao, 2019; Governo do Brasil, 2018). A considerable number of Venezuelans eventually go on to settle in the state of Amazonas, one of the main industrial centers of the country; however, they are first entering the country through Roraima and only then (often after some delay) trying to reach Amazonas<sup>13</sup>.

**Figure 2: Number of Refugee Requests by Venezuelans, 2010-2018**



Source: Brazilian Federal Police (2019) (Unpublished Data on Refugee Requests by Venezuelans, 2010 - 2018)

According to the 2010 census, Roraima is 13th, among 27 states plus the Federal District, in the Human Development Index ranking in Brazil. With a population of over half a million inhabitants in 2018, it averaged a nominal household income per capita of approximately \$310.71 monthly<sup>14</sup> (IBGE, 2020). Venezuelans cross the border in the city of Pacaraima (see Figure 4), with a population of 15,580 inhabitants in 2018. Monthly earnings on the city average \$411.07<sup>15</sup> (1.7 the minimum salary in Brazil) and 46.5% of the population earn up to half the minimum salary (\$120.90 monthly)<sup>16</sup>.

From 2017 through October 2018, 176,259 Venezuelans migrated to Brazil through Pacaraima (Ministério da Casa Civil, 2018). This number accounts for 14.78% of the population of Roraima, 22.7% of the population of the capital city of Boa Vista, and incredibly 1,131.32% of the population of Pacaraima town. More than half of these immigrants stayed in Brazil, many in Pacaraima or Boa Vista. According to a survey conducted with Venezuelan immigrants in the cities of Boa Vista and Pacaraima between January 25th and March 8th of 2018 (DTM, 2018), 23% of them came from Bolvar, the closest Venezuelan state to the Brazilian border, 24% from Monagas, and 28% from Anzoategui<sup>17</sup> (see Figure 4). These three states account for 75% of the Venezuelan migrants surveyed. From the sample of 3,516 interviews (2,420 in Boa Vista and 1,096 in

<sup>13</sup> Although Amazonas also borders Venezuela, the Amazon Forest makes crossing this part of the border an almost impossible task. The only road (Troncal 10 in Venezuela and BR-174 in Brazil) connecting both countries is the one that goes from Santa Elena de Uairén (Venezuela) to Pacaraima (Roraima, Brazil).

<sup>14</sup> 2018 values.

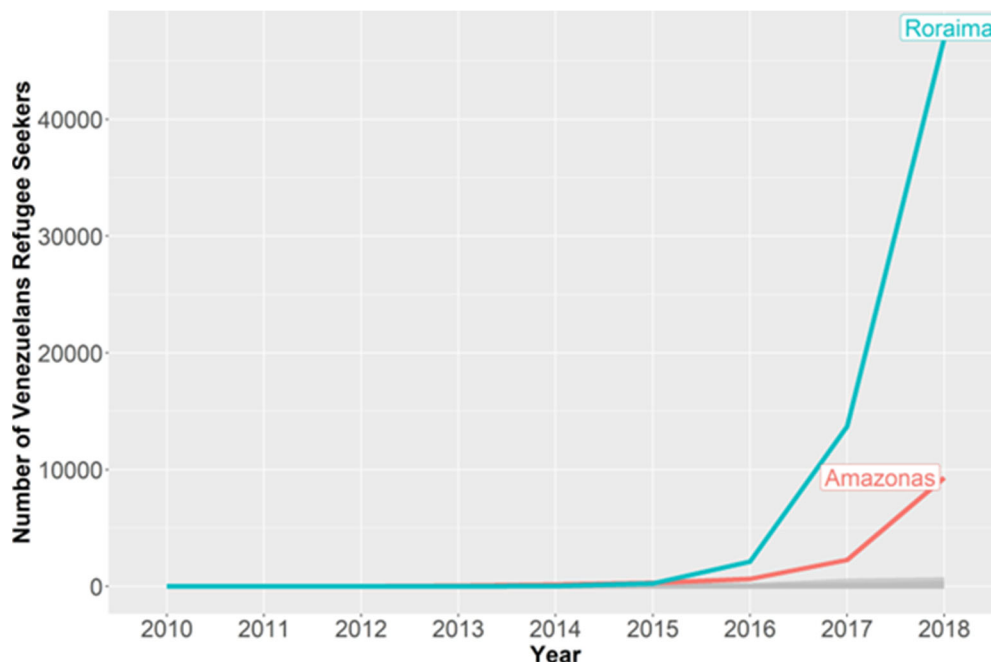
<sup>15</sup> 2017 values

<sup>16</sup> *Ibidem*.

<sup>17</sup> Although another Venezuelan state also borders the west of Roraima, the Amazon Forest makes crossing this part of the border an almost impossible task. See Footnote 9 for more information.

Pacaraima), the main reported reasons for migration from Venezuela to Brazil were economic reasons (job) (67%), lack of access to food and medical services (22%) and escape from violence (7%). Furthermore, 42% reported that they would face hunger if they returned to Venezuela, 32% said that they would not have employment, and about 1% feared persecution.

**Figure 3: Number of Venezuelans Refugee Requests by State, 2010-2018**



Source: Brazilian Federal Police (2019) (Unpublished Data on Refugee Requests by Venezuelans, 2010 - 2018)

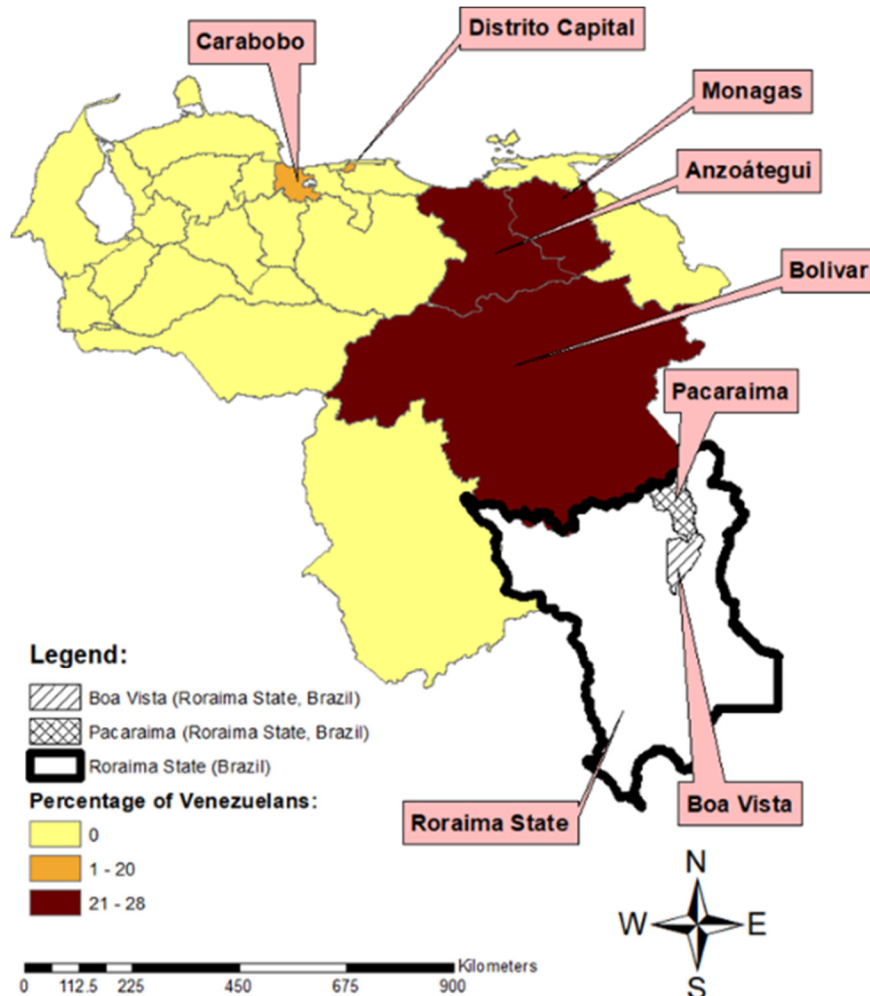
Venezuelan immigrants look either to stay in Brazil, or use the country as a route to go elsewhere. The same survey conducted by DTM reported that 48% of the interviewees wanted to stay in Brazil, while 52% sought to eventually continue to another country (primarily Argentina). Among those who wanted to stay, 22% wanted to stay in Roraima, while 59% wanted to go to Amazonas state. Among migrants, 12% had only primary education, 50% had a secondary level education, 28% had a college degree, and 1% had a post-graduate degree<sup>18</sup>. Of the sample, 58% of the interviewees were men, while 41% were women. Approximately 57% reported being unemployed<sup>19</sup>. Among the employed, 33% worked in the service sector, 31% in commerce, and 13% in construction. Finally, 83% earned less than the Brazilian minimum salary at the time of survey.

Given the forced nature of Venezuelan migration to Roraima starting in 2017, as evidenced by their relatively close origins to the Venezuela-Brazilian border, their method of crossing the border often on foot, and their stated reasons for immigration, it is possible to argue that most Venezuelans migrating to Roraima do so because they do not see any other alternative. Thus, in my analysis, this phenomenon is treated as a natural experiment.

<sup>18</sup> Fewer than 1% reported no schooling.

<sup>19</sup> Note that the distribution of schooling levels among the unemployed is extremely similar to the full sample.

**Figure 4:** States of Origin of Venezuelans Who Migrate to Roraima through Pacaraima



Source: DTM (2018) (DTM, 2018)

### III. Data and Estimation Strategy

#### 3.1 Data

In this investigation, two main sources of data were used: data on formal labor market outcomes and social characteristics of workers in Brazil and data related to Venezuelan migration to the country. I explain both data sources in detail here.

##### 3.1.1 Brazilian Labor Market Outcomes and Workers Characteristics

Data that describe the characteristics of formal workers in Roraima were extracted from *Relação Anual de Informações Sociais* (RAIS), an administrative registry created to meet the control, statistics, and information needs of government entities<sup>20</sup>. Because companies have a legal

<sup>20</sup> Originally, RAIS was created to control the entry of foreign labor in Brazil and the records of collection and granting of benefits by the Ministry of Social Security.

obligation to report annually to RAIS, the database provides information on every worker in the formal sector in Brazil<sup>21</sup>, and can be desegregated by state and city levels. The variables contained in the data set include, among others, an indicator of whether the employee is employed at December 31st, as well as hiring and dismissals<sup>22</sup> according to gender, age group, education level, length of service and earnings, broken down into occupational, geographic, and sectoral levels. The database contains information on the number of employees in a company, their weekly hours worked, and nationality.

**Table 1: Summary statistics Roraima, 2012-2015**

	(1)	(2)	(3)	(4)	(5)
	Brazilians	Venezuelans	Other Nationalities	(2)-(1)	(2)-(3)
Real Earnings (in R\$)	1,602.50 (2,158.79)	947.93 (897.04)	2,468.11 (3,092.50)	-654.56*** (-5.14)	-1,520.17*** (-8.21)
Weekly Wkd. Hours	39.60 (6.80)	41.23 (6.06)	39.98 (8.21)	1.63*** (4.06)	1.25** (2.36)
Real Wage (in R\$/h)	12.00 (29.16)	6.29 (9.37)	20.30 (37.46)	-5.71*** (-3.31)	-14.01*** (-6.26)
Months Employed	56.20 (84.72)	9.99 (15.55)	37.17 (72.01)	-46.21*** (-9.24)	-27.18*** (-6.34)
Age	35.05 (11.21)	31.71 (9.84)	39.48 (12.82)	-3.33*** (-5.04)	-7.77*** (-9.34)
Observations	525,031	287	818	525,318	1,105

Notes: The means presented in columns (1)-(3) are drawn from individual-level RAIS data from 2012-2015. Column (4) indicates the difference between column (2) (Venezuelans) and column (1) (Brazilians), with t-test in parenthesis. Column (6) indicates the difference between column (2) (Venezuelans) and column (3) (Migrants from Other Nationalities) with t-test in parenthesis.

Table 1 provides summary statistics of individual-level RAIS data for 2012-2015 (before intensification of Venezuelan migration to Roraima). The first three columns present mean values for Brazilians (1), Venezuelans (2), and migrants from other nationalities (3). Column (4) presents the difference between means for Venezuelans and Brazilians, and column (6) presents the difference between means for Venezuelans and migrants from other nationalities. First, it is possible to observe that, prior to the *diaspora*, the number of Venezuelans working in Roraima state in the formal sector is very low (287), indicating that there are not many Venezuelans working in the state or that most of them do not work in the formal sector. Second, Venezuelans earn 41% ( $p < 0.01$ ) less than native workers and about 62% ( $p < 0.01$ ) less than migrants from other countries. However, workers from Venezuela work about 4% more hours weekly than Brazilians ( $p < 0.01$ ), and 3% more than migrants from other nationalities ( $p < 0.05$ ). In other words, Venezuelans work about 6.5 and 5 hours more than Brazilians and other migrants monthly. Consequently, wages for Venezuelans are 46% ( $p < 0.01$ ) lower than those for Brazilians and 69% ( $p < 0.01$ ) lower than those of other migrants. Finally, Venezuelans average about 10 months employed, compared to 56 and 37 for Brazilians and other migrants respectively, and are 3 and 7 years younger than Brazilians and migrants from other countries.

<sup>21</sup> About 7.4 million establishments that filled RAIS in 2009.

<sup>22</sup> "Admission" means every entry of a worker into the establishment during the year, whatever its origin, and by "dismissal" during that year, every departure of a person whose employment relationship with the establishment ended during the year for any reason (dismissal, retirement, death), either on the initiative of the employer or the employee. Inflows and outflows through transfers are included, respectively, in admissions and dismissals.

**Table 2: Workers Characteristics in Roraima, 2012-2015**

Characteristics	Brazilians	Venezuelans	Other Nationalities
<i>Panel A: Social</i>			
<i>Gender</i>			
Female	47.8	34.15	33.99
<i>Ethnicity:</i>			
Asian	1.22	3.48	1.59
Black	1.21	1.05	13.45
Indigenous	0.35	0.00	0.00
Parida	38.54	55.40	32.76
White	8.34	13.94	11.98
Non Identified	11.41	24.74	15.16
<i>Panel B: Education</i>			
College or More	22.37	12.20	38.63
Some College	3.18	3.83	3.06
High School	53.15	70.73	40.22
Less Than High School	21.29	13.24	18.09
<i>Panel C: Labor Market</i>			
<i>Occupational Sectors:</i>			
Police/Army/Firefighter	1.09	0.00	0.00
Public Sector	6.34	6.62	7.09
Arts & Sciences	14.57	3.83	30.20
Agriculture/Fishing	1.29	0.70	0.73
Manufacturing	12.80	16.72	19.07
Management Services	25.33	20.21	16.75
Commerce	28.50	43.55	20.29
Repair/Maintenance	1.57	2.09	2.20
Mid-Level Technician	8.51	6.27	3.67
Individuals	525,031	287	818

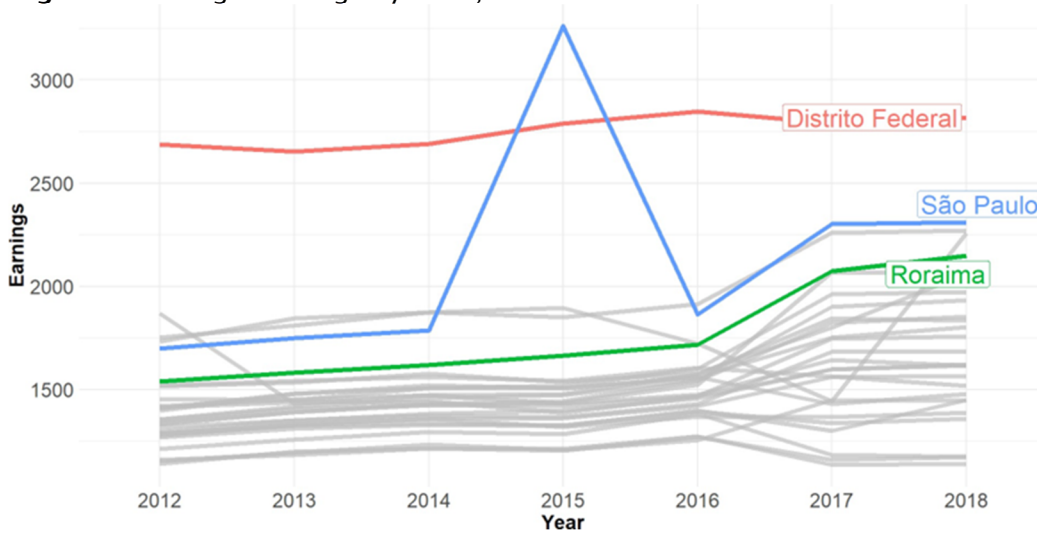
*Notes:* Frequencies depicted in the table are drawn from individual-level RAIS data from 2012-2015.

Table 2 provides additional summary statistics on the social, educational and labor market characteristics of formal workers in Roraima. Panel A summarizes demographic information. While the Brazilian population is fairly divided between male and females, migrants (both from Venezuela and other countries) are primarily men. The majority of workers in Roraima self-reports as either “Parida”<sup>23</sup> or white, with 13.45% of migrants from other nationalities being black. Panel B shows that more than half of native workers have only a high school education, while about 22% have a college or more. Venezuelans working in Roraima, on the other hand, are primarily low-skilled, with more than 70% of them reporting only high school education and 13% reporting less than high school education. Migrants from other countries, however, are balanced between those with college or more and high school education (39% and 40% respectively). Finally, panel C shows that Venezuelans occupy primarily positions in manufacturing (17%), Management Services (20%) and commerce (40%), while migrants from other nationalities have 30% workers in Arts & Sciences, compared with 14.6% Brazilians and only 3.87% Venezuelans. Therefore, Table 2 shows that before the massive entry of migrants in 2016, Venezuelan workers were mainly less educated than Brazilians and migrants from other countries and were employed in low-skilled occupations in Roraima state.

<sup>23</sup> “Parida” represents mixed-race, in particular a descent from black and white, black and indigenous or white and indigenous parents.

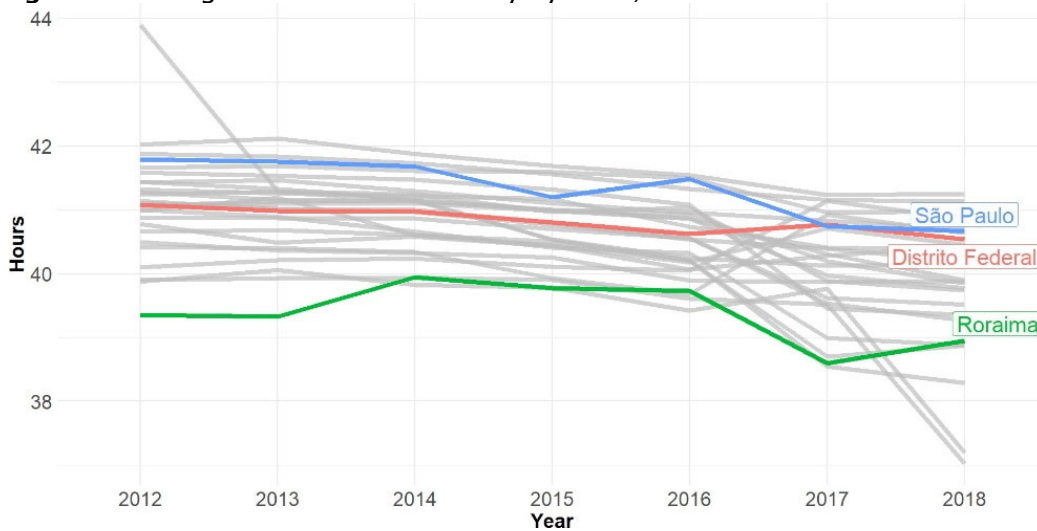


**Figure 5: Average Earnings by State, 2012-2018**

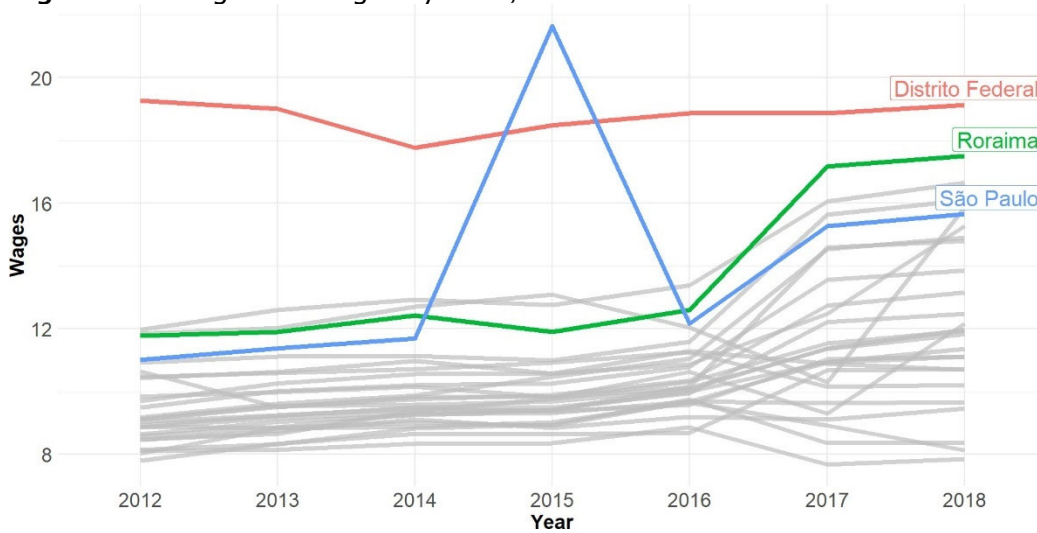


Figures 5 and 6 show monthly earnings and weekly hours worked for native workers in the formal sector from 2012 to 2018 by state in Brazil. Figure 5 shows that, earnings grew over the study period across almost the country, and in 2018, Roraima is among the 5 states with highest average earnings in the country. The Brazilian capital, “Distrito Federal”, far exceeds every other state in earnings (excepts for São Paulo in 2015), likely due to the high concentration of higher-earning public jobs. In addition, Figure 6 shows that Roraima is one of the states where employees work fewer hours in the country. Finally, Figure 7 indicates that Roraima was 5th in the ranking of states with higher real wages for natives in the formal sector before 2016, but became the second state in terms of real wages in 2017 and remained so in 2018.

**Figure 6: Average Worked Hours Weekly by State, 2012-2018**



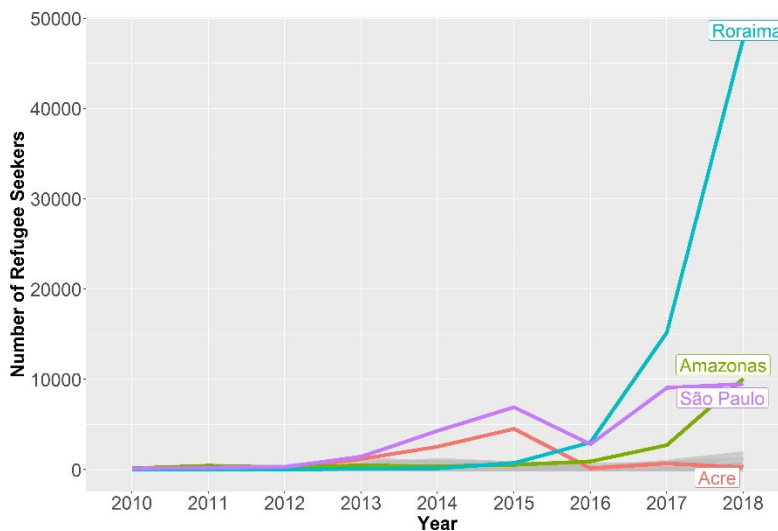
**Figure 7: Average Real Wages by State, 2012-2018**



### 3.1.2 Venezuelan Migrants

Data on the number of Venezuelans crossing the border to Brazil are derived from reports published by the Brazilian Federal Police and the “Ministério da Casa Civil”. These two institutions are responsible for registering every person who enters the country, including details on their location, date of entry, nationality and other characteristics. However, despite all this effort by local authorities, it is still difficult to measure the exact number of people who migrate to the country and stay in Brazil, given the long border and the various ways people can cross it. I use the number of migrants who requested refugee status in each state during 2010-2018 as a proxy measure of the number of Venezuelans migrating to Brazil. The country has created mechanisms to facilitate the new life of migrants, including a temporary residence allowance for Venezuelans. In fact, “under Brazilian law, while their asylum requests are being processed, [Venezuelans] cannot be deported, are entitled to a work permit, and are allowed to enroll children in school” (Human Rights Watch, 2011).

**Figure 8: Number of Refugee Requests by State Over Time**



Source: Federal Police.

Figure 9 shows the number of migrants who requested refugee status in Brazil of all nationalities. If we compare these numbers with Figure 3, it is clear that most of migrants requesting a refugee status in Brazil (if not all of them, particularly in 2017 and 2018) are Venezuelans, and are located in Roraima, followed by Amazonas or São Paulo. However, Roraima receives by far the highest number of Venezuelan migrants compared to the rest of the country.

### 3.2 Estimation Strategy

The natural experiment created by the massive inflow of migrants from Venezuela to Brazil lends itself to a straightforward estimation strategy. Regressions are performed on individual-level data, appropriately weighted to maintain population representativeness. The regression equation is as follows:

$$y_{itc} = \beta_0 + \beta_1 \text{Immigrantst} + \beta_2 \text{time} + \beta_3 X_{itc} + \vartheta_t + \vartheta_c + \xi_{it}$$

where the dependent variable  $y$  is either log monthly earnings, log weekly hours worked, log wages<sup>24</sup> of individual  $i$ , year  $t$ , and city  $c$ , or an indicator that equals one if the worker has been terminated from the company;  $\text{time}$  is a time trend that captures the evolution of the outcomes over time;  $\text{Immigrants}_t$  is the percentage points increase of the share of Venezuelan migrants in Roraima<sup>25</sup> in year  $t$ ;  $X_{itc}$  is a set of individual-level control variables including education, gender, ethnicity, hours worked<sup>26</sup> age, days off of work, company type, contract type, legal nature, type of hiring, size of company, occupation, time in employment, and indicators for disability and whether the employer was working in the company in the end of December of that year;  $\theta_y$  and  $\theta_c$  are year and city fixed effects and  $\xi_{it}$  is the error term. The coefficient of interest is  $\beta_1$ , which is the percentage change in the outcome of interest as a result of a one percentage point increase in the share of migrants in the state of Roraima population as a consequence of Venezuelan migration.

In what follows, I use this regression specification to provide estimates of the relationship between Venezuelan immigration and the labor market outcomes of individuals living only in Roraima state. However, it is important to highlight some of the features of this approach. Although migration to Roraima can be considered a natural experiment due to the bordering location of Roraima and the push factors from Venezuela previously described, migration further into Brazil is likely to be much more selected. Recall that a share of Venezuelans who migrated to Roraima, when asked about their final destination, answered that they ultimately desired to settle in Amazonas, a state that shares a border with Roraima and which is a manufacturing center in Brazil. Besides the selection problem with Venezuelans settling in Amazonas, migrants coming from countries other than Venezuela to states with better economic opportunities than Roraima, like São Paulo (See Figure 7), can also play an important role in results for the entire country. Thus, only specifications for Roraima should generate consistent and unbiased estimators, given the observed forced migration from Venezuela<sup>27</sup>. In addition, to alleviate remaining concerns about the fact that migrants can still select their destinations in the country, I use a Synthetic

<sup>24</sup> This variable is constructed by multiplying the number of weekly hours worked by 4 and dividing monthly earnings by this number.

<sup>25</sup> The variable is constructed as follow:  $(\frac{\text{number of migrants in Roraima year } t}{\text{population of Roraima in year } t}) * 100$ .

<sup>26</sup> Except when it is the dependent variable.

<sup>27</sup> It should also be noted that the Brazilian government, together with the army, started an operation named "Operação Acolhida" - *Operation Welcome* - as an answer to the massive migration of Venezuelans in the country. This program included the provision of financial aid to Roraima, as well as resettlement plans for some immigrants to other states in Brazil; together, these suggest that estimates from this analysis may be, in fact, a lower bound of the true effect of the Venezuelan migration. In addition, this operation did not choose randomly the ones who would be moved, nor their destination. It only moved those who wanted to and to the states/cities they chose to go. This would also create a non-randomness factor when dealing with the effect of migration in the entire country. However, the number of people transported to other states reached only 5,482 (OIM, 2019) (see Figure A3 in the Appendix), which would likely lead to a much more diffuse impact on other states.

Control Method (SCM) following Abadie et al. (2010)<sup>28</sup> taking advantage of the fact that migration intensified in 2016 only in Roraima. Thus, I use information on the other 25 states and the Federal District from 2012 to 2018 to construct a “Synthetic Roraima”, which generates a better control group to compare with the trends of the outcome variables in Roraima state.

However, it could be the case that Venezuelans are leaving Roraima for other countries. If this is the case, the number of people in Roraima would not raise by as much as estimated, and using the number of refugee requests as a proxy variable for the actual number of migrants in the state could overestimate the impact of the “diaspora” on the labor market outcomes. This concern is addressed by Figure A4 in the Appendix. It shows the difference between the arrivals and departures of Venezuelans in the state through all border control posts (land borders, ports, and airports). It is possible to see that the net amount of Venezuelans in the state is highly positive during the study period. However, internal migration could be an issue if Venezuelans leave the state to other states in the country. An alternative way to measure it is to look at the number of Venezuelans working in different states. Figure A5 shows the number of Venezuelans working in formal jobs in each different state in the country<sup>29</sup>. Even though the number of migrants increase in some states such as Amazonas, Paraná, Santa Catarina, Rio Grande do Sul and São Paulo, they do not seem high enough that could invalidate the use of the number of refugee requests as a proxy variable<sup>30</sup>. Also, we should expect that most of them are Venezuelans transferred from Roraima by the *Operação Acolhida*.

## IV. Results and Discussion

This section is subdivided into four. First, the primary results are presented. The remaining subsections explore the heterogeneity of these results by education level, occupation group, gender, and ethnicity of the individual.

### 4.1 Primary Results

Table 3 reports the results of regressions using the specification described above. The coefficient of interest ( $\beta_1$ ) is represented in the first row of the table.

The coefficient of interest in column (1) indicates that a 1 percentage point increase in the share of the migrants in the state population caused by the entry of Venezuelans increases the monthly earnings of native formal workers by 1.1% ( $p < 0.01$ ). Therefore, if we consider that during 2018 alone 46,974 Venezuelans requested refugee status in Roraima<sup>31</sup>, which represents a 8.14% increase in the population of the state, monthly earnings increased by 8.95% for natives in the formal sector due to Venezuelan immigration in that year. This represents an increase of approximately R\$143.50 on average for native workers in the state<sup>32</sup>. Column (2) of Table 3 estimates the impact of the Venezuelan immigration on weekly hours worked. In Roraima, a 1 percentage point increase in the share of migrants in the state population due to Venezuelan migration reduces weekly working hours by 0.3% ( $p < 0.01$ ) - approximately 28.5 minutes per month. Finally, column (3) depicts the results when the dependent variable is logarithmic wages. In Roraima, wages increase by about 2.3% ( $p < 0.01$ ) in response to a 1 percentage point increase in the share of migrants in the state population resulting from Venezuelan migration. However, column (4) shows that natives are 0.4% ( $p < 0.01$ ) more likely to be terminated from employment.

<sup>28</sup> For more information on the SCM, see Abadie and Gardeazabal (2003) and Abadie et al. (2015).

<sup>29</sup> It still could be the case that Venezuelans who are leaving Roraima are not in the formal sector. However, given the financial situation of those who entered the country through Roraima, it is hard to expect that a high number of migrants are able to leave the state of entry to other states.

<sup>30</sup> Although it is still possible that Venezuelans are departing the Roraima to other states through land.

<sup>31</sup> These are the official numbers of people who actually requested the refugee status, rather than the total number who entered the country. As already highlighted, it is hard to measure with precision the exact number of people who crossed the border and actually stayed in the country or in Roraima. Because of that, these results are likely a lower bound of the true effect.

<sup>32</sup> This calculation takes into account the average of R\$ 1,602.50 for real earnings, as shown in Table 1.

**Table 3: The Effect of Venezuelan Migration on Formal Labor Market Outcomes of Native Workers in Roraima**

	Earnings (1)	Hours (2)	Wages (3)	Pr[Termination] (4)
<i>(Migrants/Population)</i> × 100	0.011*** (0.001)	-0.003*** (0.000)	0.023*** (0.001)	0.004*** (0.001)
Yearly Time	0.007*** (0.001)	0.004*** (0.000)	-0.010*** (0.001)	-0.002*** (0.001)
Asian = 1	-0.602*** (0.007)	-0.635*** (0.003)	-0.693*** (0.007)	0.075*** (0.007)
Black = 1	-0.560*** (0.007)	-0.650*** (0.003)	-0.668*** (0.007)	0.064*** (0.006)
Indigenous = 1	-0.606*** (0.007)	-0.615*** (0.004)	-0.700*** (0.008)	0.046*** (0.008)
Parda = 1	-0.567*** (0.006)	-0.645*** (0.003)	-0.681*** (0.007)	0.090*** (0.005)
White = 1	-0.512*** (0.006)	-0.675*** (0.003)	-0.618*** (0.007)	0.058*** (0.005)
Male = 1	0.107*** (0.001)	-0.004*** (0.001)	0.090*** (0.001)	-0.005*** (0.001)
Weekly Hours Worked	0.006*** (0.000)		-0.033*** (0.000)	-0.000*** (0.000)
Months in Employment	0.002*** (0.000)	-0.000*** (0.000)	0.002*** (0.000)	-0.001*** (0.000)
Individuals	1,248,651	1,266,073	1,266,073	1,266,691
Adjusted-R <sup>2</sup>	0.662	0.250	0.660	0.192

Notes: The set of control variables included in the estimation, but not depicted on the table, are education, age, days off of work, company type, contract type, legal nature, type of hiring, size of company, occupation, time in employment, and indicators for disability and whether the employer was working in the company in the end of December of that year. All specifications include year and city fixed effects. Robust standard errors are depicted in parenthesis. Superscripts \*, \*\*, and \*\*\* represent significance at 10%, 5% and 1% respectively.

These results raise important findings. First, one possible explanation for the higher earnings and wages is that the increased demand for goods and services created by the massive entry of Venezuelans into the state could have generated additional benefits for native workers. If this is true, the results show that this effect overcame the one created by the competition for jobs in the formal sector<sup>33</sup>. Second, this competition for jobs does not cause lower earnings/wages for Brazilians, but results in terminations and lower worked hours weekly. Third, there is a wage premium for native workers in the formal sector. Using average wages in the state, it implies that native wages in Roraima increased by about R\$2.25 per hour due to Venezuelan immigration in 2018 alone (about \$ 0.45)<sup>34</sup>. This third hypothesis is strengthened by the results shown Table 4, that indicate that newly hired native workers are earning 1.4% ( $p < 0.01$ ) more, with 3.7% ( $p < 0.01$ ) increase in wages, but are working about 1.2% (0.01) fewer hours. Although relevant and highly significant, these results can conceal important heterogeneity between subgroups of the

<sup>33</sup>Data shows that in 2018, the state economy became about 9% more diversified, compared to the period of 2010 to 2017. Between 2017 and 2018, Roraima stood out as the state with the highest increase in planted area (28.9%) in the country. In addition, from 2015 on, Roraima's seasonally adjusted index of retail sales is above the national level, with a growth trend over the entire period, but that spikes specifically in 2018. Finally, exports increased by 20% in the state from 2016 to 2019, and the primary destination of exports became Venezuela, with an increase in exports of US\$ 84.3 million to the country from 2015 to 2019. (FGV DAPP, 2020)

<sup>34</sup>This calculation takes into account the average of R\$ 12.00 for wage shown in Table 1 for Brazilians.

population. The following sections investigate the heterogeneity between groups by education, occupation, gender, and ethnicity.

**Table 4: Effects of Venezuelan Migration on Newly Hired Native Workers**

	Earnings (1)	Hours (2)	Wages (3)
(Migrants/Population)*100	0.014*** (0.001)	-0.012*** (0.001)	0.037*** (0.001)
Observations	408,053	412,122	412,122
Adjusted-R <sup>2</sup>	0.408	0.213	0.366

*Notes:* The set of control variables included in the estimation, but not depicted on the table, are education, age, days off of work, company type, contract type, legal nature, type of hiring, size of company, occupation, time in employment, and indicator for disability. All specifications include year and city fixed effects. Robust standard errors are depicted in parenthesis. Superscripts \*, \*\* and \*\*\* represent significance at 10%, 5% and 1% respectively.

## 4.2 Results by Level of Education

Table 5 presents results from separate regressions for each education level. Column (1) suggests that, in Roraima, all categories of workers experienced increases in earnings as a result of Venezuelan immigration, with growth of 0.6% ( $p < 0.1$ ), 1% ( $p < 0.01$ ), 1.5% ( $p < 0.01$ ), and 1.7% ( $p < 0.01$ ) respectively to those with College Completion or More, Some College, High School Completion, and Less than High School. In Roraima, workers with at least some college are working about 2.6% more hours ( $p < 0.01$ ), while those with less than high school are working 0.4% ( $p < 0.01$ ) fewer hours in response to a 1 percentage point increase in the share of migrants in the state population.

Furthermore, column (3) sheds light on an interesting aspect. Although native workers with some college education earn more due to an increase in both hours worked and real wages by 2.8% ( $p < 0.01$ ), those with high school education experience increases in earnings specifically due to increases in wages by 3% ( $p < 0.01$ ). Additionally, the wages of those with less than high school education are increasing at the same rate as the earnings, even though the hours worked are decreasing. Finally, column (4) shows that although the probability of termination increases for all levels of education, it is higher in magnitude for those with complete High School education, who are 1% more likely to be terminated as a result of Venezuelan migration.

**Table 5: The Effects of Venezuelan Migration on Formal Labor Market Outcomes of Native Workers in Roraima - by Level of Education**

	Earnings (1)	Hours (2)	Wages (3)	Pr[Termination] (4)
College Completion or More	0.006* (0.003)	0.026*** (0.002)	-0.003 (0.004)	0.009** (0.003)
Some College	0.010*** (0.001)	0.026*** (0.000)	0.028*** (0.001)	0.002*** (0.001)
High School Completion	0.015*** (0.001)	-0.000 (0.001)	0.030*** (0.002)	0.010*** (0.001)
Less Than High School	0.017*** (0.002)	-0.004*** (0.001)	0.017*** (0.002)	0.005*** (0.001)

*Notes:* Coefficients and standard errors shown are on (Migrants/Population)×100. The set of control variables included in the estimation, but not depicted on the table, are gender, ethnicity, hours worked (except in column (2)) age, days off of work, company type, contract type, legal nature, type of hiring, size of company, occupation, time in employment, and indicators for disability and whether the employer was working in the company in the end of December of that year (except in column (4)). All specifications include year and city fixed effects. Robust standard errors are depicted in parenthesis. Superscripts \*, \*\* and represent significance at 10%, 5% and 1% respectively. Separate regressions a run for each level of education.

Therefore, the results suggest a wage premium for native workers as a result of Venezuelan migration regardless of their level of education. However, it also indicates that, although experiencing increases in wages, low and middle skilled workers are working fewer hours weekly, likely as a consequence of a higher supply of workers in the labor market that creates a pressure in the job market. The hypothesis is strengthened by the increase in the probability of termination for all groups, but specially for workers with only High School education. Even Venezuelans with higher education could compete for jobs with low middle-skilled due to the need, xenophobia, difficulty in the language, and other factors that make it difficult to settle in a new country.

**Table 6:** The Effects of Venezuelan Migration on Formal Labor Market Outcomes of Native Workers in Roraima - by Occupation

	Earnings (1)	Hours (2)	Wages (3)	Pr[Termination] (4)
Army/Police/Firefighters	-0.012 *** (0.004)	-0.000 (0.000)	-0.011 *** (0.003)	0.006 (0.004)
Public Sector	0.009 *** (0.003)	-0.002 *** (0.001)	0.013 *** (0.003)	0.037 *** (0.002)
Arts & Sciences	0.005 *** (0.002)	-0.007 *** (0.002)	0.007 *** (0.002)	-0.008 *** (0.001)
Fishing/Agriculture	-0.009 ** (0.004)	0.004 (0.003)	-0.012 ** (0.006)	0.008 (0.006)
Manufacturing	0.002 (0.002)	0.004 *** (0.001)	0.039 *** (0.002)	0.003 * (0.002)
Management Services	0.013 *** (0.001)	-0.002 *** (0.000)	0.025 *** (0.001)	0.012 *** (0.001)
Commerce	0.012 *** (0.001)	-0.001 *** (0.000)	0.023 *** (0.001)	-0.005 *** (0.001)
Repair/Maintenance	0.006 (0.005)	-0.002 (0.002)	0.068 *** (0.007)	0.004 (0.005)
Mid-Level Technician	0.003 (0.002)	-0.012 *** (0.002)	0.019 *** (0.002)	-0.008 *** (0.002)

*Notes:* Coefficients and standard errors shown are on (Migrants/Population)  $\times$  100. The set of control variables included in the estimation, but not depicted on the table, are gender, ethnicity, hours worked (except in column (2)) age, days off of work, company type, contract type, legal nature, type of hiring, size of company, education, time in employment, and indicators for disability and whether the employer was working in the company in the end of December of that year (except in column (4)). All specifications include year and city fixed effects. Robust standard errors are depicted in parenthesis. Superscripts \*, \*\* and \*\*\* represent significance at 10%, 5% and 1% respectively. Separate regressions a run for each occupation.

### 4.3 Results by Occupation

This subsection presents results segregated by occupation. Column (1) in Table 6 report the estimates for monthly earnings. It shows that in Roraima there are only two occupations that are negatively affected by the migration of Venezuelans: Army/Police/Firefighters, and Fishing/Agriculture. Respectively, earnings are dropping by 1.2% ( $p < 0.01$ ), and 0.9% ( $p < 0.05$ ). On the other hand, the earnings increase for natives in the Public Sector, Arts & Sciences, Management Services, and Commerce, respectively by 0.9% ( $p < 0.01$ ), 0.5% ( $p < 0.01$ ), 1.3% ( $p < 0.01$ ) and 1.2% ( $p < 0.01$ ). Column (2) shows that manufacturing workers are the only ones experiencing an increase in weekly working hours, 0.4% ( $p < 0.01$ ). All other categories, except

Army/Police/Firefighters and “Fishing/Agriculture”, and Repair/Maintenance, are experiencing significant decreases in weekly working hours. Besides, column (3) shows that the group of workers most negatively affected by the migration in terms of wages are the ones who work in agriculture or fishing, with drops in wages by 1.2% ( $p < 0.05$ ).

Finally, column (4) shows that workers in Arts & Sciences, Commerce and Mid-Level Technicians are less likely to be terminated, respectively, by 0.8% ( $p < 0.01$ ), 0.5% ( $p < 0.01$ ) and 0.8% ( $p < 0.01$ ). On the other hand, those in the Public Sector, in Manufacturing and Management Services are, respectively, 3.7% ( $p < 0.01$ ), 0.3% ( $p < 0.1$ ) and 1.2% ( $p < 0.01$ ) more likely to be terminated. These results confirm the ones presented in Table 4, that the massive migration of Venezuelans generated a wage premium for natives, except for those working in low-skilled occupations in agriculture and fishing. Thus, it less educated workers in more vulnerable sectors of the economy are experiencing competition for jobs and earning less especially due to reductions in wages both for Roraima.

**Table 7:** The Effects of Venezuelan Migration on Formal Labor Market Outcomes of Native Workers in Roraima - by Gender and Ethnicity

	Earnings (1)	Hours (2)	Wages (3)	Pr[Termination] (4)
<i>Panel A: By Gender</i>				
Male	0.010*** (0.001)	-0.001** (0.001)	0.029*** (0.001)	0.007*** (0.001)
Female	0.015*** (0.005)	-0.005*** (0.001)	0.024*** (0.001)	0.001 (0.001)
<i>Panel B: By Ethnicity</i>				
Black	0.003 (0.006)	-0.006 (0.004)	0.020*** (0.008)	0.002 (0.005)
White	0.004 (0.003)	-0.013*** (0.003)	0.036*** (0.004)	(0.002) -0.000
Parda	0.014*** (0.001)	-0.002*** (0.001)	0.042*** (0.001)	0.001 (0.001)
Asian	-0.011 (0.008)	0.001 (0.003)	-0.003 (0.009)	-0.011 (0.008)
Indigenous	0.012** (0.010)	0.002 (0.006)	0.007 (0.012)	-0.030*** (0.009)

*Notes:* Coefficients and standard errors shown are on (Migrants/Population)  $\times$  100. The set of control variables included in the estimation, but not depicted on the table, are gender (except in Panel A), ethnicity (except in Panel B), hours worked (except in column (2)) age, days off of work, company type, contract type, legal nature, type of hiring, size of company, occupation, time in employment, and indicators for disability and whether the employer was working in the company in the end of December of that year (except in column (4)). All specifications include year and city fixed effects. Robust standard errors are depicted in parenthesis. Superscripts \*, \*\* and \*\*\* represent significance at 10%, 5% and 1% respectively. Separate regressions a run for each gender and ethnicity.



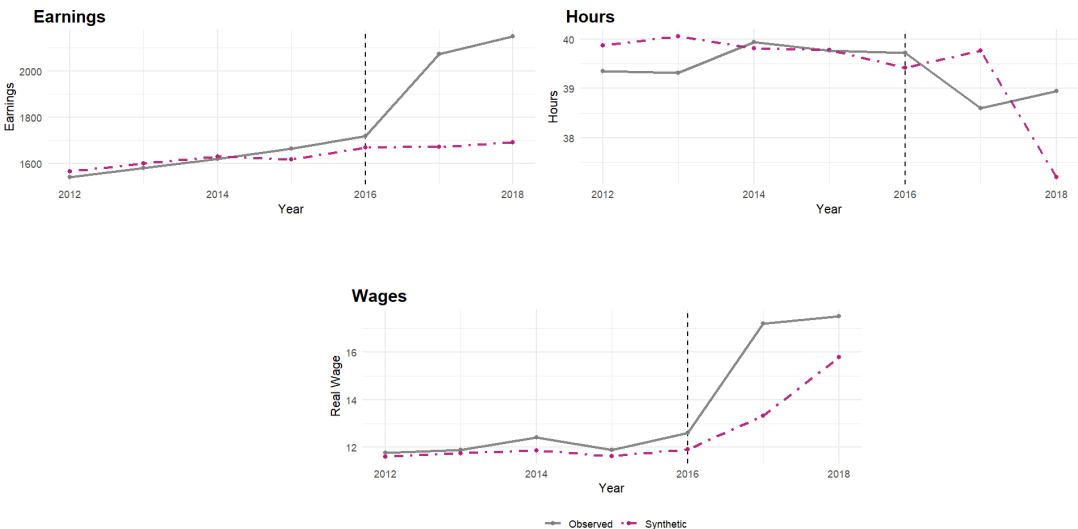
### 4.4 Results by Gender and Ethnicity

Table 7 separates the results by gender and ethnicity. Column (1) in panel A shows that the increase in earnings is higher for women than for men (respectively, 1.5% ( $p < 0.01$ ) and 1% ( $p < 0.01$ )). Furthermore, columns (2) and (3) show that although women work fewer hours (0.5% ( $p < 0.01$ ) compared to 0.01% ( $p < 0.05$ ), the wage premium for men is higher (2.9% ( $p < 0.01$ ) compared to 2.4% ( $p < 0.01$ )). Panel B of the same table reports results by ethnicity in the state. Parida and Indigenous are earning respectively about 1.4% ( $p < 0.01$ ) and 1.2% ( $p < 0.05$ ) more per month for every 1 percentage point increase in the share of migrants in the state population as a result of Venezuelan migrants. In addition, native whites and Parida work respectively 3.6% ( $p < 0.01$ ) and 0.2% ( $p < 0.01$ ) fewer hours during the week, and are experiencing wage premiums of 3.6% ( $p < 0.01$ ) and 4.2% ( $p < 0.01$ ) respectively. Finally, column (4) shows that only men are affected in terms of increasing probability of termination. While it increases by 0.7% ( $p < 0.01$ ) for males, it does not change for females. In terms of ethnicity, only Indigenous are affected, with a 3% ( $p < 0.01$ ) lower probability of termination.

### V. Robustness Checks

Although Venezuelans are forced to migrate to Roraima, there may still be some selection of places that some of them chose as a destination. It could be the case that characteristics such as the level of employment, education, the past share of Venezuelans, among others, could lead migrants to choose Roraima as a place to live. If this is the case, the estimation could be affected by endogenous selection. To mitigate these concerns, I use a Synthetic Control Method (SCM) following Abadie et al. (2010)<sup>35</sup> that takes advantage of the fact that migration intensified in 2016 only in Roraima. To create a synthetic control group comparable to the state of Roraima, I generate a weighted combination of the other 25 states of the country plus the Federal District (Ryu and Paudel, 2021) using mean annual data of the following variables: age of workers, share of men, “Pardos”, workers with at least a college degree, workers in manufacturing, commerce, and agriculture, companies with 1,000 or more employees, and values from 2012 to 2015 of the dependent variables<sup>36</sup>.

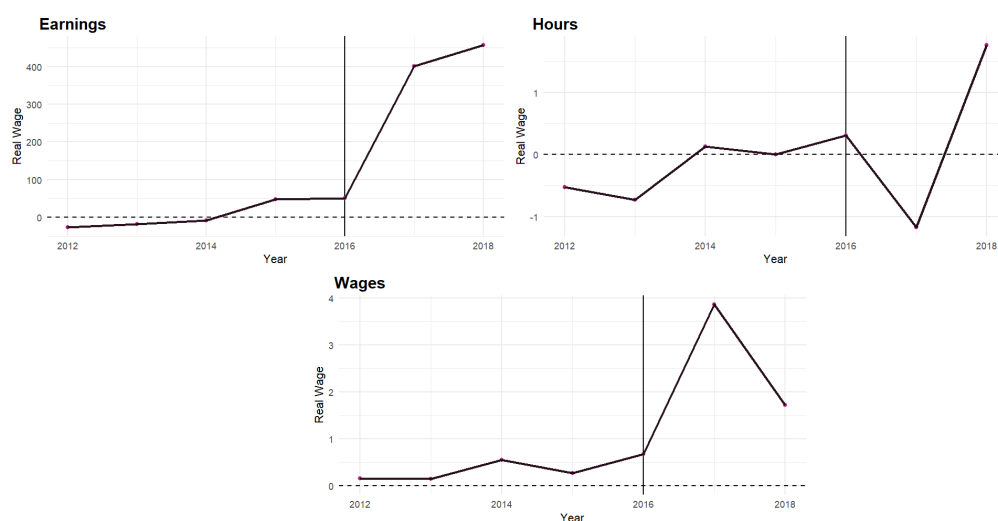
Figure 9: Time series of synthetic Roraima versus Roraima



<sup>35</sup> For more information on the SCM, see Abadie and Gardeazabal (2003) and Abadie et al. (2015).  
<sup>36</sup> See figure A6 for the weights used in the pool of donor states.

The trends for both the observed and synthetic groups are shown in Figure 9, while Figure 10 presents differences between both groups for each dependent variable. Both figures confirm the findings of the main estimation strategy. Earnings and wages in Roraima are especially following a similar trend compared to the synthetic control group, and as soon as the first wave of Venezuelans hit the state in 2016, both surged. Although noisier, the hour graph also confirms the drop in weekly working hours in 2016. However, the synthetic group predicts an even lower number of hours in 2018 compared to what is observed in Roraima. Thus, the SCM provides the same results as those found exploiting the variation of the number of refugee requests in the state of Roraima, strengthening the hypothesis that the Venezuelan migration was indeed a natural experiment.

**Figure 10: Differences between Synthetic Roraima and Roraima**



## VI. Conclusion

This article estimates the impacts of the migration of a huge number of Venezuelans to Roraima state, Brazil, from 2016 by exploiting the variation in the number of refugee requests from Venezuelans in the state. Due to the forced nature of migration as a result of a deep economic and political crisis in Venezuela, the phenomenon created a natural experiment. The results of the main estimate (and confirmed by the use of an SCM) indicate two possible effects. First, an increase in the demand for goods and services in the state. Secondly, the competition for jobs created by the influx of migrants. This is expressed mostly in two ways: a wage premium for natives, lower weekly hours worked, and a higher probability of dismissals.

The results suggest that, on average, a 1 percentage point increase in the share of migrants in Roraima population per year due to migration increases the monthly earnings and wages of native workers in the formal sector by 1.1% and 2.3%, respectively. On the other hand, natives work 0.3% fewer hours during the week and are 0.4% more likely to be terminated from employment.

“The effect of immigration on the wage structure depends crucially on the differences between the skill distributions of immigrants and natives. The direct effect of immigration is most likely to be felt by those workers who had similar capabilities” (Borjas, 2017). Recent surveys suggest that the wave of Venezuelan migrants arriving in Brazil is mainly made up of people with up to secondary education (62%), and therefore it should be expected that the main direct effects of the massive increase in the labor force will come from this specific group of the population. However, careful attention should be paid to the fact that even high-skilled migrants could be

working in low-skilled jobs due to several reasons, such as not speaking the language, xenophobia, etc. Therefore, dividing the results by level of education and occupations proved to be more informative in a better understanding of the formal labor market in Roraima. Although earnings and wages are growing for all educational groups (except for wages for native workers with at least a college degree), only less than high school are working fewer hours due to the Venezuelan migration. Besides, workers with up to high school education are 1% more likely to be terminated from employment, the highest rate among the other groups.

In addition results desegregated by occupation provide a more in-depth analysis on how migration has affected natives in the formal sector in Roraima. Decreases in wages by 1.2% for workers in fishing and agriculture shows that this is the sector where competition manifests in terms of wages and not worked hours nor probability of termination. Finally, by looking at heterogeneity across gender and ethnic groups, I find that, although both males and female native workers are experiencing increases in both earnings and wages, only males are suffering with a 0.7% higher likelihood of dismissal. Besides, while wages increased for blacks (2%), whites (3.6%), and pardos (4.2%), only indigenous were affected in terms of the likelihood of dismissal (-3%).

This article adds to the literature in three aspects. First, it solves the problem of not differentiating nationals from foreigners, which was not solved in previous works. Second, it provides credible arguments that allow me to treat Venezuelan diaspora as a natural experiment and, because of that, result in a clear identification strategy. Finally, the remaining concerns of endogeneity are addressed using a synthetic control method. Although I attempt to attenuate this type of concern, the main limitation, however, is the impossibility of excluding the possibility of internal migration of both natives and Venezuelans. Future research should focus on efforts to mitigate these concerns.

Building on the literature studying the effects of migration on developed countries, this article redirects the focus to the importance of impacts in less developed countries. This is important not only due to their global economic and political importance, but also to shed light on an important phenomenon happening in the developing world.

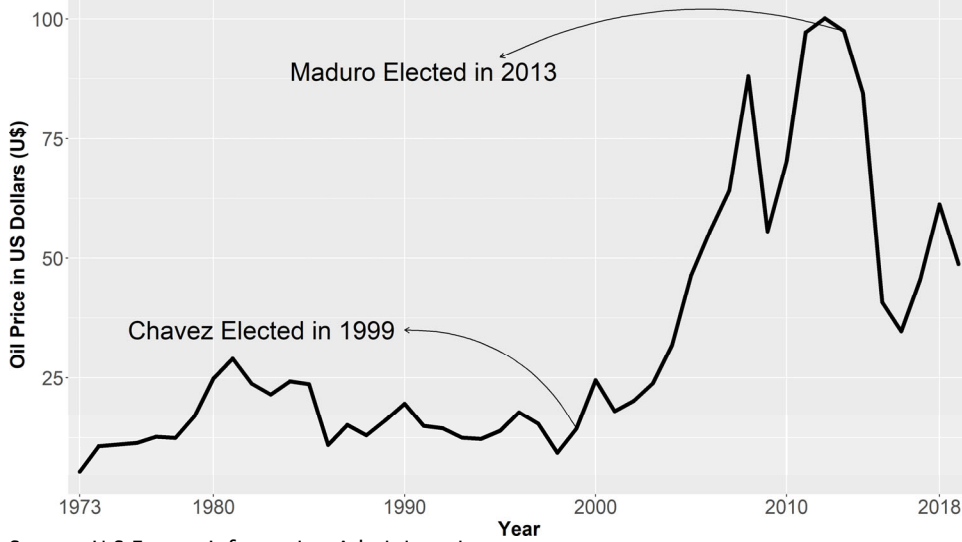
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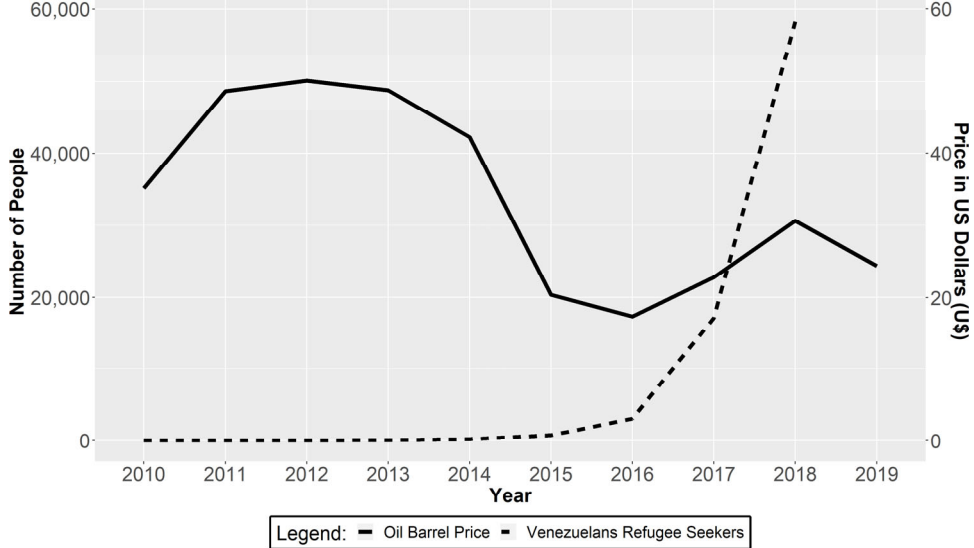
## Appendix

**Figure A1: Costs of Venezuela Crude Oil (Dollars per Barrel)**



Source: U.S Energy Information Administration

**Figure A2: Venezuela's Crude Oil Prices and Venezuelans Migrating to Brazil**

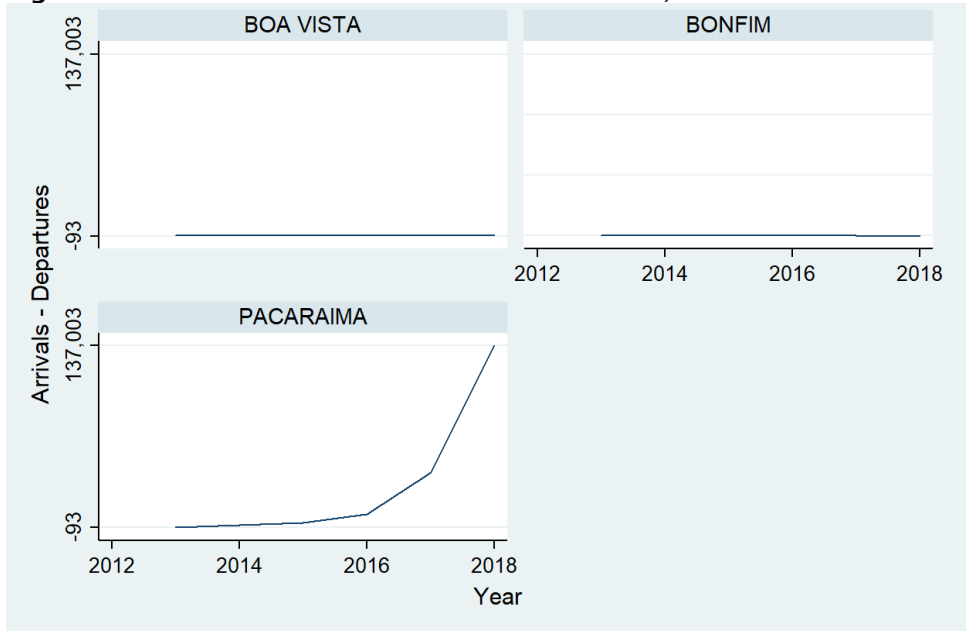


Source: Brazilian Federal Police and U.S Energy Information Administration

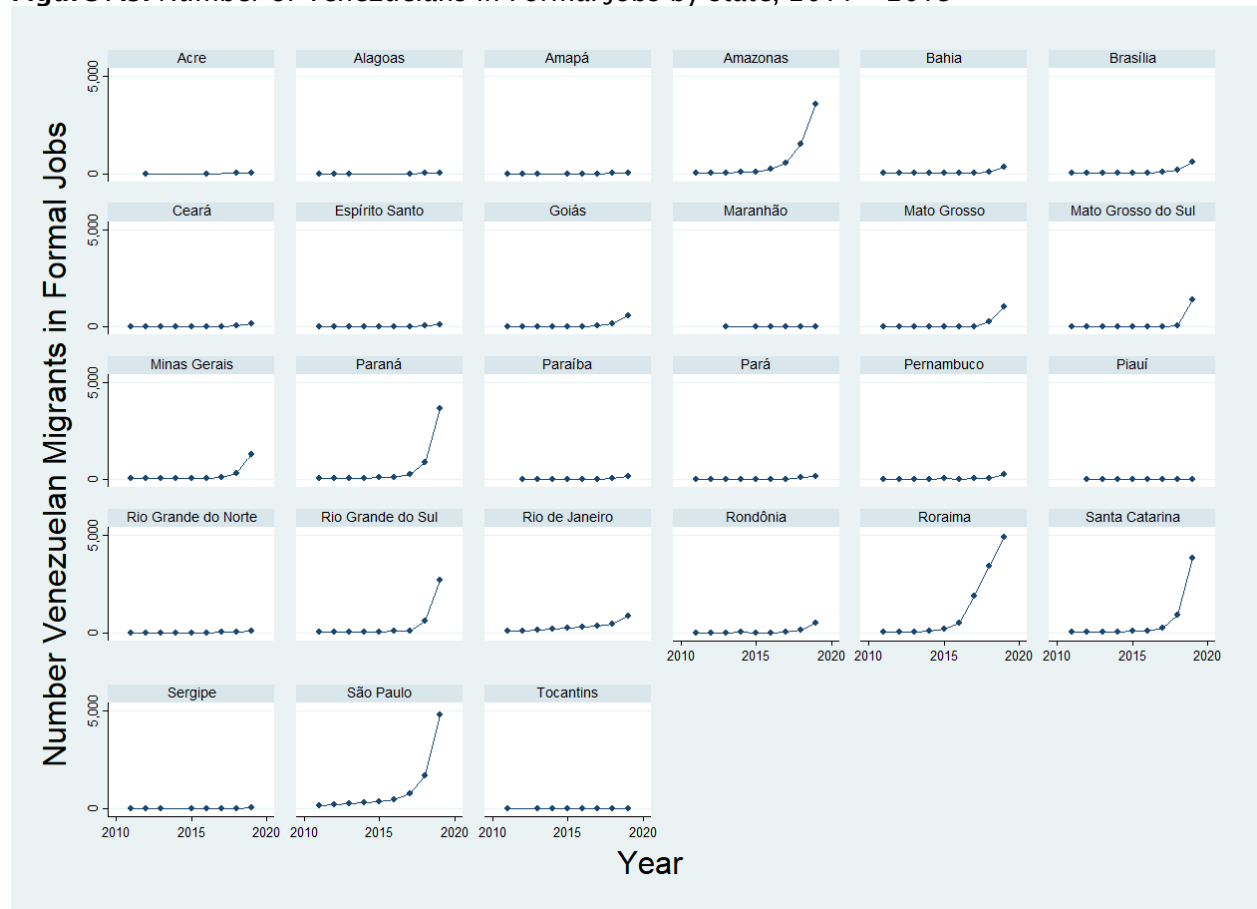
**Figure A3:** Number of Venezuelans Transferred from Roraima by “Operação Acolhida”, 2018 - 2019



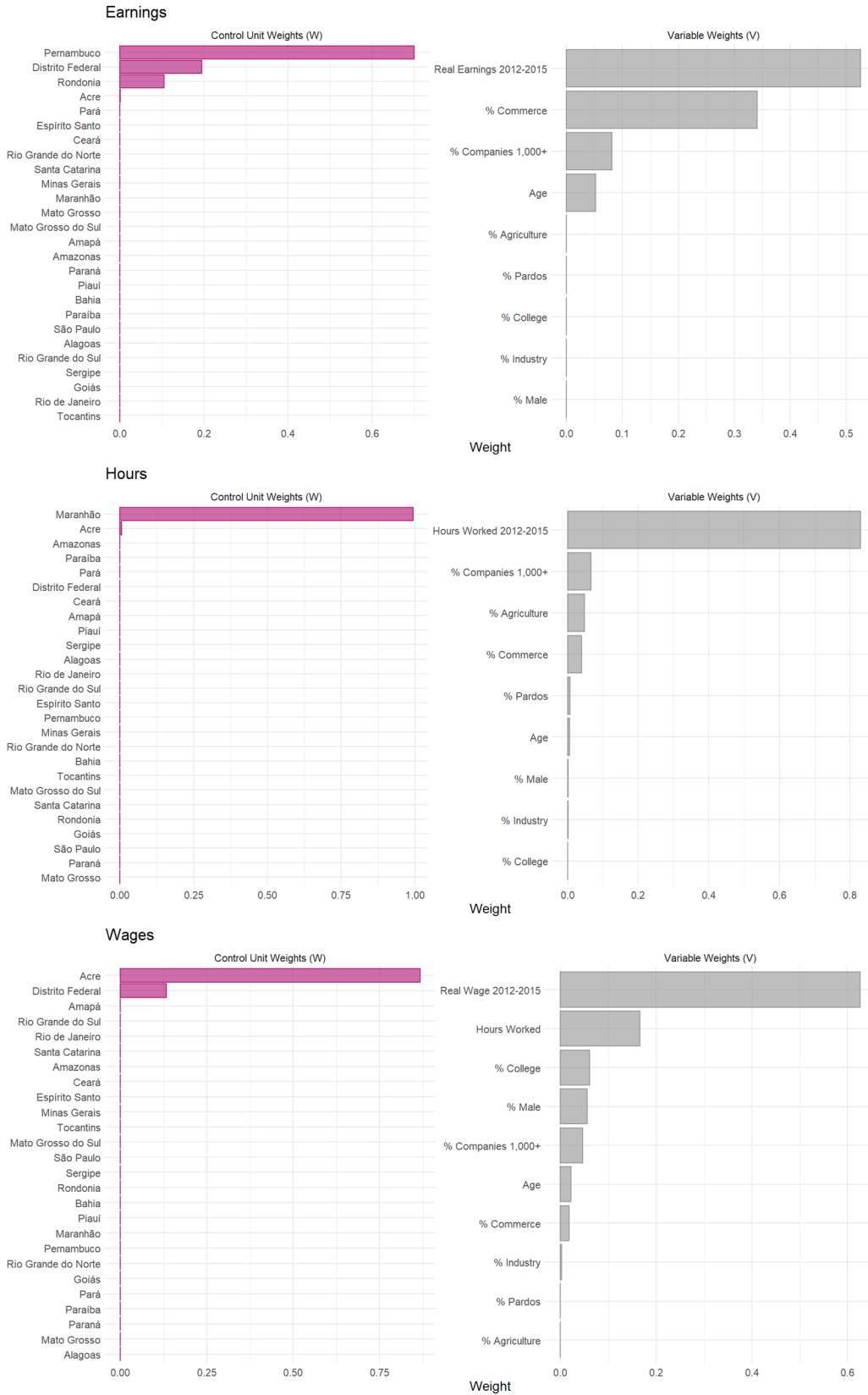
**Figure A4:** Net Amount of Venezuelans in Roraima, 2012 - 2018



**Figure A5: Number of Venezuelans in Formal Jobs by state, 2011 - 2019**



**Figure A6: Synthetic Roraima Weights**





# The Negative Effect of Abusive Supervision on Employees and the Role of Impostorism

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## Abstract

Abusive supervision has garnered considerable scholarly attention over the years. Not surprisingly, the literature on abusive supervision continues to link this harmful behavior to multiple negative workplace outcomes. Yet, much work is still needed to understand the mechanisms that connect abusive supervision and employees' responses, as well as the influence of individual characteristics on employees' responses. Drawing on the conservation of resources (COR) theory, which explicates employees' resource management behaviors in stressful circumstances, we enhanced our understanding of employees' resource conservation behaviors in response to a resource-depleting circumstance such as perceived supervisory abuse. Further, we investigated the moderating effects of the impostor phenomenon, an intra-personal characteristic that had not yet been examined in the context of abusive supervision. Findings from two samples revealed that employees who perceived abusive supervision would experience emotional exhaustion and report decreased organizational citizenship behavior (OCB) intentions and increased counterproductive work behavior (CWB) intentions. Interestingly, employees high in impostorism with abusive supervision perception and experienced emotional exhaustion would be less likely to report the refusal to engage in OCBs and would be less likely to report intentions to engage in CWBs, than employees low in impostorism. The theoretical and practical implications of these findings were discussed.

**Keywords:** abusive supervision, the conservation of resources theory, impostorism, emotional exhaustion, counterproductive work behavior, organizational citizenship behavior

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# La importancia de las marcas gráficas y la correcta aplicación de la psicología del color según su contexto

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## Resumen

Llegar al mercado meta en la mercadotecnia para que un negocio sea exitoso, necesita descubrir que en nuestro día a día, es realmente improbable que no nos encontremos con alguna marca gráfica en algún momento. Así, es muy posible que podamos comenzar el día desayunando Kellogg's para luego vestirnos con un Lacoste y calzarnos unas Nike, desplazarnos en un BMW con neumáticos Michelin, llenar el depósito de una gasolinera Shell, reparar algo con una herramienta Bosch, encender el ordenador de Apple y buscar en Google, firmar con Montblanc, tomar café en un Starbucks, mirar la hora en un Longines o rematar el día bebiendo una Guinness mientras vemos un partido de la NBA. Así lo mencionan Eduardo Herrera y Leire F. Iñurritegui en el libro *Historias Que Marcan*.

La psicología en sus colores de cada marca y nuestra asociación física y mental con los colores es completamente natural. Desde el principio de los tiempos el cielo se pinta de colores en el entorno cuando amanece y aparece el sol, lo mismo sucede al momento del ocaso, otros colores hacen presencia para despedir a la estrella de la mañana y dar la bienvenida a la luna. En el Pequeño Libro del Color, la autora Karen Haller nos habla sobre la relación que ejerce el color sobre nuestro estado de ánimo. Nos habla de cómo los matices y tonalidades de los colores al llegar a nuestro cerebro ejerce estos efectos psicológicos que se traduce en sensaciones. Algunos brindan alegría y optimismo, otros paz y tranquilidad, etc.

Tenemos 4 colores primarios psicológicos, que son el rojo, azul, amarillo y verde. Rápidamente podemos decir que psicológicamente la mente está compuesta por el consciente, el inconsciente/preconsciente y el subconsciente.

El color rojo es uno de los más llamativos en todos los aspectos, y empleado en muchas ocasiones para el área de publicidad en productos o servicios; sin embargo este color se debe encausar para su funcionalidad, pues este color es completamente de carácter bipolar, si no se aplica en el diseño de manera adecuada, puede provocar en el espectador sentimientos de ira, ternura o precaución.

Las antiguas investigaciones sobre la psicología del color y las nuevas que lo han enriquecido a las tendencias publicitarias, han segmentado colores para el marketing que tienen más atracción para llegar al mercado meta que otros meramente ornamentales pero igual de importantes.

Eva Heller nos menciona que según en su investigación el color verde puede parecer saludable o venenoso, o tranquilizante, un amarillo, radiante o hiriente. El efecto de cada color está determinado según su contexto, no es lo mismo aplicar el color en accesorios de moda que en una habitación, estas aplicaciones despiertan sentimientos diferentes en las personas aún siendo el mismo color. Los productos que son envasados en azul y blanco, provocan una sensación de pureza y tranquilizador. En los alimentos, los colores insólitos nos parecen repulsivos, basta imaginar un spaghetti de color azul para darnos una idea. Esto y más descubriremos en esta investigación.

**Palabras clave:** Mercadotecnia, psicología, color, marcas, sensaciones, sentimientos.

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# The Importance of Graphic Brands and the Right Application of Color Psychology According to its Context

## Abstract

Reaching the target in marketing for a business to be successful, you need to discover that in our day to day, at some point we are going to use a Brand, like it or not it is true. It is very possible that we can start the day with a Kellogg's breakfast and then dress in a Lacoste and put on some Nikes, travel in a BMW with Michelin tires, fill up the tank at a Shell gas station, repair something with a Bosch tool, turn on the Apple computer and search in Google, sign with Montblanc, have coffee in a Starbucks, watch what time is it in a Longines or end the day drinking a Guinness beer while watching an NBA game. This is how Eduardo Herrera and Leire F. Iñurritegui mention it in the book "Historias Que Marcan".

The color psychology of each brand and our physical and mental association with colors is completely natural. Since the beginning of time, the sky is painted with colors in the surroundings when the sun rises and appears, the same happens at the sunset, other colors appear to say goodbye to the morning star and welcome the moon. In the Little Book of Color, the author Karen Haller tells us about the relationship that color has on our state of mind. She tells us about how the nuances and shades of colors when they reach our brain exert these psychological effects translate into sensations. Some bring joy and optimism, others peace and tranquility, etc.

We have 4 psychological primary colors, which are red, blue, yellow and green. We can quickly say that psychologically the mind is composed of the conscious, the unconscious/preconscious and the subconscious.

The red color is one of the most striking in all aspects and is used on many occasions for the advertising area of products or services; however, this color must be prosecuted for its functionality, since this color is completely bipolar in nature, if it is not applied in the design in an adequate way, it can cause feelings of anger, tenderness or caution in the viewer.

The old investigations on the psychology of color and the new ones that have entrenched it in advertising trends have segmented colors for marketing that have more attraction to reach the target than other merely ornamental but equally important.

Eva Heller tells us that according to her research, the green color can appear like healthy or poisonous, or calming, yellow, radiant, or hurtful. The effect of each color is determined according to its context, it is not the same to apply the color in fashion accessories than in a room, these applications arouse different feelings in people even though they are the same color. The products that are packaged in blue and white, cause a feeling of purity and reassuring. In food, unusual colors seem repulsive to us, just imagine a blue spaghetti to give us an idea. This and more we will discover in this investigation.

**Keywords:** Marketing, psychology, color, brands, sensations, feelings.

# Las redes sociales y su influencia en la toma de decisiones

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## Resumen

Actualmente, las redes sociales son la principal fuente de información para los jóvenes adultos, de modo que estas inciden en gran medida al momento de tomar sus decisiones. En tiempos de campañas electorales, los partidos políticos, tienden a utilizar las redes para tener mejor acercamiento con ellos, buscando así, con argumentos cambiar su modo de pensar. En la presente investigación se busca medir el impacto que las redes sociales generan en la decisión del voto en la población universitaria de la localidad, teniendo en cuenta la motivación para votar y su preferencia electoral. Este estudio se realizará mediante un cuestionario en donde se medirán las variables del social media que influyen en la intención de voto por medio de una regresión múltiple. Así, por medio de esta investigación se podría determinar que las redes sociales pueden influir de muchas maneras en los jóvenes a la hora de elegir por quién votar.

**Palabras clave:** Redes sociales, Población universitaria, Regresión múltiple

**JEL:** M21, I23, O33

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# El impacto del social media en el posicionamiento de marca en pequeños negocios locales

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## Resumen

Las nuevas tendencias en tecnología pueden llegar a cambiarnos la vida, así mismo pueden conseguir revolucionar la operatividad de las empresas modificando las formas de competir en los mercados cambiantes. En el siguiente escrito se realizará el análisis de las variables social media y su incidencia en el posicionamiento de la marca. Tratando de medir por medio de una regresión múltiple el impacto que cada una de ellas tienen sobre un producto. Obteniendo así el efecto de las variables más significativas en las microempresas del sector servicios. Logrando con esto tener mayor interacción en comunidades digitales, posicionando así los productos, logrando una mayor competitividad.

**Palabras claves:** Social media, Microempresas, Regresión múltiple.

**JEL:** M21, M31, O33

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# Robo de identidad (phishing) en los estudiantes de la Facultad de Comercio, Administración y Ciencias Sociales

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## Resumen

El interés de realizar esta investigación sobre los efectos del robo de identidad (phishing) en los estudiantes de la Facultad de Comercio, Administración y Ciencias Sociales (FCACS), se debe a que en la actualidad los estudiantes están muy expuestos a recibir publicidad falsa, en la cual se solicita información personal. El propósito de esta investigación es determinar en qué grado han sido víctimas los estudiantes de la Facultad de Comercio, Administración y Ciencias Social de las diferentes carreras del turno matutino.

Para la realización del estudio, se aplicó un instrumento de recolección de datos a 212 alumnos de la FCACS. Los datos fueron procesados y analizados con el paquete estadístico SPSS versión 24, para lo cual se utilizó estadística descriptiva. Sobre los resultados obtenidos se resalta que la mayor parte de los estudiantes de la Facultad de Comercio, Administración y Ciencias Sociales, -el 85% conocen sobre el phishing-, mientras que el 15% restante no conocen sobre este delito. También se encontró que el 10.9% de los estudiantes encuestados fueron víctimas del phishing, como punto importante de la información obtenida se descubrió que el 52.9% de los encuestados no saben cómo actuar en caso de ser víctimas del phishing, motivo por el cual el 99.2% de los estudiantes encuestados opinan que sería muy útil conocer más sobre este delito informático.

A manera de discusión se propone ampliar la muestra ya sea en el turno vespertino o incluso realizar un estudio comparativo con otras Instituciones de Educación Superior (IES).

**Palabras clave:** Robo de identidad, Publicidad falsa, Víctima.

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# Global Agriculture First to Benefit SDGs to People, Prosperity, Peace, and Planet: Geo-social, Economic, Political Analysis

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## Abstract

The UN General Assembly Open Working Group (OWG) proposed a paper with 17 SDGs in July 2014, and it was accepted by the General Assembly in September 2015. MDGs were introduced in 2000 that led to a significant change in landscape globally. All hands must be on deck to achieve the Sustainable Development Goals and the 2030 Agenda for Sustainable Development. The study analyzes the primary role of global agriculture and global institutions in order to achieve Sustainable Development Goals and its widespread benefits to people and the planet. The results show that agriculture is the industry that ties the 17 SDGs together more than any other sector. In addition to addressing hunger and malnutrition, the agricultural sector help with other problems including poverty, excessive water and energy usage, climate change, unsustainable production and consumption and Employment. Food and agriculture, which serve as the primary link between people and planet, can assist in achieving a number of the Sustainable Development Goals (SDGs). Agriculture in many countries, is also a major economic sector and the primary source of food and money for the very poor. Sustainable food and agriculture have the ability to transform rural areas, promote equitable growth and advance the 2030 Agenda for Sustainable Development. Global hunger shows that the highest percentage of people in Asia and the Pacific region are suffering from hunger while only 2% of people in developed countries are under this category. This indicates the level of hunger in rural areas. The Global Harvest Initiative's Global Agricultural Productivity (GAP) Index shows the fact that food production is not increasing quickly enough to sustainably feed the world in 2050. Low-income nations have a greater productivity gap in food production. The results of UN Food Systems Summit analysis show that not only do sustainable food systems contribute to the end of hunger, they can assist the world in making significant advancements toward all 17 Sustainable Development Goals. FAO acts as custodian of almost 10 percent of the 232 components of the SDG indicator framework, which range from food security to sustainable production, and from clean water to life below water and life on land. FAO, WFP, and IFAD contribute a lot to global agriculture to achieve SDGs. CGIAR is an international research alliance for future food and nutritional security, committed to developing natural resources and ecosystem services and reducing poverty. The World Bank Group (WBG) is currently scaling up climate-smart agriculture. World Bank contributes to progress on the Sustainable Development Goals (SDGs) for climate action, poverty, and the eradication of hunger. IMF: financial support for low-income developing countries. WTO contribution to SDG2, Zero Hunger by eliminating subsidies helping both farmers and consumers while contributing to food security. SDG's evaluation progress by Income groups, most of the goals in low-income countries are major challenges remaining and were stagnating. High Income countries has goal 1, 4, 9 goals achieved and on track. Globally, "Think tanks and academic institutions" focused on the production and dissemination of knowledge relevant to policy, technical, and institutional

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possibilities. From the global to the local level, accountability needs to be improved. Unprecedented mobilization of resources and initiatives to improve the quality of life for "we the people," especially the poor and marginalized groups, is anticipated to occur over the next 15 years.

**Keywords:** Global agriculture, sustainable development goals, people, planet, United Nations, CGIARS, World Bank, IMF, WTO

## I. Introduction

In September 2000, the leaders of 189 countries signed Millennium Declaration and ratified. It has set a target range of reducing extreme poverty and hunger by half, gender equality promotion and child mortality reduction that are to be achieved by a set of eight measurable goals by the target date of 2015. The process to create a new set of Sustainable Development Goals (SDGs), which continued the momentum created by the MDGs. The UN General Assembly Open Working Group (OWG) proposed a paper with 17 goals in July 2014, and it was accepted by the General Assembly in September 2015. The General Assembly started negotiating the post-2015 development agenda in January 2015. At the UN Sustainable Development Summit in September 2015, the process culminated with the approval of the 2030 Agenda for Sustainable Development, which has 17 SDGs at its heart. Achieving peace and prosperity for people and the planet is at the heart of the 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015. With the passage of numerous significant accords, 2015 was a significant year for multilateralism and the development of global policy.

FAO (2018) Vision that future world where food is nutritious and accessible for everyone, in which natural resources are managed in a way that maintains ecosystem functions to support current and future human needs. In this vision, farmers, pastoralists, fisher-folk, foresters and other rural dwellers actively participate in, and benefit from, economic development, have decent employment conditions and work in a fair price environment. Women, men and communities live in food security, and have control over their livelihoods and equitable access to resources. FAO leads international efforts to defeat hunger and provides a forum for the negotiation of global agricultural regulations and agreements.

Agriculture is the industry that ties the 17 SDGs together more than any other sectors. In addition to addressing hunger and malnutrition, the agricultural sector may help with other problems including poverty, excessive water and energy usage, climate change, and unsustainable production and consumption. Food and agriculture, which serve as the primary link between people and planet, can assist in achieving a number of the Sustainable Development Goals (SDGs). World Food Programme (WFP) feeding over 100 million of the world's hungriest people and helping millions more around the world, improve their nutrition and build sustainable livelihoods, is a key player in efforts to achieve to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. WFP works in close partnership with a wide range of national and international actors including governments, other UN agencies, NGOs, private sector companies and academia.

The Global Harvest Initiative's Global Agricultural Productivity (GAP) Index shows the fact that food production is not increasing quickly enough to sustainably feed the world in 2050. (M.B. Dastagiri, L. Bhavnaga, 2019), reported that increasing global food production by 70% would be necessary to feed the 9.1 billion people that will inhabit the planet by the year 2050. The MDGs inspired public opinion, created new and creative alliances, and demonstrated the enormous importance of establishing lofty objectives. The MDGs changed how decisions are made in both rich and developing nations by placing people and their urgent needs first. More than a billion people received assistance in escaping extreme poverty, the fight against hunger was won, more girls than ever before were allowed to enroll in school, and our planet was safeguarded. However, disparities still exist and there has been inconsistent development. Some regions of the world



continue to be disproportionately home to the world's impoverished (Sanjiv Kumar, Neeta Kumar and Saxena Vivekadhish, 2016). The development of agriculture enabled the human population to grow many times larger than could be sustained by hunting and gathering (Bocquet-Appel, Jean-Pierre, 2011). (Dastagiri MB et. al, 2022) Conclude that Global Multilateral Institutions are the authority to solve international and transnational problems. After WWII, the multilateral architecture quickly grew. In the recent years due to the development and performance of the multilateral system there has been a tremendous development in the international economy. Global multilateral institutions, The UN, World Bank, IMF, WTO should use the prophecy of "Think Universally and Act regionally and locally" in global governance and solving economic, environmental and social problems.

Now, the emphasis is on creating a sustainable world where social inclusion, environmental sustainability, and economic progress are all valued equally. United Nations Conference on Sustainable Development (Rio+20) in its Agenda 21, the Johannesburg Plan of Implementation titled as "The Future We Want" inter-governmentally. The process to create a new set of 17 Sustainable Development Goals (SDGs), which will continue the momentum created by the MDGs and fit into a framework for global development beyond 2015, was sparked by the Rio+20 conference (the United Nations Conference on Sustainable Development) in Rio de Janeiro in June 2012. An international consultation was held both online and offline with the goal of developing a new development plan that puts people first.

The 17 SDGs focus on five key elements: people, planet, peace, prosperity, and partnership. As the prime connection between people and the planet, food and agriculture can help achieve multiple Sustainable Development Goals (SDGs). The present study focuses on role, prospects and consequences of agriculture to SDGs, to achieve widespread benefits to humanity and Planet in general and to achieve Human, social and economic development in particular.

## **Objectives:**

1. To analyze the role of Global Agriculture first towards the success of SDGs for benefit of people and the Planet.
2. To Analyze Food demand and Supply Gap and role of UN Food System Summit to achieve SDGs.
3. To analyze role of Multi-stakeholders, Think Tank Institutes to agriculture to achieve SDGs.
4. To suggest global agriculture Strategies and Policies to achieve SDGs for human, social and economic development.

## **II. Methodology**

This is an explorative, perspective, vision based Geo-Social, Political and Economic policy research, hence political policy and scientific approach, Meta-analysis are employed to evaluate the role of global agriculture to achieve UNO's SDGs wide spread benefits to humanity and Planet globally. The study analyzes the global agriculture, principles, actions, UNO Sustainable Development Goals widespread benefits to people in region, continent and country. The role of UN Food System Summit, CGIARS, UN, WB, IMF, WTO, NARES, Multi-Stake Holders and Think-tank Institutes has been critically analyzed. Finally, the study suggests global agriculture strategies and policies for successful benefit of Human, social and economic development. The study is based on secondary data. The data sources are UNO reports, GAP Report, World survey of the United Nations Development Group, The UN General Assembly Open Working Group (OWG) paper, WTO, World Bank, IMF, OECD, WFP websites. The review, synthesis, meta-analysis, Delphi survey, opinions, perspectives and vision tools were used. Finally, strategies and policies suggested to safe guard the planet for future generations.

## ***Policy analysis***

Policy analysis is a significant component in the identification of policy concerns and advantages, as well as the clarification of those with workable answers (Cairney, 2020). The three key analysis tools used to meet the current study's aims are listed below:

1. Political analysis
2. Scientific analysis and
3. Meta-analysis

Meta-analysis is a Statistical analysis of the data from different, independent, primary studies focusing on one question that directs to investigate the policy issues of different SDGs achievement to human and planet development. Policy analysis is a scientific approach that builds theory and facts regarding policy actions in many countries throughout the world. In the current study, primarily political analysis was employed to advocate for and promote SDGs. (Figure 1).

**Figure 1:** Research framework of the current study.

Review and Analysis of global agriculture to achieve UN SDGs wide spread benefits to humanity and Planet in region, country and continent. → Meta, Scientific & Political Global Policies analysis →Agricultural Polices of Developed and Developing Nations → Critical analysis of the role of UN Food System Summit, CGIARS, UN, WB, IMF, WTO, NARES, Multi-Stake Holders and Think-tank Institutes. →Formulation of Policies for Enlightening SDGs towards world Sustainability → Finally, suggestions to global agriculture strategies and policies for successful benefit of Human, Social and Economic development nationally and globally.
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## **III. Results and discussion**

### ***1. Global agriculture and its contribution towards achieving SDGs***

Sustainable food systems and agriculture, which serve as the main link between people and the environment, have enormous potential to resolve many of our challenges by providing people with access to healthy food at reasonable prices, enhancing livelihoods, revitalizing landscapes in urban and rural areas, fostering inclusive national growth, and bringing forth a positive change. To "end hunger, achieve food security and enhanced nutrition and promote sustainable agriculture," according to SDG #2, the goal of food production. However, without a robust and sustainable agriculture sector, other SDGs cannot be achieved. Food and agriculture, which serve as the primary link between people and planet, can assist in achieving a number of the Sustainable Development Goals (SDGs). When individuals are properly fed, they can study, live healthy, productive lives, and contribute to their communities. Future generations will be able to feed a growing population by taking care of our land and implementing sustainable agriculture.

The world's largest employment provided sector is agriculture; which includes crops, cattle, aquaculture, fisheries, and forests. Agriculture in many countries, is also a major economic sector and the primary source of food and money for the very poor. Sustainable food and agriculture have the ability to transform rural areas, promote equitable growth and advance the 2030 Agenda for Sustainable Development. This vision has been transformed into a strategy that may assist and expedite the shift to more sustainable food and agricultural systems through the work of FAO to promote sustainability in production systems. The methodology is based on five guiding principles that balance the social, economic, and environmental facets of sustainability and serve as a framework for the creation of customized strategies, plans, laws, and incentives.

The five guiding principles are: (1) Boost food system production, employment, and value addition; (2) Maintaining and improving natural resources; (3) Enhance quality of life and promote inclusive economic growth; (4) Increase the adaptability of individuals, groups and ecosystems; and (5) Modify governance to address new problems.

**Table 1: Five guiding Principles - contribution to SDG Targets**

<b>Principles</b> <b>SDGs</b>	<b>Increase productivity, employment and value addition in food systems</b>	<b>Protect and enhance natural resources</b>	<b>Improve livelihoods and foster inclusive economic growth</b>	<b>Enhance the resilience of people, communities and ecosystems</b>	<b>Adapt governance to new challenges</b>
SDG 1: No Poverty	Major (1.4)	Contributing (1.4)	Major (1.1,1.2,1.3,1.4, 1.5)	Contributing (1.5)	Major (1.a, 1.b)
SDG 2: Zero Hunger	Major (2.1,2.2,2.3,2.4)	Major (2.4,2.5)	Major (2.1,2.2,2.3,2.4)	Major (2.4)	Major (2.1,2.3,2.4, 2.a)
SDG 3: Good health and well being			Contributing (3.4)		
SDG 4: Quality education	Contributing (4.3,4.4)				
SDG 5: Gender Equality	Contributing (5.b)		Major (5.1,5.5, 5.a)		Contributing (5.a, 5.b, 5.c)
SDG 6: Clean water and Sanitation		Major (6.3, 6.4, 6.6)			Contributing (6.5, 6.a)
SDG 7: Affordable clean energy	Contributing (7.2, 7.3)	Contributing (7.2, 7.3)			Contributing (7.2, 7.3)
SDG 8: Decent work and economic growth	Contributing (8.2, 8.8, 8.10, 8.a)	Contributing (8.4)	Major (8.3, 8.5, 8.6, 8.7, 8.8, 8.10, 8.b)		
SDG 9: Industry, Innovation and infrastructure	Major (9.3, 9.b, 9.c)	Contributing (9.1)	Contributing (9.1)	Contributing (9.a)	Contributing (9.3, 9.a, 9.b)
SDG 10: Reduced inequalities			Major (10.1, 10.2, 10.3, 10.4)		Contributing (10.2, 10.3, 10.4)
SDG 11: Sustainable cities and communities	Contributing (11.4, 11.a)	Contributing (11.4)		Contributing (11.5)	Major (11.5, 11.a)
SDG 12: Sustainable consumption and Production	Contributing (12.1,12.3)	Major (12.2, 12.3, 12.4, 12.5, 12.6, 12.c)	Contributing (12.5)		Contributing (12.1, 12.6)
SDG 13: Climate action	Contributing (13.3)		Major (13.1, 13.3)	Major (13.1, 13.2, 13.3, 13.b)	Major (13.2)
SDG 14: Life under water	Major (14.b)	Major (14.1,14.2,14.5)	Contributing (14.b)	Contributing (14.5, 14.b)	Major (14.4, 14.6, 14.c)
SDG 15: Life on land	Contributing (15.2)	Major (15.1,15.2, 15.3, 15.4, 15.5, 15.6, 15.8, 15.9)		Contributing (15.1, 15.3, 15.4, 15.5, 15.9, 15.a, 15.b)	Major (15.9,15. a, 15.b)
SDG 16: Peace, justice and strong institutions			Contributing (16.5,16.6,16.7)		Major (16.3,16.5,16.6, 16.7)
SDG 17: Partnerships for the goals					Major (17.1, 17.14, 17.17)

Note: The numbers in the parenthesis indicates the actions' contribution to SDG target.

SDGs and how these principles contribute towards specific SDGs is show in the Table 1. Major indicates that principle contributes mainly to that specific SDG while contributing refers that it has partial yet important contribution to that SDG in particular. All the five principles play a key role in SDG 1,2,9 and 14 which are major SDGs relating to agriculture, aquaculture and food security and innovation. FAO (2018) reported that besides above stated 5 guiding principles there are 20 actions that gives, nations a way to tie together the various facets of agricultural and rural development with their larger development plans, which also include eradicating poverty, creating jobs, fostering national growth, revitalizing cities and preserving their natural resources and richness. In the Globalization era the global supply chain model must be connecting producers directly with exporters and importers or consumers of importing countries. This is possible digitalization of data and single window processing. Digital Economy, Ecommerce and fortune economy depend on export market information (Dastagiri MB, 2017).

## 2. Hunger region wise in the globe

Around 75% of the 805 million people who are believed to be suffering from chronic hunger reside in rural regions and are mostly reliant on agriculture for their food and means of subsistence. Here is a breakdown of where hunger still has the greatest impact, per region:

Figure 2: Population suffering from hunger region wise



Figure 2 illustrates that highest percentage of people in Asia and the Pacific region are suffering from Hunger while only 2% of people in developed countries are under this category. This indicates the level of hunger in rural areas.

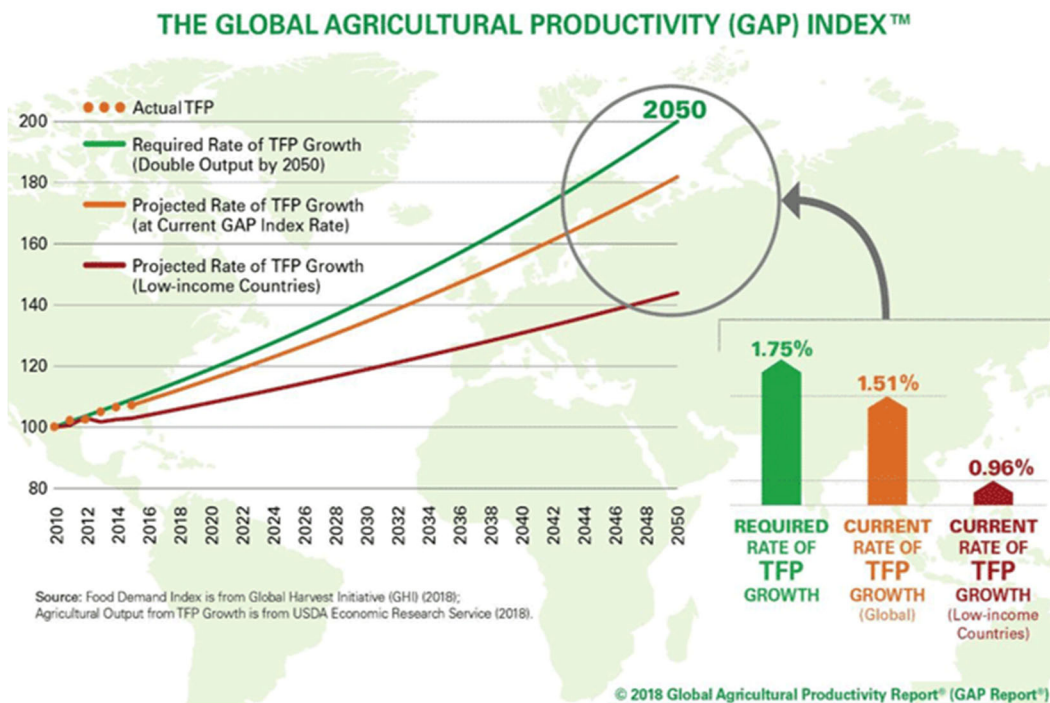
In order to combat hunger, it is important to increase wages and market stability as well as food production, so that people can acquire food even if a crisis prohibits them from producing enough of it on their own. By 2030, hunger might be eliminated. The United Nations' Food and Agriculture Organization has already estimated that there would be hundreds of millions fewer people suffering from hunger by 2030, but it also warns that sub-Saharan Africa as a region and rural women as a population may still be the most vulnerable.

## 3. Global food demand & supply gap

According to a recent analysis in 2018, there will be an increasing divergence between the projected pace of development in agricultural production and the future need for food globally. The Global Harvest Initiative's Global Agricultural Productivity (GAP) Index has highlighted the

fact that food production is not increasing quickly enough to sustainably feed the world in 2050. The analysis indicates a greater gap between future food supply and demand for the fifth consecutive year. The report issues a warning that if this trend does not reverse, the world might not be able to supply enough food, feed, fiber, and biofuels for a population that is expanding on a worldwide scale. Low-income nations have a greater productivity gap in food production since there is not nearly enough increase in this sector to meet projected demand. According to the GAP report, "Total Factor Productivity" is expanding at a slower rate in low-income nations than expected over the previous two years, at 0.96 percent yearly. This growth rate is far lower than what is required to double food productivity in low-income nations and end "hunger" by 2050, and both are sustainability goals. According to the GAP research, worldwide agricultural productivity must rise by 1.75 percent yearly to meet the demand of the estimated 10 billion people in 2050. Even while climate scientists warn that food production will drop in the future decades due to rising temperatures and more unpredictable weather patterns, particularly in tropical regions, such an increase is essential. The GAP report included ten different models that imply that climate change has an impact on both food production and food prices "Price increases for agricultural products in general, and crops in particular, will result from climate change. The effects of climate change must be taken into account to prevent a bias toward lower projections of supply." The United States was referred to be an "agricultural powerhouse" in the GAP report due to decades of increased productivity and enhanced efficiency. The average U.S. Total Factor Productivity did not increase as swiftly from 2006 to 2015 as it had in prior decades, according to the research. Not only the increases in agricultural yield are included in total factor productivity, but it also accounts for expenses to farmers to produce food, waste and loss in the supply chain, and costs to consumers. According to the Global Harvest Initiative, more work has to be done to boost global spending in research and development. in order to accomplish the required food-production expansion in the ensuing decades. To prevent farmers from enlarging cropland into more environmentally sensitive places where it might not be possible to increase food production, additional research and development is required. Without these improvements, farmers, especially in countries with a food shortage, may use more fragile land for agriculture in an effort to enhance yield, which will result in higher rates of hunger and poverty. (M.B.

**Figure 3: The Global Agricultural Productivity (GAP) Index**



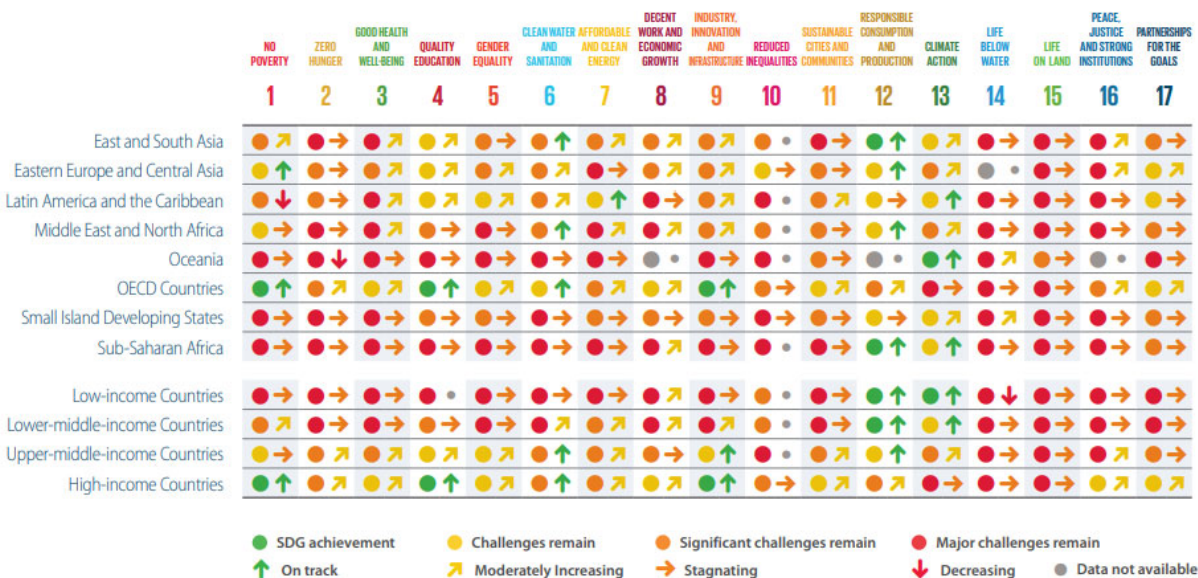
Dastagiri, L. Bhavnaga, 2019), According to the study's findings, just 11.6% of the total global land is suitable for cultivation. India has the largest percentage of arable land (57%) in the world, followed by Indonesia (25%) and Nigeria (44,7%). Less groundwater, or 1.76 percent, is accessible for farming. While wealthy nations use more water for industry, developing nations use more for agriculture. Zones that are temperate, subtropical, or tropical are good for horticulture. Deforestation and increased agricultural production have negative effects on the ecosystem. The most farmer's populated countries are China, Pakistan and India. According to predictions, increasing global food production by 70% would be necessary to feed the 9.1 billion people that will inhabit the planet by the year 2050.

#### 4. Sustainable Development Goals (SDGs) achievements - Targets and achievements region wise

##### Sustainable development goals:

The procedure to create a new set of SDGs, which will continue the momentum created by the MDGs and fit into a framework for global development beyond 2015, was sparked by the Rio+20 UN conference on Sustainable Development in Rio de Janeiro in June 2012. An international consultation was held both online and offline with the goal of developing a new development plan that puts people first. Various civil society organizations, citizens, academicians, scientists, and the people from private sectors all over the world actively participated in this process. National and thematic discussions as well as the One of the events was the United Nations Development Group's World Survey. In addition, specialist panels were held and provided a space for dialogue between governments. The UN Secretary General summarized the results of these consultative processes. A report containing 17 goals was proposed by the UN General Assembly Open Working Group (OWG) in July 2014, and the General Assembly approved it in September 2015. The 2015–2030 global development agenda and the new SDGs were established through this paper (<https://sdgs.un.org/goals>).

Figure 4: SDG dashboards by region and income group (levels and trends)- 2022



Note: Excluding OECD specific Indicators, Population – weighted averages.  
 Source: <https://s3.amazonaws.com/sustainabledevelopment.report/2022/2022-sustainable-development-report.pdf>

## *SDGs – Targets and achievements:*

The above Figure 4 indicates SDG's progress and its trend by region. In East and South Asia Goal 1,3,4,7,8,9,13,16 are moderately increasing. In this goal, 2,3,11,14,15,16 are major challenges remaining. In Eastern Europe and Central Asia 2,3,5,6,8,9,11,13 are the significant challenges remaining, of which 2 and 11 are stagnant while 3,5,6,8,9,13 are moderately increasing. In Latin America and The Caribbean region goal 7 and 13 are the remaining challenge and on track, while goal one is decreasing. Goal 2, 8, 12, 14-17 are stagnating. Middle East and North African region, 9 of 17 goals are stagnating; eight of 17 goals are major challenges remaining. Only goal 6 and 7 are on track. In Oceania, only goal 13 is achieved and is on track. Goal 1-7, 9-10, 14 and 17 are the major challenges remaining, of which goal 2 is decreasing, 1, 3-7, 9 and 17 are stagnating. OECD countries goal 1,4,6,9, are on track of which goal 1, 4, 9 are achieved. Small Island Developing states 1-12,15-17 are stagnating and only 13 and 14 goals are moderately increasing and no SDG was neither achieved nor on track. In Sub Saharan Africa goals 1-11, 14-16 were major challenges remaining of which 1-7, 9, 11, 14-16 goals were stagnating. SDG's progress and its trend by Income groups, most of the goals in low income countries are major challenges remaining and were stagnating. Only one goal (goal 8) is moderately increasing and goal 12, 13 are achieved and are on right track. High Income countries has goal 1, 4, 9 goals achieved and on track. While goal 2,3,5,7,8,11,12,16,17 are moderately increasing.

## **5. Role of multi-stake holders**

Intergovernmental and Governmental organizations under taken multi-stakeholder and others stakeholders initiatives were undertaken as Partnerships for sustainable development. These partnerships are voluntarily, that contributes efforts to implement development commitments and goals mentioned in the Rio+20 Conference on Sustainable Development's (UNCSD) outcome text of the Millennium Declaration in its Agenda 21, the Johannesburg Plan of Implementation titled as "The Future We Want" inter-governmentally. "Goal 17 of the Sustainable Development Goals (SDGs) places multi-stakeholder partnerships at the top of the list as crucial instruments for knowledge sharing, mobilizing financial resources, technologies and expertise as a support for achieving the aims for sustainable development in all nations, but especially in underdeveloped nations. Encouragement and promotion of Public Private Partnerships (PPP), Civil Society Partnerships, and efficient public use of their partnerships' tactics and expertise, also has been stated under Goal 17 (United Nations- Department of Economic and Social Affairs Sustainable Development).

The 2030 Agenda Partnership Accelerator was established in 2019 in conjunction with many partners to aid in accelerating and scaling up successful collaborations to promote the SDGs. The project offers research on successful partnership strategies and capacity building for key stakeholders to create and carry out partnerships that promote the SDGs. The Partnership Accelerator has a special emphasis on assisting developing nations in creating new partnerships to advance the SDGs by enhancing cooperation across national and international stakeholders and sectors.

Figure 5 illustrates the Factors that affect effective partnerships for the SDGs these includes environment supportive for collaboration and policies enabling these relationships at national level, Stakeholders partnership for collaboration and whole society approach to from trusted relations among and across stakeholders. These partnerships develop good practice standards also partner to work with UN to help in catalyzing systematical partnerships and actions towards establishing platforms for achievement of these SDGs.

**Figure 5: Factors effecting effective partnerships for the SDGs**



### 1. UN Food System Summit

The role of UN Food System Summit targets and significant achievements of SDG’s shown in table 2. UN Food Systems Summit held in 2021 not only do sustainable food systems contribute to the end of hunger. They can assist the world in making significant advancements toward all 17 Sustainable Development Goals were given as follows: The results show that agriculture is a mother of many cultures and has capability to achieve many basic needs of humans and social, economic and environmental development of the planet.

**Table 2. The role of UN Food System Summit’s targets and significant achievements of SDG’s.**

Goals	Targets	UN Food System strategies to Achieve SDG’s goals
Sustainable Development Goals		
Goal 1: No poverty	Between 119 and 124 million more people are expected to live in poverty in 2020 as a result of the COVID-19 pandemic, and it is anticipated that 600 million people will reach that point by 2030.	Post-pandemic period, UN sustainable food systems can aid in the battle against poverty by promoting education, generating high-quality employment opportunities, expanding access to food, and fostering wholesome communities.
Goal 2: Zero Hunger	In 2020, around 9.9% under nourishment increased Partly due to COVID-19 pandemic. And hungry people reaching between 720 and 811 million globally in 2020.	In 2020, the frequency of undernourishment rose to about 9.9%, in part because to the COVID-19 pandemic, and it is predicted that between 720 and 811 million people will be hungry worldwide.
Goal 3: Good Health and Well-being	45.4 million children under the age of five experienced wasting in 2020. The epidemic has lowered life expectancy, according to data that are currently available from a few nations. Globally, 3.7 million deaths from COVID-19 have been reported as of June 2021.	After the pandemic, sustainable food systems will promote a healthy diet, which benefits individuals of all ages.



Goals	Targets	UN Food System strategies to Achieve SDG's goals
<b>Sustainable Development Goals</b>		
Goal 4: Quality education	Due to pandemic a further 101 million kids and teenagers are thought to have fallen below the required reading level.	In order for pupils to succeed in school and recover from the pandemic's negative effects, effective educational systems and widespread information are required.
Goal 5: Gender equality	In the world, women own just 13% of the agricultural land. COVID-19 pandemic's social and economic effects have hampered the advancement of gender equality.	Compared to males, women are up to 11% more likely to experience food poverty and income inequality. Sustainable food systems may improve women's lives globally by empowering, assisting, and supporting them.
Goal 6: Clean water and Sanitation	In 2020, safely regulated drinking water lacked access to 2 billion people, of which 771 million lacked even basic water.	Sustainable food systems can guarantee the efficient use of this priceless resource, expand access to those without access to clean drinking water, and lessen pollution in our natural water systems.
Goal 7: Affordable and clean energy	Around the world, 759 million population do not have access to electricity.	The environmental effect of the food industry can be reduced, and people's access to clean, inexpensive energy can be increased, by investing in sustainable food systems that make the best use of clean, renewable energy sources.
Goal 8: Decent work and economic growth	In early 2000's Countries investments on agriculture notably has stayed flat in comparison to the proportion of agriculture in global GDP, and small-scale producers' productivity and incomes are generally lower than larger food producers.	Sustainable agricultural systems may boost the global economy by generating good jobs and sustaining the incomes of billions of people.
Goal 9: Industry, innovation and infrastructure	The pandemic had a significant impact on small-scale industries. Nearly one in three small industrial firms needed a loan or line of credit between 2006 and 2020, and they profited from having one. Worldwide, there is still unequal access to credit.	Sustainable food systems can benefit both people and the environment broadly by accelerating innovations and spending on infrastructure.
Goal 10: Reduced inequalities	The pandemic will probably undo any gains made in lowering economic disparity. A quarter of the world's population—25%—lives on less than the median income, and 1.6 billion people who labour in the informal sector face extinction. Products exported by least developed nations and developing nations that enjoy duty-free treatment will stay at 66 and 52 percent, respectively, from 2017 to 2020.	Sustainable food systems can decrease poverty while also provide respectable employment and a reasonable wage.
Goal 11: Sustainable cities and communities	Low-income households and those employed in the unofficial sector have been disproportionately affected by the outbreak. More than 800 million people live in slum regions in urban centers, where there are disparities in access to essential amenities. The urban poor are especially susceptible to economic downturns or increases in food prices.	Sustainable food systems make sure that urban residents worldwide have improved purchasing power and hence are properly fed.
Goal 12: Responsible consumption and production	83 nations and the European Union reported a total of 700 policies, initiatives and implementations by the year 2020 as a part of the 10-Year Framework of Programmes on Sustainable Consumption and Production. However, just 50 policy and implementation initiatives in sub-Saharan Africa were documented.	Sustainable food systems decrease waste and food deterioration while enabling consumers to make informed food purchasing decisions.

Goals	Targets	UN Food System strategies to Achieve SDG's goals
<b>Sustainable Development Goals</b>		
Goal 13: Climate action	With a brief decrease during the epidemic, emissions had entirely recovered by December 2020 and were 2% higher than the same month in 2019. 2020 saw a rise in greenhouse gas concentrations, with worldwide averaged CO2 mole fractions topping 410 parts per million.	By reducing emissions of crucial climatic and global warming gases like methane and carbon dioxide, sustainable food systems might lessen this effect.
Goal 14: Life below water	Over 3 billion people depend on the ocean for their lives, and more than 80% of global traffic in goods is conducted by sea. An estimated 5 to 12 million metric tonnes of plastic enter the ocean annually, with cleanup expenses totaling about \$13 billion. and financial losses in fisheries.	In addition to preserving the wellbeing of the ecosystems that support fisheries, sustainable food systems can guarantee the long-term viability of global fisheries.
Goal 15: Life on land	In 2020, 31.2 percent of the world's land surface will be covered by forests, down from 31.9 percent in 2000. A net loss of about 100 million hectares results from this.	Sustainable agriculture can stop the destruction of forests, promote the health of terrestrial ecosystems, and feed the world's population.
Goal 16: Peace, justice and strong institutions	By the end of 2020, 82.4 million people - or approximately 1% of the world's population - had been forcefully relocated due to persecution, hostilities, or other forms of violence, and the COVID-19 epidemic has revealed and exacerbated injustice and discrimination.	Sustainable food systems can lessen major stressors experienced by families, communities, and countries all over the world, laying the foundation for long-lasting peace and robust institutions.
Goal 17: Partnerships for the goals	The average global weighted tariff rate stayed constant from 2017 and 2019 at roughly 2%, and wealthier nations have granted developing and least developed countries' exports preferential treatment.	The biggest tariff imposed by rich countries in 2019 was 7.9 percent on agriculture, a topic of great concern for developing nations. Communities all throughout the world can gain real benefits from sustainable food systems.

Global Models Transformation in Agriculture by Dastagiri M.B. (2017) conclude that Continent wise policies such as Asia, Africa, Australia, Canada, Europe, Latin America, Mexico, North America-US, World Government Polices. The results conclude that:

- a) The fundamental shift in conventional European agricultural models from supply-driven to demand-driven, market-oriented approaches.
- b) The North American Model switches to a countercyclical programs that supports income and market-driven agriculture.
- c) The Australian model includes targeted payments, farm household allowance programs, and market-oriented agriculture (low import taxes).
- d) The Green Revolution model has been updated for Latin America, and it now includes genetically modified (GM) crops that are managed by multinational businesses.
- e) In Africa, the importance of help from donors drives the agricultural sector. (World Bank, Gate Foundation, USAID).
- f) The concept for the Green Revolution in Asian States that has been effective emphasizes technology and seed more than anything else.
- g) The Bill & Melinda Gates Foundation updated its agricultural policy, placing a particular emphasis on the development of agriculture in South Asia and Sub-Saharan Africa.
- h) According to the global vision, future policies should prioritize agriculture as part of a worldwide agenda and global initiatives.

## **2. Role of Global Multi-Lateral institutions- CGIARS, UN, WB, IMF, WTO:**

- a) **CGIARS:** In 2020, Consortium of International Agricultural Research Centers (CGIARS) contributions were reported to the System Level Outcomes (SLOs). 66 percent of the SLO contributions for 2020 were related to reducing poverty (SLO1), 18 percent to enhancing food and nutrition security (SLO2), and 15 percent to enhancing ecosystem services and natural resources (SLO3). The 13 Sustainable Development Goals of the United Nations were also reflected in CGIAR's SLO contributions (SDGs). It is noteworthy that all contributions—100% (92)—were related to SDG17 (partnerships for the objectives), 87 percent (80) to SDG2 (zero hunger), 79 percent (73) to SDG1 (no poverty), and 70% (64) to SDG12 (responsible consumption and production). (Annual Performance Report 2020. CGIAR.)
- b) **United Nations:**
- At the Rio de Janeiro Earth Summit in June 1992, more than 178 nations ratified Agenda 21, to create a worldwide partnership for sustainable development to enhance human well-being and safeguard the environment.
  - Member States unanimously ratified the Millennium Declaration in September 2000 at UN Headquarters in New York. Eight MDGs were developed to end extreme poverty by 2015.
  - The Johannesburg Declaration on Sustainable Development and the Plan of Implementation, which were adopted at the World Summit on Sustainable Development in South Africa in 2002., It also built upon Agenda 21 and the Millennium Declaration by placing more emphasis on multilateral partnerships.
  - Member States adopted the outcome document "The Future We Want" at the United Nations Conference on Sustainable Development (Rio+20) in Rio de Janeiro, Brazil, in June 2012. In it, they decided, among other things, to start the process of creating a set of SDGs to build upon the MDGs and to create the UN High-Level Political Forum on Sustainable Development.
  - To create a proposal for the SDGs, the General Assembly established a 30-member Open Working Group in 2013.
  - The General Assembly started negotiating the post-2015 development agenda in January 2015. At the UN Sustainable Development Summit in September 2015, the process culminated with the approval of the 2030 Agenda for Sustainable Development, which has 17 SDGs at its heart.
  - 2015 marked a turning point for multilateralism and the development of global policy with the passage of several significant agreements: These includes Disaster Risk Reduction Sendai Framework (March 2015), Addis Ababa Action Agenda on Development Financing (July 2015), Changing the world: In September 2015, the UN Sustainable Development Summit in New York established the 2030 Agenda for Sustainable Development, which has 17 SDGs, Paris Climate Change Agreement (December 2015) and The High-Level Political Forum on Sustainable Development, held annually, is now the main UN forum for monitoring and evaluating the SDGs.
- c) **World Bank:** These objectives will guide the UN system and the UN and World Bank Group's cooperation through 2030. The SDGs are in line with the dual goals of the World Bank Group, which are to end extreme poverty and promote shared prosperity. The WBG is working with client nations to implement the 2030 Agenda in three key areas: Assisting country-led and country-owned policies to accomplish the SDGs through (i) financing, (ii) data, and (iii) execution. Over the past few years, the World Bank Group has made a number of commitments connected to the 2030 Development Agenda, including, but not limited to, the MDBs' agreement in 2015 to spend a combined \$400 billion on development from 2016 to 2018. Steps to promote domestic resource mobilization, the Bank Group's pledge to conduct household budget surveys in 78 of the world's poorest nations at its annual meetings in Lima,

and the Bank Group's participation in climate finance negotiations under the Paris Agreement. (The World Bank)

- d) *IMF*: Within the parameters of its mandate, the IMF is dedicated to the international partnership for sustainable development. To better assist its member nations in pursuing the SDGs, the IMF has announced a variety of initiatives. In particular, the IMF (Fact sheet, IMF):
- It has increased financial support for low-income developing nations, including:
    - (i) In 2015, the access requirements and ceilings for all IMF concessional lending were increased by 50%, and they were raised by another third in 2019.
    - (ii) A permanent 0% interest rate on IMF loans made through the Rapid Credit Facility
    - (iii) Increasing the access restrictions for nations affected by significant natural catastrophes under the emergency finance instruments.
    - (iv) Adding all other IMF concessional loans to the list of those with a 0% interest rate.
  - Through its numerous lending facilities, debt relief programmes, and cooperation with bilateral and multilateral development partners, the IMF has provided financial assistance to several low-income developing countries that are suffering economically as a result of the COVID-19 outbreak. In instance, the IMF's Executive Board quickly approved emergency financing for about half of the organization's members.
  - The IMF is working with developing countries to identify the additional spending required to fulfil the SDGs in five key sectors (education, health, water and sanitation, roads, electricity).
  - The IMF aids in a better understanding of the necessity for structural change, diversity, and the necessary policies to support change in order to sustain prosperity in developing countries. Important policies include those that promote financial stability, efficiently construct infrastructure, and boost agricultural output.
  - Fighting against income and gender inequality and advancing economic and financial inclusion through fostering job growth, enhancing the fiscal system's capacity to distribute income wisely, and enhancing access to financial services while preserving financial stability.
  - Improving nations' ability to withstand climate-related disasters and fostering environmental sustainability through adjustments to the cost of energy and carbon.
  - *WTO*: The idea of a "global partnership" is codified in the WTO mission. Although the International Monetary Fund (IMF) and the World Bank are specifically recommended for cooperation, the World Trade Organization (WTO) has expanded its mandate over time to include cooperation with the UN system, OECD, and other international partners. Even if the extent of such cooperation can change, coordination aids in the creation of a cogent plan for addressing complicated global issues and can help to advance MDG 8. The WTO and the Doha Round of trade talks are everything. The UN Millennium Declaration sets out goals for countries to attain, including reducing extreme poverty by the year 2015. ([https://www.wto.org/english/thewto\\_e/coher\\_e/mdg\\_e/global\\_partnership\\_e.htm](https://www.wto.org/english/thewto_e/coher_e/mdg_e/global_partnership_e.htm))

The UN ES Council and the WTO work closely together to track progress toward the Sustainable Development Goals, which are a key component of the UN's Agenda 2030. Every year, the WTO provides the UN's HLPF with a report on its efforts to meet the SDGs' trade-specific targets. The HLPF, which enables all UN members and specialized agencies to gather annually to assess progress toward realizing the SDGs, is the UN's primary mechanism for assessing the 2030 Agenda. The WTO underlines the role that trade plays in enhancing people's quality of life and accomplishing the five SDGs that are being reviewed in its report to the HLPF in 2022.

- The report highlights the crucial role that cooperation and communication between international organizations and key stakeholders play in achieving SDGs 4 and 5. It focuses in particular on how this cooperation has backed domestic measures intended to promote online education and the participation of women in trade.

- Regarding SDGs 14 and 15, WTO regulations allow for the inclusion of environmental concerns, such as actions to safeguard life in the oceans and on land, in trade policy considerations. The report highlights that there are currently negotiations taking place at the WTO to reduce harmful fisheries subsidies, as well as three new environmental initiatives such as TESSD, IDP, FFSR.
- In order to achieve SDG 17, The WTO interacts with other organizations on initiatives like Aid for Trade, the Standards and Trade Development Facility (STDF), the Trade Facilitation Agreement Facility (TFAF), the Enhanced Integrated Framework (EIF), and the SDG Trade Monitor, according to the HLPF report. ([https://www.wto.org/english/thewto\\_e/coher\\_e/sdgs\\_e/wtoachsdgs\\_e.htm](https://www.wto.org/english/thewto_e/coher_e/sdgs_e/wtoachsdgs_e.htm))

e) Think-tank Institutes: The adoption and establishment of policies, plans, and programmes by national governments is necessary for the SDGs' achievement. On a global as well as local level, the political reality of each country will affect the attainment of the SDG targets. Political choices have the potential to have a considerable impact on think tanks and academic institutions that fight to eliminate inequities, create healthy living and working environments, and ensure universal health care on a national and international scale. In order to foster increased communication working as a knowledge broker between sectors and stakeholders involves communicating with the general public, decision-makers, and the larger community. In addition to reviewing and evaluating progress toward the goals. Think tanks and academic institutions are focused on the production and dissemination of knowledge relevant to policy, frequently promoting public discussion and enhancing the transparency of the policy-making process (Ilona Kickbusch, Johanna Hanefeld, 2017). Both domestically and internationally, academic institutions and think tanks play a crucial convening function. They can connect those most impacted by global policies with those who implement policies at the national level and at the global level. A special attention to the SDGs' developing areas will be required if think tanks and academic institutions had to play their part in accelerating progress toward meeting the targets of the achieving the Sustainable Development Goals.

### 3. Strategies and Policies:

The role, strategies and Policies of Global Multilateral institutions in achieving MDGs and SDGs are shown in Table 3. The critical analytical results show that, among various world powers, controlling various sectors of economy either directly or indirectly. The above mentioned are few evolved powers for achieving overall global and planet development through MDGs and SDGs. United Nations being the supreme power formulating SDGs and MDGs and establishing rules and guideline to achieve these goals within the stipulated time. CGIARS have played a crucial role in achieving few of the MDGs and they developed System Level Outcomes (SLOs) in three level to achieve SDGs. CGIAR strategies and policies strives for global and regional impact. United Nations developed MDGs to be achieved by 2015 and continued with SDGs achievable by 2030. United Nation set out a framework to tackle the world's most pressing social, economic, and environmental challenges in the lead-up to 2030. World Bank Group (WBG) collaborated with the UNDG, and other organizations, as well as between donors and developing countries to uplift poor and under developed countries by reducing poverty and providing those with good medicinal and educational facilities. The World Bank Group Funds these Sustainable Development Goals. Strategies and policies of World Bank is to reduce, improve and connect.

IMF is the key to promote economy growth and supports the collaborated members by mandating sustainability and financial stability towards economic growth. IMF's strategies and policies include regulation of finances among various major financial hubs. These strategies and policies adequately arranged, widely agreed upon, and actively carried out. WTO mainly concentrates on MDG 8 and SDGs that are trade specific and promotes exports by making trade duty free and at preferential tariffs between under developed and developing countries. WTO strategies and policies mainly concentrate on implementing and delivering trade development for overall sustainable and economic development, hence, WTO notifies governments should be open

and upfront about the rules and regulations they enact for promoting international trade. Most Important connecting bridges for the previously mentioned multi stakeholders are the think tank institutes; they adopt and establish strategies and policies at the very core and basic level i.e., National Level. Both domestically and internationally, academic institutions and think tanks play a crucial role in formulating and dissemination of this knowledge about Various SDGs, their implementation process, stages of implementation and adoption.

**Table 3:** The role, strategies and Policies of Global Multilateral institutions contributing major areas and to agriculture in achieving MDGs and SDGs.

#	Role in achieving MDG's	Role in achieving SDG's	Strategies	Policies
1. CGIARS	<p>CGIAR is an international research alliance for future food security. The CGIAR is committed to developing natural resources and ecosystem services, promoting food and nutrition security, and reducing poverty.</p> <ul style="list-style-type: none"> <li>✓ Improved agriculture and natural resource management.</li> <li>✓ halving hunger and poverty (MDG1)</li> <li>✓ Gender equality promotion (MDG-3)</li> <li>✓ Child mortality reduction (MDG-4)</li> <li>✓ Maternal health improvement (MDG-5)</li> <li>✓ Greater environmental sustainability (MDG-7)</li> <li>✓ overcoming land degradation (MDG-7a)</li> <li>✓ Improving access to water (MDG-7c)</li> </ul>	<p>Reduced poverty, enhanced food and nutrition security for health, and enhanced natural resources and ecosystem services are the three System-level Outcomes (SLOs) of the CGIAR. — Complements several UN Sustainable Development Goals.</p>	<p>In order to achieve the SDG's and construct resilient and sustainable food, land, and water systems, the CGIAR organizes its activities around three Action Areas.</p> <ul style="list-style-type: none"> <li>✓ Systems Transformation</li> <li>✓ Agri-food Systems resilience</li> <li>✓ Genetic Innovation</li> </ul>	<p>Policies of CGIARS are connected to 13 UN SDGs.</p> <ul style="list-style-type: none"> <li>✓ 53 percent (68) were associated with SDG17 (partnerships for the goals)</li> <li>✓ 61% or 48 percent to SDG13 (climate action)42% (54) to SDG2 (zero hunger).</li> </ul>
2. UNO	<p>The United Nations encouraged unprecedented efforts to help the world's poorest people. The UN collaborates with nations, civil society organizations, and other partners to carry out an ambitious development agenda even after 2015.</p>	<p>The SDG's, commonly referred to as the Global Goals, were adopted by the UN in 2015 as a global call to action to eradicate poverty, protect the environment, and ensure that no one behind and everyone lives in peace and prosperity by the year 2030.</p> <p>FAO, WFP, and IFAD contribute a lot to global agriculture to achieve SDGs.</p> <p>FAO acts as custodian of almost 10 percent of the 232 components of the SDG indicator framework endorsed in 2017 by the UN General Assembly, which range from food security to</p>	<p>UN plans The guideline for mainstreaming the SDGs into national planning frameworks, in the form of national development plans or sustainable and millennium development strategies, is necessary due to the interconnectedness and integration of the SDGs.</p> <p>New FAO tool lists concrete steps ways to speed up implementation of the Sustainable Development Agenda To help policy makers and other development actors accelerate progress towards global promises to end poverty and hunger, FAO has released a set of 20 inter-connected</p>	<p>In the years leading up to 2030, the SDGs addressing the most urgent social, economic, and environmental issues facing the globe. The private sector, which serves as a source of funding, a generator of economic growth and employment, a catalyst for innovation, and an advocate for human rights, is essential to the accomplishment of these goals.</p> <p>Food and agriculture, which serve as the primary link between people and planet, can assist in achieving a number of the Sustainable Development Goals (SDGs)</p>

#	Role in achieving MDG's	Role in achieving SDG's	Strategies	Policies
		sustainable production, and from clean water to life below water and life on land.	actions designed to show the impact sustainable agriculture can have on tackling the world's greatest challenges.	
3. World Bank	The MDG's, which were established in 2000 by the World Bank Group (WBG), UNDG, and other organizations, as well as between donors and developing nations, explain how to reduce poverty while enhancing health, education, and the environment.	<p>The World Bank Group Partnership Fund for the SDG's was created in response to the rising need for tactical actions to help SDG 17 become a reality. The Fund is closely collaborating with client countries to achieve SDG's through knowledge-sharing, capacity building, data, finance, and partnerships, in line with the WBG's twin goals of eradicating extreme poverty and boosting shared prosperity.</p> <p>The World Bank Group (WBG) is currently scaling up climate-smart agriculture. In its first <a href="#">Climate Change Action Plan</a> (2016-2020), as well as the forthcoming update covering 2021-2025, the World Bank committed to working with countries to deliver climate-smart agriculture that achieves the triple win of increased productivity, enhanced resilience, and reduced emissions. In 2020, 52 percent of World Bank financing in agriculture also targeted climate adaptation and mitigation. contribute to progress on the Sustainable Development Goals (SDGs) for climate action, poverty, and the eradication of hunger</p>	<p>World Bank's Partnership Strategy</p> <ul style="list-style-type: none"> <li>✓ Debt alleviation will lessen the burden of external debt on low-income countries.</li> <li>✓ Increasing access to international markets for goods and services through grants and advisory services</li> <li>✓ By putting money into IT and communications infrastructure, you can connect people and markets.</li> </ul>	World Bank's The Energy Sector Management Assistance Program (ESMAP) carries out research on the SDG7 baseline indicators. It updates its annual report, Tracking SDG7: Progress Toward Sustainable Energy, with data on national advancements toward the 2030 sustainable energy goals. The SDG7 targets are addressed in Regulatory Indicators for Sustainable Energy, which gives a country-level overview of sector policies and regulations.
4. IMF	The Millennium Development Goals (MDGs) are an international initiative to enhance the social and economic	The IMF supports its members in implementing the SDGs in areas related to its mandate of	The IMF has started many steps to improve assistance to its member nations as they work toward the	At the international level, the IMF ensures the global coherence of national

#	Role in achieving MDG's	Role in achieving SDG's	Strategies	Policies
	<p>conditions in low-income nations. Building capacity is essential for fostering greater economic growth, which is necessary to advance toward the MDGs.</p>	<p>financial stability and sustainable and inclusive economic growth since it is committed to the SDGs.</p> <p>Financial support for low-income developing countries, including: (i) a 50 percent increase in access norms and limits for all IMF concessional financing in 2015 and a further increase of one-third in 2019; (ii) zero percent interest on a permanent basis for IMF lending under the Rapid Credit Facility</p> <p>The IMF has also extended debt service relief through the Catastrophe Containment and Relief Trust (CCRT) to its poorest and most vulnerable member countries on their IMF obligations.</p>	<p>SDGs. A new Staff Discussion Note (SDN) on A Post-Pandemic Assessment of the Sustainable Development Goals describes one recent initiative in 2019. The SDN is based on a cutting-edge instrument to evaluate development-financing plans and is a collaborative project of the IMF Fiscal Affairs and African Departments (FAD and AFR).</p>	<p>macroeconomic policies. Additionally, it makes sure that financial regulations are correctly set up, generally coordinated, and forcefully applied across key financial centers. Important policies include those to assist financial depth, build infrastructure and increase agricultural productivity.</p>
5.WTO	<p>The WTO's primary priority is MDG 8, which calls for the creation of an international partnership for development. More specifically, under WTO goals 8.6 and 8.7, which deal with duty-free and preferential tariffs. WTO encourages improved market access for exports from least developed and developing countries..</p>	<p>The UN Economic and Social Department Affairs and the WTO work closely together to track progress toward SDG's, which are a key component of the UN's Agenda 2030 for SDGs. Every year, the WTO provides to the UN's High-Level Political Forum (HLPF) with a report on its efforts to meet the SDGs' trade-specific targets.</p> <p>SDG2: Zero Hunger Eliminating subsidies that cause distortions in agriculture markets will lead to fairer more competitive markets helping both farmers and consumers while contributing to food security. The WTO's 2015 decision on export competition eliminated export subsidies in agriculture, thereby delivering on Target 2.B of this goal.</p>	<p>The WTO Strategies are playing a significant role in achieving the SDGs and Millennium Development Goals by delivering and implementing trade reforms. These are pro-growth and pro-development and by continuing to build stable, predictable, and equitable trading relations worldwide.</p>	<p>Intellectual property, products, and services are all covered by WTO accords. They outline the liberalization's guiding principles as well as its acceptable exceptions. They include each nation's pledge to establish and maintain open services markets as well as cut customs tariffs and other trade obstacles. They establish protocols for resolving conflicts. They recommend special care for developing nations. Governments are required to make their trade policies transparent through regular reports to the WTO secretariat on nations' trade policies as well as by alerting the WTO about laws that are in effect and</p>



#	Role in achieving MDG's	Role in achieving SDG's	Strategies	Policies
				measures that have been implemented.
6. Think Tank Institutes.	The MDGs and SDGs can only be achieved via the adoption and implementation of policies, plans, and programmes by national governments. Political decisions have a tremendous impact on think tanks and academic institutions that try to eliminate inequities, provide healthy living and working environments, and ensure universal health care on a national and international scale. Think tanks and academic institutions," it is generally acknowledged that these are primarily concerned with producing and disseminating knowledge relevant to policy, frequently encouraging public discourse and improving the transparency of the policy-making process. Academic institutions and think tanks provide a critical convening role on a national and worldwide level. They can establish connections between people who implement policies at the national and international levels and those who are most affected by global policies. The sharing of experiences about diverse institutional, technical, and policy alternatives is greatly facilitated by think tanks and academic institutions on a global scale. If think tanks and academic institutions are to contribute to quickening progress toward reaching the SDG's, a special focus on the SDGs' developing regions will be necessary.			
7. Private NGO's,	In order to transform the SDGs from global commitments into particular national action, non-governmental organisations (NGOs) are essential players.  The following four roles that NGOs can play to advance SDG implementation at the national level: <ul style="list-style-type: none"> <li>· Actively working towards the government</li> <li>· educating a large audience about the SDGs</li> <li>· carrying out projects</li> <li>· Responsibility for the private sector</li> </ul>			

#### IV. Conclusions

The UN General Assembly Open Working Group (OWG) recommended a paper with 17 goals in July 2014, and it was accepted by the General Assembly in September 2015. The study analyzes the primary role of global agriculture wide spread benefits of UNO Sustainable Development Goals to people and the planet in region, continent wise and the role of Role of UN Food System Summit, CGIARS, UN, WB, IMF, WTO, NARES, Multi-Stake Holders, Think-tank Institutes critically analyzed. The results show that Food and agriculture, which serve as the primary link between people and planet, can assist in achieving a number of the Sustainable Development Goals (SDGs). When individuals are properly fed, they can study, live healthy, productive lives, and contribute to their communities. Future generations will be able to feed a growing population by taking care of our land and implementing sustainable agriculture. According to SDG 2, the goal of food production is to "end hunger, achieve food security and enhanced nutrition and promote sustainable agriculture,". However, without a robust and sustainable agriculture sector, other SDGs cannot be achieved. The world's largest employment provided sector is agriculture, which includes crops, cattle, aquaculture, fisheries, and forests. Agriculture in many countries, is also a major economic sector and the primary source of food and money for the very poor. Sustainable food and agriculture have the ability to transform rural areas, promote equitable growth and advance the 2030 Agenda for Sustainable Development. This vision has been transformed into a strategy that may assist and expedite the shift to more sustainable food and agricultural systems through the work of FAO to promote sustainability in production systems. The methodology is based on five guiding principles that balance the social, economic, and environmental facets of sustainability and serve as a framework for the creation of customized strategies, plans, laws, and incentives. All the five principles play a key role in SDG 1,2,9 and 14 which are major SDGs relating to agriculture, aquaculture and food security and innovation.

Global hunger shows that the highest percentage of people in Asia and the Pacific region are suffering from hunger while only 2% of people in developed countries are under this category. This indicates the level of hunger in rural areas. The Global Harvest Initiative's Global Agricultural Productivity (GAP) Index shows the fact that food production is not increasing quickly enough to sustainably feed the world in 2050. Low-income nations have a greater productivity gap in food production since there is not nearly enough increase in this sector to meet projected demand. According to the GAP report, "Total Factor Productivity" is expanding at a slower rate in low-

income nations than expected over the previous two years, at 0.96 percent yearly. This growth rate is far lower than what is required to double food productivity in low-income nations and end "hunger" by 2050, and both are sustainability goals. According to the GAP research, worldwide agricultural productivity must rise by 1.75 percent yearly to meet the demand of the estimated 10 billion people in 2050. The results of UN Food Systems Summit analysis show that not only do sustainable food systems contribute to the end of hunger. They can assist the world in making significant advancements toward all 17 Sustainable Development Goals.

Food and agriculture, which serve as the primary link between people and planet, can assist in achieving a number of the Sustainable Development Goals (SDGs). FAO acts as custodian of almost 10 percent of the 232 components of the SDG indicator framework endorsed in 2017 by the UN General Assembly, which range from food security to sustainable production, and from clean water to life below water and life on land. FAO, WFP, and IFAD contribute a lot to global agriculture to achieve SDGs. CGIAR is an international research alliance for future food security. The CGIAR is committed to developing natural resources and ecosystem services, promoting food and nutrition security, and reducing poverty. The World Bank Group (WBG) is currently scaling up climate-smart agriculture. In its first Climate Change Action Plan (2016-2020), as well as the forthcoming update covering 2021-2025, the World Bank committed to working with countries to deliver climate-smart agriculture that achieves the triple win of increased productivity, enhanced resilience, and reduced emissions. In 2020, 52 percent of World Bank financing in agriculture also targeted climate adaptation and mitigation. World Bank contributes to progress on the Sustainable Development Goals (SDGs) for climate action, poverty, and the eradication of hunger. IMF: financial support for low-income developing countries, including: a 50 percent increase in access norms and limits for all IMF concessional financing in 2015 and a further increase of one-third in 2019; zero percent interest on a permanent basis for IMF lending under the Rapid Credit Facility. The IMF has also extended debt service relief through the Catastrophe Containment and Relief Trust (CCRT) to its poorest and most vulnerable member countries on their IMF obligations. WTO contribution to SDG2: Zero Hunger. Eliminating subsidies that cause distortions in agriculture markets will lead to fairer more competitive markets helping both farmers and consumers while contributing to food security. In 2017 and 2020, UN in ocean conference has given 1400 commitments towards SDG goal 14, which is to Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.

The SDG's evaluation of progress by region concludes, In East and South Asia Goal 1,3,4,7,8,9,13,16 are moderately increasing. 2,3,11,14,15,16 goals are major challenges remaining. In Eastern Europe and Central Asia 2,3,5,6,8,9,11,13 are the significant challenges remaining, of which 2. In Latin America and The Caribbean region goal 7 and 13 are the remaining challenge and on track, while goal one is decreasing. Goal 2, 8, 12, 14-17 are stagnating. Middle East and North African region, 9 of 17 goals are stagnating; eight of 17 goals are major challenges remaining. Only goal 6 and 7 are on track. In Oceania, only goal 13 is achieved and is on track. Goal 1-7, 9-10, 14 and 17 are the major challenges remaining. OECD countries goal 1,4,6,9, are on track of which goal 1, 4, 9 are achieved. Small Island Developing states 1-12,15-17 are stagnating and only 13 and 14 goals are moderately increasing and no SDG was neither achieved nor on track. In Sub Saharan Africa goals 1-11, 14-16 were major challenges remaining of which 1-7, 9, 11, 14-16 goals were stagnating. SDG's evaluation progress by Income groups, most of the goals in low income countries are major challenges remaining and were stagnating. Only one goal (goal 8) is moderately increasing and goal 12, 13 are achieved and are on right track. High Income countries has goal 1, 4, 9 goals achieved and on track. While goal 2,3,5,7,8,11,12,16,17 are moderately increasing.

Multi-stakeholder initiatives were undertaken by intergovernmental and Governmental organizations, "The Future We Want" inter-governmentally. The critical analytical results on roles, strategies and Policies of Global Multilateral institutions in achieving MDGs, SDGs, shows that, among various world powers, controlling various sectors of economy either directly or indirectly. They play important role for achieving overall global and planet development through MDGs and SDGs. United Nations being the supreme power in formulating SDGs and MDGs and establishing rules and guideline to achieve these goals within the stipulated time. CGIARS have played a crucial; role in achieving few of the MDGs and they developed System Level Outcomes (SLOs) in

three level to achieve SDGs. United Nation set out a framework to tackle the world's most pressing social, economic, and environmental challenges in the lead-up to 2030. World Bank Group (WBG) collaborated with the United Nations Development Group (UNDG), and other organizations, as well as between donors and developing countries to uplift poor and under developed countries by reducing poverty and providing those with good medicinal and educational facilities. IMF is the key to promote economy growth and supports the collaborated members by mandating sustainability and financial stability towards economic growth. World Trade Organization mainly concentrates on MDG 8 and SDGs that are trade specific and promotes exports by making trade duty free and at preferential tariffs between under developed and developing countries. Think-tank Institutes helps in the adoption and establishment of policies, plans, and programmes by national governments is necessary for the SDGs' achievement.

## **Strategies and Policies:**

Think tanks and academic institutions should be centers of excellence in policy research. The scientific community is under more pressure from the SDGs than from the MDGs since addressing systemic problems and their determinants necessitates research that considers a variety of social, economic, and environmental issues. The relationships, tradeoffs, and policy procedures that enable effective SDG implementation are not well understood. The establishment of an enabling policy environment and the requirement for sectoral ministries to modify how they operate and coordinate policies across government are important precepts for delivering sustainable food and agriculture. New measures must be created, integrated monitoring must be improved, and evaluation mechanisms must be strengthened through research. CGIAR researchers must make sure that there is constant communication with decision-makers at all levels and that their findings are widely available. SDGs are, in some ways, a continuation of the MDGs, they have the problem of being too numerous and cumbersome to implement and monitor, in contrast to the MDGs, which have proven simple to relate to, comprehend, convey, implement, and monitor. From the global to the local level, accountability needs to be improved. Unprecedented mobilization of resources and initiatives to improve the quality of life for "we the people," especially the poor and marginalized groups, is anticipated to occur over the next 15 years. Food security efforts to decide how best to assist rural and agricultural development. In order to focus interventions to populations, alter the food system, end hunger, and leave no one behind, data disaggregation will be crucial. Beyond just producing more food with less resources, feeding the estimated 10 billion people who will inhabit the Earth in 2050 requires balancing the quality emphasis and diversity, connecting production to sustainability, and meeting human needs.

New FAO tool lists concrete steps ways to speed up implementation of the Sustainable Development Agenda. To help policy makers and other development actors accelerate progress towards global promises to end poverty and hunger, FAO has released a set of 20 inter-connected actions designed to show the impact sustainable agriculture can have on tackling the world's greatest challenges.

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# Global Politics of Technology: A Review of the Current Status and A Research Agenda

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## Abstract

With decades of globalization, companies and countries have been primarily focused on the social, labor, and economic implications of technology. Technology, to some extent, is neutral, and it does not matter who owns the technology. This is because, in a world that is rules-based and market-oriented, global trading norms are enforced by multilateral states and countries. As a result, each participating country could depend on market forces to access global supply chains and meet its technological needs.

Yet, this technological sovereignty has been increasingly challenged in recent years as technological powers turn interdependencies into vulnerabilities.<sup>2</sup> More specifically, as the technological competition between China and the US becomes increasingly fierce, geopolitically speaking, technology is not neutral.<sup>3</sup> In telecommunications, Chinese companies such as Huawei have been excluded from these strategic markets in Europe, Canada, and Australia as the US exerts pressure on its global allies. In semiconductors, from lithography systems to high-end silicon, China's supply chain is choking as the US has imposed intensive export controls worldwide. And now, in Artificial Intelligence (AI), China is running for unipolar leadership in supply chains and standards (to compete with the US).

Given the above practical considerations, the interactions and dynamics between global politics and emerging technologies remain primarily understudied in the academic field, especially in Information Systems (IS). To highlight this issue and help further our knowledge on this important topic of global politics of technology, in this short paper, we seek to reveal its current status in the IS field and provide specific opportunities for future research. In short, we define global politics of technology as the conduct and practice of achieving and using technological power among regions, countries, and/or groups.

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<sup>3</sup> Ansgar Baums (2019), Technology, Politics, and the Rise of China, Holbrooke Forum Publications.

# Does Religiosity Have a Dark Side? Evidence from Board Gender Diversity

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## Abstract

This research aims to investigate whether local religious norms influence corporate attitudes toward board gender diversity. The data are collected from American Religion Data Archive (ARDA) website and BoardEx. The analysis used in this paper is Ordinary Least Square (OLS) regression model. We find that firms headquartered in religious areas are negatively associated with corporate board gender diversity initiatives, proxied by the change in total number of female directors, share of directors that are newly hired females, and percentage of female directors on board. However, we find that two exogenous shocks, the Vatican Leaks scandal and the Big Three board gender diversity campaign, attenuate the negative association between religiosity and diversity. This study unveils circumstances where religiosity restrains firms from exercising their socially responsible activities and provides new insight into the emerging literature on the influence of local culture on corporate behaviors. The lack of existing literature on factors that contribute to corporate board gender diversity presents opportunities for further study.

**Keywords:** Board gender diversity, religiosity, exogenous shocks

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# From Rhetoric to Action: Understanding Employee's Conviction that Impacts Lean Adoption

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## Abstract

Lean operation practices demonstrate great utility to improve production efficiency; however, successful adoption of lean techniques is far from universal. Acknowledging unsuccessful implementation efforts, management commitment to adopting new procedures impacts success; therefore, investigating individual employee's beliefs, convictions, about lean methods is imperative.

Lean production implementation success is theoretically complex, thus, is challenging to directly measure. In an effort to unpack the intricacies of successful implementation, a set of propositions is presented to investigate the views of employees who are responsible for deploying lean practices. Survey data collection is intended in the People's Republic of China and select Latin American nations. The survey is a well-established instrument that previous research collected solely in the United States; our extension is planned to include developing nations engaged in lean manufacturing. Due to the success of employee's committed application of lean practices, a contribution can result to improve the industrial base productivity of developing nations. Also, by identifying issues related to employee commitment, directed investment in firm's human capital will promote enhanced productivity.

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# The Influence of Country-Level Social Capital on a Firm's Cash Conversion Cycle

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## Abstract

This paper examines, first in literature, the influence of country-level social capital on the cash conversion cycle worldwide. Consistent with the moral hazard theory, social safety networks and strong relationships among societal members make up the social capital of a region; we find a positive relationship between social capital and the cash conversion cycle. We studied the data for 167 countries between 2007-2021. The results remain robust after controlling for the firm, year, and country fixed effects to address endogeneity problems, dropping large economies like China, and using the instrumental variable approach.

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# Dove's Marketing Strategy: How to Successfully Challenge Beauty Standards and the Perception of the Ideal Self

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## Abstract

The following study is an analysis on Dove's Marketing Strategy. Over the course of time, shifts in beauty standards have particularly affected women. The propagation of "impossible" beauty standards in consumer culture such as "All-American Girl," "VS Angel," and inclination towards Eurocentric features left consumers searching for a breath of fresh air (Syaharani, 2021). Dove's positioning as a brand that is committed to change that narrative is exactly what consumers longed for. Through extensive research and some of the best marketing and public relations experts, Dove has achieved success: A positive customer perception of the brand and a trusting customer base. Thereby, this study discusses vital points that contributed to the effectiveness of Dove's marketing strategies in the saturated personal care industry. Additionally, a case study by Google concerning one of Dove's successful campaigns will support these vital points. Dove's success is largely attributed to the brand's assessment of the actual self and the ideal self, as well as the application of social marketing to appeal to audiences. Not only did Dove was effective in terms of shifting the notions of the ideal self among women, but also in transferring influence amongst brands to address an emerging social problem that advertisement largely contributed to. Such Factors led to enhanced customer attitudes and improved perceptions about the brand and a shift in the unattainable concept of the ideal self, perpetuated for decades by companies through mass media.

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# Asset Redeployability and Corporate Risk-Taking

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## Abstract

We examine the relationship between redeployable assets and corporate risk-taking and find a significant positive effect. Our finding suggests that a one standard deviation increase in redeployable assets leads to a 0.02% increase in risk-taking. Additional evidence implies that the redeployability-risk-taking association is dependent on the nature of constraints faced by the firm. Unlike debt-constrained firms, we find that financial, equity and private placement-constrained firms take more risk when redeployable assets increase. Additionally, firms stronger in innovative and quality culture take more risk when redeployable assets increase but firms with integrity and teamwork culture take less risk. These findings are robust to alternative measures and estimation techniques.

**Keywords:** Asset redployability; Corporate risk-taking; Corporate culture; Financial constraints

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# Opportunity or Challenge? Impact of Product Market Threats on a Firm's Bankruptcy Risk

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## Abstract

Extant literature reveals that a firm's decision-making is deeply impacted by product market threats from competitors. Every decision made by a firm impacts its bankruptcy risk. However, the literature overlooks product market threats' impact on a firm's bankruptcy risk. This study fills this research gap by showing product market threats' heterogeneous effect on a firm's bankruptcy risk; that is, product market threats (a) increase bankruptcy risk in weak firms but (b) reduce it in competitive firms. The main results indicate that product market threats can be both a challenge and an opportunity for a firm. Moreover, the results document that managerial ability could eliminate the negative effects of competitive pressure. The empirical results further reveal that a weak firm's investment and employment growth is more negatively impacted by product market threats, compared to one that is strong, and that overall, strong firms benefit in the competition, but weak firms lose out. Utilizing the above findings, the management in firms facing product market threats from rivals can actually turn these threats around and convert them into opportunities that will not only stop such firms from going bankrupt but also turn them into financially stronger firms.

**Keywords:** Product market threats; Bankruptcy risk; Investment; Managerial ability

## I. Introduction

A firm's corporate strategy and decision-making is deeply influenced by product market competition (Alimov, 2014). For example, product market threats from competitors affect a firm's cash holding policy (Hoberg et al., 2014), reduce its market share (Billett et al., 2017), and may also cause the firm to decrease its investment in research and development (R & D), to maintain financial flexibility (He and Wintoki, 2016). Moreover, product market threats may impact a firm in terms of debt as well as equity financing (Boubaker et al., 2018; Li and Zhan, 2019; Morellec and Zhdanov, 2019; Platt, 2020; Seo, 2021; Valta, 2012). According to a study conducted previously, an increase in competition increases a firm's business risk (Wang and Chui, 2015); therefore, if the firm faces increased competition from the product market, it indicates that its rival is actively increasing the competition level—in an attempt to prey on the firm's business. This implies that product market threats may impact a firm's bankruptcy risk since product market threats increase business risk with regard to its operations and limit the firm's financial policy choices.

No prior study has explored the relationship between product market threats and a firm's default risks. Therefore, this study investigated how increased competition from rivals impacts the focal firm's bankruptcy risk, and found that product market threats' impact is determined by the firm's own competitive conditions. In the case of a weak firm, market threats from rivals

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increase a firm's bankruptcy risk. On the contrary, if a firm is competitively strong, it will benefit from its rival's predatory intentions.

The sample comprised U.S. public firms from 2000–2019. The empirical results support the hypothesis that product market threats' impact varies among different firms. These results illustrate that product market threats' impact presents both challenges and opportunities, depending on a firm's conditions. Market threats increase bankruptcy risk if a firm is in a weak financial position and decrease the risk if it is financially healthy. Additional tests not only indicate that managerial ability (MA) is critical for a financially weak firm—since it could help eliminate product market threats' negative impact on the firm's bankruptcy risk—but also that firms respond differently to product market threats in different areas, such as employment, R&D, and investments. In sum, product market threats' negative impact is stronger in weak firms, compared to the impact in strong firms. Moreover, the empirical results reveal the existence of a non-linear relationship between product market threats and a firm's performance.

This study contributes to the existing literature in three ways. First, it is the first study investigating the impact of market threats raised by rivals on a firm's bankruptcy risk. Second, this study reveals product market threats' heterogenous effect; that is, product market competition is an opportunity if a firm is strong, but a challenge if it is weak. Third, this study shows how product market threats impact a firm's employment, investment, and performance, thereby affecting its bankruptcy risk. Notably, product market threats reduce employment growth if the firm is weak but exhibit no impact on a strong firm. When the product market threat is high, a weak firm reduces its R&D expenditures to maintain financial flexibility, but product market threats exhibit no such impact on a strong firm's innovation activities. Moreover, both strong and weak firms reduce the quantum of new investments when the product market threat is high; however, compared to a strong firm, a weak firm reduces it to a greater extent.

## **II. Literature review and hypothesis development**

Bankruptcy risk is mainly derived from a firm's operating and financing activities. Previous studies have found that product market threats impact a firm's operating (market share, innovation, and employment) and financing activities (debt and equity financing).

In this study, product fluidity—a text-based measurement developed by Hoberg et al. (2014)—was used to measure product market threats. Fluidity is calculated by a change in the rival firm's product description in the 10-K in response to the firm's 10-K report. A higher product market fluidity suggests that the rival's product is highly similar to that offered by the firm. In other words, the firm faces a higher threat level from the rival firm since the rival's product is homogeneous to that of the firm.

Therefore, product market fluidity decreases the firm's financial stability and increases its default risk. Thus, the literature has demonstrated that product market threats impact the firm's operating as well as financing activities.

### ***Product market threats' impact on a firm's operating activities***

Prior literature has revealed that product market threats impact a firm's market share, labor investment, and R&D activities (Billett et al., 2017; Boubaker et al., 2022; Hoberg et al., 2014). Market share is the outcome of operations; labor employed impacts a firm's production and management; and innovation is also an important component of the firm's operating activities. All these findings indicate that product market threats impact a firm's operating abilities.

Indubitably, if the similarity between the rival and firm's product increases, the customer will have more options and, therefore, rely less on the product offered by the focal firm. Consequently, the firm's market share will reduce as the firm's product market fluidity increases. Billett et al. (2017) found that a firm with more "fluid" products will lose more market share due to the product market shock.

Competition pressure increases managers' focus on short-term performance, to maintain their reputation. Particularly in a highly competitive industry, reputation is extremely important for a firm to obtain access to external financing. According to signal theory, the manager may hire an excessive number of employees unnecessarily, to show or signal an external investor that the business is booming, especially in highly competitive industries. However, hiring an excessive number of employees adversely impacts labor investment efficiency. Boubaker et al. (2022) found that a firm with higher competition pressure (higher product market threats) exhibits lower labor investment efficiency. This decrease in labor efficiency not only increases the human capital cost but also reduces its quality. Human capital is a key factor in a firm's operating activities. Hence, competition pressure from rival firms negatively impacts a firm's operating ability through low labor investment efficiency.

Hoberg et al. (2014) found that firms with higher product market threats exhibit higher financial flexibility to protect themselves from threats raised by rival firms. Consequently, firms may reduce their R&D expenditure to maintain financial flexibility. Boubaker et al. (2022) demonstrated that an increase in product market threats is associated with a short-term decrease in R&D activities. Thus, the firm loses R&D opportunities, which detrimentally affects its long-term performance.

In sum, product market threats reduce a firm's market share, labor investment efficiency, and R&D investments. All these negative effects precipitate challenges in a firm's operations, thereby reducing the income from operating activities, which further increases the bankruptcy risk.

### ***Product market threats' impact on a firm's financing activities***

As discussed earlier, product market threats impact a firm's operating activities. The firm's income is predominantly derived from either its operational or financial activities. Therefore, the following question arises: How does product market threat impact the focal firm's financial activities? Existing literature (Boone et al., 2016; Boubaker et al., 2018; Li and Zhan, 2019; Morellec and Zhdanov, 2019) has shown that product market threats impact debt and equity financing, as well as a firm's cash holding policy.

Hoberg et al. (2014); Chi and Su (2016); He and Wintoki (2016) found that product market threats force firms to hold more cash to maintain financial flexibility. Holding more cash aids the focal firm against the uncertainty caused by the increasing competition in the product market. Due to high competition pressure, the focal firm holds more cash in hand to maintain liquidity, which can be helpful in seizing future investment opportunities. However, despite increasing a firm's financial flexibility, holding more cash restricts the firm's flexibility in choosing its cash policy (because the firm has to maintain a high cash level).

Further, product market threats impact a firm's equity financing. It is well-known that information asymmetry is critical to a firm's external financing activities. The product market threat increases the firm cash flow uncertainties, erodes its growth opportunities, and raises the volatility in the information environment. All these challenges increase information asymmetry and reduce the accuracy of analysts' forecasts (Mattei and Platikanova, 2017). Additionally, competitive pressure may lead to strategic financial reporting, and consequently, reduce the financial statement comparability (Imhof et al., 2022). All these factors increase information asymmetry, which further impacts the firm's debt and equity financing.

For debt financing, a firm either borrows from financial institutions or issues the debt in the bond market. As a financial institution, a bank has greater information and specialization than other loan providers. Hence, bank monitoring is stricter than other debt sources. When the uncertainty in the product market is high because of product market threats, the manager will try avoiding the pressure of monitoring. Since bank debt is associated with stricter monitoring, the firm is less likely to rely on bank debt (Boubaker et al., 2018). Moreover, the rising uncertainty in cash flow due to increasing product market threats increases the cost of the firm's corporate bonds (Platt, 2020). Hence, product market threats limit a firm's debt choice and increase the cost of its corporate bonds.

Debt and equity financing are the main external financing sources. The literature has revealed that product market threats reduce a firm's reliance on debt financing due to its high monitoring pressure and cost. Thereafter, the next question is as follows: How does the product market threat impact a firm's equity financing? As the equity cost for a high predation risk firm is low (Sassi et al., 2019), the firm exhibit greater reliance on equity financing. However, due to the problem of information asymmetry, to access the equity market, a firm with higher product fluidity will need to disclose greater information. This indicates that a firm facing high risk in the product market finds it more difficult to obtain access to the equity market. Boone et al. (2016) found that an IPO firm with higher product fluidity is more likely to redact information from SEC registration filings. Moreover, a firm with a higher predation risk faces a higher peer effect, which induces the firm's disclosure (Seo, 2021).

A firm with a higher product market threat not only faces high information disclosure pressure to access the equity market, but may also be associated with higher stock crash risk. The product market threat forces the manager to withhold bad news. However, the negative information accumulates upto a tipping point, where all of it is revealed at the same time, thus leading to an abrupt and huge decline in stock prices. Hence, a firm with higher product market threats is associated with higher stock crash risk (Li and Zhan, 2019). Product market threats not only impact the firm's stock but also its option. Morellec and Zhdanov (2019) found that product market fluidity causes an inverse relationship between the return on equity and volatility.

In sum, the lower equity cost of a higher predation risk firm (Sassi et al., 2019) increase its reliance on equity financing. However, owing to information asymmetry, the disclosure pressure on the high product fluidity firm increases. Moreover, higher stock crash risk and inversed risk-return relationship escalates the equity financing difficulty.

In conclusion, product market threats impact a firm's financing activities. The threat from rivals limit the firm's flexibility in choosing its cash holding policy. The predation risk reduces its reliance on bank debt and increases the corporate bonds' cost. A firm with higher product market threats benefits from lower equity cost, but finds it more difficult to access the equity market. Higher disclosure pressure, higher stock crash risk, and the inverse risk-return relationship increases firms' difficulty in accessing equity financing. Xu (2020) found that the economic policy uncertainty index (EPU) increases a firm's capital cost; particularly, product market fluidity enhances the capital relationship's EPU cost.

The literature has revealed that product market threats not only impact a firm's operating activities but also its financing activities. The increasing product fluidity erodes the firm's market share, its labor investment efficiency, and its R&D opportunities. On the one hand, these raise the firm's going concern risk on the side of operating activities; on the other hand, the predation risk also increases the firm's cost of corporate bonds, disclosure pressure, stock crash risk, and equity financing difficulty. Moreover, product fluidity limits the firm's cash holding policy and debt choices. The operating and financing activities are the foundation of a firm's going concern. Since product market threats negatively impact both operating and financing activities, it raise the firm's default risk.

Most studies have reported that product market threats' impact is uniform across firms and is more likely negative. Based on the homogenous effect assumption, the hypothesis states the following:

H1: Product market threats increase bankruptcy risk homogeneously in all firms.

### ***Product market threats' heterogeneous impacts***

Product market threats measure the actions taken by the competitor. If a competitor mimics a firm's product, the focal firm's predation risk increases, as the product market threats are high. However, the threats' impact is determined by the focal firm's condition. For example, if the focal firm is strong and exhibits a competitive advantage (since the firm survived the competition previously and learned from experience), product market threats will be less likely to hurt the firm's performance or financial condition; in fact, if it has a competitive advantage, it may even

gain from the competition. However, if the focal firm is competitively weak, challenges from the rival would threaten the firm’s financial position and performance. Hence, the impact of product market threats from rivals may vary depending on the firm’s competitive condition.

The literature has further revealed that product market threats’ impact on the firm is not invariably negative. This impact depends on the firm’s own competitive condition. Dasgupta et al. (2018) found that under competitive pressure, a CEO in a weak governance firm is more likely to be forced out, while a CEO in a strong governance firm enjoys a higher incentive pay. Singla and Singh (2019) found that external market competition implements board monitoring in weak firms, but weakens it in strong firms. Moreover, Januszewski et al. (2002) found that market competition’s impact varies in different ownership types. The productivity growth is high if the firm has a strong owner, but not when the parent owner is a financial institution (Januszewski et al., 2002).

These arguments suggest that whether the product market threat is an opportunity or challenge depends on the focal firm’s competitive condition; notably, the competitive shock effect (Platt, 2020; Valta, 2012) exists. When rivals begin imitating a firm’s product, especially that of a financially distressed firm, product market threats increase the default risk. However, previous studies have shown that predation is a risk not only to the firm being preyed upon but also to the predator firm (Shroff, 2016). This finding indicates that product market threats are both opportunities and challenges for the focal firm. When rivals raise the competition, high product market threats increase the focal firm’s predation risk, and the competition is raised to prey on the focal firm’s business. For the predator firm, predation is costly and risky, as it has to adjust its product to compete with that of the focal firm. This requires the rival firm’s customers to switch from the original to the new product offering. Moreover, the switching cost may cause the rival firm to lose market share. Hence, threats raised by rivals are a risk to themselves. If the firm being preyed upon is financially constrained, the predation is more likely to succeed. However, if the prey firm has survived in the high competition industry previously, they would have learnt from it, would already have adopted an efficient strategy, and would have fostered a competitive advantage. Consequently, the prey firm is more likely to benefit from product market competition. This competitive shock effect suggests a non-linear relationship between default risk and product market threats—with a financially weak firm more likely being squeezed out of the business. However, if the firm has a strong financial position and has previously survived the competition, the firm is more likely to benefit from the rival’s threats since they already exhibit a competitive advantage. Thus, the following hypothesis is proposed:

H2: Product market threats (a) increase bankruptcy risk in financially weak firms, but (b) reduce it in financially strong firms.

### III. Data and methodology

The sample period spans from 2000–2019 and covers all U.S. listed firms. Data on firm characteristics were obtained from Compustat North America Fundamentals Annual files, and product market threat information from the Hoberg-Phillips data library. All financial (SIC code from 6000-6999) and utility firms (SIC code from 4900-4999) were excluded. The final sample includes 8,168 unique firms with 65,420 firm-year observations. Tables 1.1–1.3 present the sample selection, year, and industry distribution, respectively.

**Table 1.1: Sample selection**

	Resource	#obs
	Compustat	204,135
Less	Product market fluidity missing	111,093
Less	Firm characteristics missing	22,739
Less	Finance and utility firms	4,883
	Final sample	65,420



**Table 1.2: Year distribution**

Data Fiscal	Year	Freq.	Percent %	Cum. %
2000		4837	7.39	7.39
2001		4407	6.74	14.13
2002		4038	6.17	20.30
2003		3728	5.70	26.00
2004		3649	5.58	31.58
2005		3552	5.43	37.01
2006		3461	5.29	42.30
2007		3402	5.20	47.50
2008		3223	4.93	52.43
2009		3069	4.69	57.12
2010		2945	4.50	61.62
2011		2833	4.33	65.95
2012		2731	4.17	70.12
2013		2760	4.22	74.34
2014		2871	4.39	78.73
2015		2846	4.35	83.08
2016		2756	4.21	87.29
2017		2749	4.20	91.50
2018		2776	4.24	95.74
2019		2787	4.26	100.00
Total		65420	100.00	

**Table 1.3: Fama-French 5 industry distribution**

Fama-French industry code (5 industries)	Freq.	Percent %	Cum. %
Consumer Durables, NonDurables, Wholesale, Retail, and Some Services (Laundries, Repair Shops)	13071	19.98	19.98
Manufacturing, Energy, and Utilities	12952	19.80	39.78
Business Equipment, Telephone and Television Transmission	18873	28.85	68.63
Healthcare, Medical Equipment, and Drugs	11979	18.31	86.94
Others -- Mines, Construction, Building Material, Trans, Hotels, Bus Serv, Entertainment, Finance	8545	13.06	100.00
Total	65420	100.00	

The primary focus was investigating product market threats' impact on the firm's bankruptcy risk, as represented by Model 1:

$$\text{Model 1: } Zscore = \alpha + \beta_1 \text{PMT changes} + \beta_{2-5} \text{Controls} + FE + \varepsilon$$

The dependent variable, the firm's bankruptcy risk, was measured using the Altman's Z-score. This measurement is widely used as a proxy for bankruptcy (default) risk (Cho et al., 2021; Gopalakrishnan and Mohapatra, 2020; Kabir et al., 2021). The Altman's Z-score comprises five elements: working capital/total assets, retained earnings/total assets, earnings before interest and tax (EBIT)/total assets, market value equity/total liabilities, and sales/total assets.

The main testing variable—product market threats—was measured by product market fluidity, which is a text-based measurement developed by Hoberg et al. (2014). Hoberg et al. (2014) identified the words used in the focal firm's business description in the 10-K and the change in the words used by the competitor companies. The threat rises if the rival firm's business description tends to be increasingly similar to the focal firm (higher product fluidity). That is, if the words used in the rival firm's description overlaps with the focal firm's, it indicates that the latter is threatened by the former. The product fluidity should be distinguished from the market concentration-based competition measurement-HHI. Product market fluidity captures the similarity in business descriptions, and is raised by the competitor, since it captures the changes

in the rival's business description. However, the HHI captures the market concentration, which is not related to the competitors' behavior. Hence, this research should be distinguished from the study that uses the market concentration based HHI.

Since existing literature has documented the competitive shock effect (Platt, 2020; Valta, 2012), a larger shock indicates that the change in product market threats is high. Hence, the main model utilizes the change rate—rather than the level—of product market threats. A higher change in product market threats indicates that the threat from the rival is higher, since the rival's business becomes more similar to the focal firm's business. Further, the product market threats' level was employed in the robustness tests, as well as in the additional tests.

Table 1.4 presents the summary statistics of the key variables of the full sample. The statistics based on the full sample is comparable with the existing literature. Table 1.5 presents the correlations among the key proxies.

**Table 1.4: Summary statistics**

	N	Mean	Std. Dev.	p25	Median	p75
Z-score	65420	3.737	8.876	1.307	3.013	5.36
PMT	65420	6.872	3.595	4.181	6.126	8.86
Total assets (at)	65420	2585.748	7354.732	72.175	316.428	1470.903
Total liabilities/ Total assets (leverage)	65420	.503	.309	.279	.472	.657
Earnings/Total assets (ROA)	65420	-.111	.387	-.116	.019	.067
Book to market	65420	.676	.363	.404	.637	.885
Operating cash flow	65420	-.01	.277	-.023	.067	.124

Notes: The Z-score is calculated following Altman's model,  $z\text{-score} = 1.2 * (\text{wcap}/\text{at}) + 1.4 * (\text{re}/\text{at}) + 3.3 * (\text{ebit}/\text{at}) + 0.6 * (\text{csho} * \text{prcc}_f/\text{lt}) + (\text{sale}/\text{at})$  (where wcap is the working capital, at is the total assets, re is the retained earnings, ebit is the earnings before interest and tax, csho is the number of the common share outstanding, prcc\_f is the stock price at the end of the fiscal year, and lt is the total liabilities). PMT is the product market fluidity from the Hoberg-Phillips data library. Leverage is the total liabilities divided by the total assets. ROA is the return on assets, which is calculated by dividing the income before the extraordinary items scaled by the total assets. Bm is the book to market ratio, calculated by dividing the total assets by the sum of the total liabilities and market value ( $\text{lt} + \text{prcc}_f * \text{csho}$ ). Operating cash flow is the operating cash flow scaled by the total assets.

**Table 1.5: Correlation matrix**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) z-score	1.000						
(2) PMT	-0.017	1.000					
(3) Leverage	-0.501	-0.052	1.000				
(4) ROA	0.435	-0.312	-0.206	1.000			
(5) Book to market	-0.230	-0.171	-0.066	0.086	1.000		
(6) Inta	0.111	-0.113	0.167	0.458	0.007	1.000	
(7) Operating cash flow	0.387	-0.329	-0.101	0.844	0.104	0.475	1.000

Notes: The Z-score is calculated following Altman's model,  $z\text{-score} = 1.2 * (\text{wcap}/\text{at}) + 1.4 * (\text{re}/\text{at}) + 3.3 * (\text{ebit}/\text{at}) + 0.6 * (\text{csho} * \text{prcc}_f/\text{lt}) + (\text{sale}/\text{at})$  (where wcap is the working capital, at is the total assets, re is the retained earnings, ebit is the earnings before interest and tax, csho is the number of the common share outstanding, prcc\_f is the stock price at the end of the fiscal year, and lt is the total liabilities). PMT is the product market fluidity from the Hoberg-Phillips data library. Leverage is the total liabilities divided by the total assets. ROA is the return on assets, which is calculated by dividing the income before the extraordinary items, scaled by the total assets. Book to market is the book to market ratio, which is calculated by dividing the total assets by the sum of the total liabilities and market value ( $\text{lt} + \text{prcc}_f * \text{csho}$ ). Operating cash flow is the operating cash flow scaled by the total assets.

## IV. Empirical results

### *Main analysis: Product market threats' heterogenous effect on the firm's bankruptcy risk*

This section presents the empirical results of product market threats' heterogenous effect on the firm's default risk. Model 1 was tested in the full sample as well as in the strong, non-strong, and weak firm sub-samples. According to the heterogenous effect hypothesis, it was expected that the product market threat's coefficients would differ in different sample settings. A firm was defined as strong, if its previous three years' product market threats and current net income were higher than the industry median; otherwise, it was categorized as a non-strong firm; that is, if the firm has survived drastic competition in the past three years and still can earn a higher income than the industry level, it indicates that the firm has learned from past competition and can now benefit from current competition.

A firm having low managerial abilities and weak financial conditions (z-score below 1.8)—and facing sharp threats precipitating predation risk from the rival—was classified as weak. Hence, a firm exhibiting product market threat changes above 20%, low managerial ability, and a Z-score lower than 1.8 was defined as weak. Product market threats greater than 20% indicated that the firm was significantly challenged by the rival. A firm with a managerial ability score lower than the industry median was considered to exhibit low managerial ability. The managerial ability score was developed by Demerjian et al. (2012); the relevant data is available in Peter Demerjian data library. Theoretically, 1.8 is the critical value for z-score. If the z-score is lower than 1.8, the firm is considered as advancing toward bankruptcy. Table 1.6 presents the summary statistics of different groups.

**Table 1.6:** Summary statistics of subsample

	Strong firm			Non strong firm			Weak firm		
	N	Mean	Std.	N	Mean	Std.	N	Mean	Std.
Z-score	9431	5.7785	8.8797	55989	3.3929	8.8292	3819	-1.5909	5.8121
PMT	9431	8.3951	3.3851	55989	6.6157	3.5652	3819	8.2229	3.8037
Total asset (at)	9431	4929.483	10508.156	55989	2190.9608	6597.3038	3819	2213.1499	6280.722
Total liabilities/ Total asset (leverage)	9431	.4711	.275	55989	.5086	.3137	3819	.7036	.339
Earnings/ Total asset (ROA)	9431	.0274	.2539	55989	-.1339	.4004	3819	-.3174	.5273
Book to market	9431	.5704	.2905	55989	.6935	.3707	3819	.8694	.3946
Operating cash flow	9431	.0711	.2215	55989	-.0231	.2832	3819	-.1115	.3261

Table 1.7 presents the cross-section regression results of *Model 1*: In the full sample, the change in product market threats is significant and positively associated with the z-score. The coefficient is 0.314 and significant at the 1% level. In the strong firm group, product market threats change is significantly positively associated with the z-score. The coefficient is 0.412 and significant at the 5% level. In the non-strong firm group, the change in the product market threats, is significantly positively associated with the z-score. The coefficient is 0.259 and significant at the 1% level. When comparing the coefficients of the strong and non-strong groups, the magnitude drops from strong to non-strong firms (i.e., from 0.412 to 0.259). The positive coefficient of product market threat changes and the z-score indicates that threats from rivals improve the firm's financial conditions, since a higher z-score implies healthier financial conditions and lower bankruptcy risk. The difference in coefficients in the different sub-samples indicates that a strong firm benefits more from the market competition compared to a non-strong

firm. In particular, in the weak firm sample, the change in the product market threat is significantly negatively associated with the z-score. The coefficient is -0.811 and significant at the 5% level. The empirical results reveal that product market threats increase the bankruptcy risk (reduce the z-score) if the firm is weak.

The product market threats' inconsistent coefficients among different sub-samples indicate that product market threats exhibit different impacts on the firm's bankruptcy risk. The product market threat is an opportunity for the firm if it is strong, since the results show that the product market threats improve the z-score. However, the threat is a challenge if the firm is weak, since the results show that the competition raised by the rival reduces the focal firm's z-score. This inconsistency in the coefficients supports the hypothesis that the product market threat is an opportunity or challenge depending on the firm's competitive conditions.

**Table 1.7: Product market threats and Z-score sub-sample regression comparison**

VARIABLES	DV: Zscore			
	(1) Full	(2) Strong firm	(3) Non-strong firm	(4) Weak firm
PMT changes	0.3138*** (0.0648)	0.4117** (0.2012)	0.2590*** (0.0695)	-0.8113** (0.4020)
ROA	2.2221*** (0.2490)	9.4968*** (1.5524)	2.1800*** (0.2574)	2.1251*** (0.6793)
Operating cash flow	7.7622*** (0.4000)	3.8155** (1.7020)	7.6422*** (0.4053)	7.5541*** (1.2785)
Leverage	-12.4885*** (0.3286)	-13.0590*** (0.8828)	-12.4178*** (0.3408)	-3.9660*** (0.8067)
Inta	1.6562*** (0.1351)	0.0856 (0.2478)	1.8122*** (0.1478)	3.0068*** (0.4187)
Book to market	-7.3008*** (0.2108)	-8.6580*** (0.5291)	-7.1065*** (0.2225)	-1.9987*** (0.7140)
Constant	7.6056*** (0.7334)	16.0865*** (1.6478)	6.8258*** (0.7869)	-11.1854*** (2.5826)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	56,877	8,236	48,641	2,165
R-squared	0.440	0.415	0.446	0.565
Number of firms	7,155	2,217	6,933	1,496

Notes: Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Strong-firm: If the firm's product fluidity (product market threats) has been higher than the industry median in the past three years, and the current net income is higher than the industry median net income, it is defined as a strong firm, otherwise it is a non-strong firm. Weak-firm: If the firm's product fluidity (product-market threats) has increased over 20%, the firm's management suffers from low managerial ability and the z-score is lower than 1.8, it is defined as a weak firm. High Low managerial ability: If the firm's MA score is higher than the industry-year median, it identifies as part of a high-ability group. If the firm's MA score is less than the industry-year median, it identifies as part of a low-ability group.

Table 1.8 shows the impact of managerial ability. As mentioned earlier, a weak firm's definition entails that the firm's must satisfy three conditions: an increase of over 20% in product market threats, low managerial ability, and unhealthy financial conditions (z-score lower than 1.8). By contrast, the generated sample included firms facing over 20% increase in product market threats and unhealthy financial conditions (z-score lower than 1.8), but the managerial ability was higher than the industry median. This allowed the investigation of managerial ability's importance in determining a firm's strength.

Table 1.8 presents the empirical evidence of managerial ability's importance. In the high managerial ability sub-sample, the coefficient is insignificant; however, in the low group, it is negative and significant. These results indicate that managerial ability becomes critical in a firm with weak financial conditions, especially when it is under high competition pressure. High

managerial ability could help eliminate product market threats' negative impact on a firm's default risk. This indicates that the management team's ability is an important component of a firm's competitive advantage.

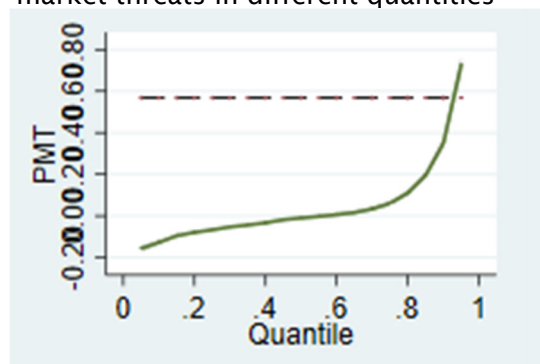
**Table 1.8:** Product market threats and z-score sub-sample regression comparison (managerial ability's impact)

VARIABLES	DV: Zscore	
	(1) High MA	(2) Low MA
PMT changes	1.1043 (1.0620)	-0.8113** (0.4020)
Constant	-19.1814*** (3.5085)	-11.1854*** (2.5826)
Controls	Yes	Yes
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	1,211	2,165
R-squared	0.603	0.565
Number of firms	970	1,496

Notes: Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. The firm's product fluidity (product-market threats) increases over 20% and with z-score lower than 1.8. High/Low managerial ability: If the firm's MA score is higher than the industry-year median, it identifies as part of a high-ability group. However, if the firm's MA score is less than the industry-year median, it identifies as part of a low-ability group.

For the robustness check, the same model was applied; however, quantile regression was used, and the PMT change was replaced with the PMT level. Table 1.9 shows that the coefficient of product market threats switches from negatively significant in the lower quantile to positively significant in the higher one. Figure 1.1 shows the product market threats' coefficients in different quantiles. The continuous line describes the coefficients in the quantile regression and dotted line describes the OLS regression's coefficient. The figure reveals that the relationship between product market threats and the bankruptcy risk is non-linear. The results indicate that product market threats increase the bankruptcy risk (reduce the z-score) at a lower quantile z-score (the firm with weak financial conditions) and reduce it (increase the z-score) at a higher quantile z-score (the firm with relatively stronger financial conditions). The quantile regression results are consistent with the sub-sample tests, and further support the hypothesis that product market threats increase bankruptcy risk in a weak firm but reduce it in a strong firm.

**Figure 1.1** Coefficients of product market threats in different quantities



**Table 1.9** Quantile regression results

VARIABLES	DV: Z-score			
	(1) 25%	(2) 50%	(3) 75%	(4) 85%
PMT	-0.0691*** (0.0040)	-0.0160** (0.0073)	0.0566*** (0.0136)	0.1935*** (0.0190)
ROA	6.8884*** (0.4376)	6.9272*** (0.3667)	3.7443*** (0.3634)	2.9415*** (0.5301)
Operating cash flow	7.0454*** (1.0036)	4.2380*** (0.7018)	4.5803*** (0.9298)	3.6493*** (1.0055)
Leverage	-8.0516*** (0.1537)	-8.7225*** (0.2322)	-9.0338*** (0.2152)	-9.6081*** (0.9783)
Inta	0.0557*** (0.0068)	-0.0801*** (0.0174)	-0.2539*** (0.0286)	-0.4737*** (0.0344)
Book to market	-2.9976*** (0.0446)	-3.6820*** (0.0497)	-4.9524*** (0.0838)	-6.1654*** (0.1897)
Constant	8.9990*** (0.0738)	11.9358*** (0.1157)	15.6543*** (0.2643)	19.0808*** (0.7318)
Year FE	Yes	Yes	Yes	Yes
Observations	65,420	65,420	65,420	65,420
R-squared	0.538	0.537	0.538	0.538

Notes: Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Dependent: Z-score.

## Endogeneity test

### Two-stage least squares (2 SLS)

To address the endogeneity concern, the tariff and industry average product market threats were used as instruments to run the 2-SLS regression. Following previous studies (Boubaker et al., 2022; Li and Zhan, 2019; Mattei and Platikanova, 2017), tariff reduction was used as an exogenous instrument. A decline in import tariffs—an important fraction of trade costs (Anderson and van Wincoop, 2004)—lowers trade barriers and intensifies foreign competition (Tybout, 2001). Tariffs reduction increases the competition in the product market from foreign competitors. Hence, tariff reduction is an exogenous shock to a domestic firm's competition strategy. The industry level tariff data is obtained from Schott's International Economics Resource Page. Mattei and Platikanova (2017) defined large tariff reduction events as industry-year observations, wherein the decrease in tariff rates exceeds three times the industry mean tariff reduction and excludes the reductions followed by large increases, which exhibit a reduction less than 1%. Moreover, industry average product market threats were used as an additional instrument because the firm's competitive pressure tends to be high if a firm is in a more competitive industry.

Table 1.10 presents the results of 2-SLS. The results in column 2 reveal that product market threats improve the firm's financial condition if it is strong; those in column 6 reveal that the product market threats increase the firm's bankruptcy risk, if it is weak. These results are consistent with those presented in Table 1.7.

**Table 1.10: 2SLS**

	DV: Z-score					
	Strong firm		Non strong firm		Weak firm	
	(1)	(2)	(3)	(4)	(5)	(6)
	First stage	Second stage	First stage	Second stage	First stage	Second stage
PMT changes		1.043*		0.564**		-3.525**
		(0.543)		(0.240)		(1.424)
Tariff reduction	-0.003		-0.007*		-0.036	
	(0.007)		(0.004)		(0.023)	
Industry PMT changes	0.957***		0.975***		0.394***	
	(0.015)		(0.009)		(0.035)	
ROA	0.030	7.858***	-0.003	4.561***	-0.016	3.908***
	(0.022)	(0.759)	(0.008)	(0.208)	(0.028)	(0.458)
Operating cash flow	-0.047*	7.413***	0.008	7.161***	0.159***	8.627***
	(0.026)	(0.890)	(0.011)	(0.274)	(0.044)	(0.781)
Leverage	-0.006	-16.725***	-0.008	-13.616***	0.070**	-2.609***
	(0.013)	(0.449)	(0.006)	(0.142)	(0.030)	(0.484)
Inta	0.001	-0.163***	0.004***	0.052**	0.000	0.436***
	(0.002)	(0.062)	(0.001)	(0.023)	(0.005)	(0.086)
Book to market	-0.015	-10.399***	-0.012***	-7.776***	0.043	0.794*
	(0.011)	(0.372)	(0.005)	(0.118)	(0.029)	(0.469)
Constant	-0.036***	19.167***	0.001	15.817***	0.356***	0.504
	(0.012)	(0.412)	(0.007)	(0.167)	(0.049)	(0.944)
Observations	3,858	3,858	23,876	23,876	973	973
R-squared	0.506	0.544	0.328	0.514	0.170	0.569

Notes: Standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0. Strong-firm: If the firm's product fluidity (product market threats) has been higher than the industry median in the past three years and the current net income is higher than the industry median net income, it identifies as a strong firm; otherwise, it identifies as a non-strong firm. Weak-firm: If the firm's product fluidity (product market threats) increases over 20%, with low managerial ability and z-score lower than 1.8, it identifies as a weak firm.

### *Two-stage quantile regressions*

To confirm the robustness tests' results, the same instruments were used; following Kaplan and Sun (2017), a two-stage quantile regression was applied. The results, presented in Table 1.11, are consistent with those presented in Table 1.9. The product market threat's coefficient changes from negatively significant to positively significant, from low quantile to high quantile, which confirms that product market threats are both an opportunity and a challenge—depending on the firm's financial conditions.

**Table 1.11: Two-stage quantile regression**

VARIABLES	DV: Zscore			
	(1) 25%	(2) 50%	(3) 75%	(4) 85%
PMT	-0.1218*** (0.0118)	-0.0703*** (0.0237)	0.0398 (0.0395)	0.1903*** (0.0587)
ROA	6.4935*** (0.6298)	5.9449*** (0.7533)	4.6874*** (1.6260)	2.6554 (2.5891)
Operating cash flow	6.6721*** (0.5790)	4.0906*** (1.0352)	3.4928*** (0.8817)	3.8497** (1.7796)
Leverage	-8.5122*** (0.4995)	-9.6709*** (0.4701)	-10.9119*** (1.2024)	-11.4742*** (1.0501)
Inta	0.0095 (0.0122)	-0.0893*** (0.0160)	-0.3436*** (0.0223)	-0.5682*** (0.0328)
Book to market	-3.4465*** (0.1111)	-4.2221*** (0.1191)	-5.7248*** (0.3093)	-7.2641*** (0.2412)
Constant	9.4018*** (0.2432)	12.1258*** (0.1883)	16.8379*** (1.0800)	20.5477*** (0.9048)
Year FE	Yes	Yes	Yes	Yes
Observations	31,805	31,805	31,805	31,805

Notes: Standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.

### ***Product market threats' heterogenous effect on the firm's employment, R&D, and new investment***

Table 1.12 tested product market threats' impact on a firm's employment growth, R&D activities, and new investment in both a strong and weak firm. The results in columns 1 and 2 suggest that market threats reduce employment growth in weak firms but exhibit no impact on strong firms. Moreover, the results in columns 3 and 4 show that market threats reduce R&D expenditure if the firm is weak but exhibit no impact on strong firms. Furthermore, the results in columns 5 and 6 reveal that both strong and weak firms reduce new investment when product market threats are high; however, the weaker firm is more impacted by product market threats.

In sum, a strong firm is not impacted by product market threats concerning employment growth and innovation activities; by contrast, a weak firm reduces its employment growth and innovation activities when the product market threat is high. Both strong and weak firms reduce new investments when the competitive pressure is high; however, the weak firm is more negatively impacted by the product market threat. New investments as well as investment in labor and innovation are important to a firm's future cash flow. Under- investment causes a firm to lose growth opportunities, which may impact the firm's bankruptcy risk.



**Table 1.12: Product market threats' heterogeneous effect on the firm's employment, R&D, and new investment**

VARIABLES	Employment growth		R&D		New investment	
	(1) Strong firm	(2) Weak firm	(3) Strong firm	(4) Weak firm	(5) Strong firm	(6) Weak firm
PMT	-0.0019 (0.0020)	-0.0104* (0.0057)	0.0002 (0.0004)	-0.0019* (0.0010)	-0.0019* (0.0010)	-0.0071*** (0.0025)
ROA	0.0476 (0.0632)	0.0859 (0.0571)	-0.1196*** (0.0256)	-0.0155 (0.0130)	-0.1095*** (0.0344)	0.0496** (0.0246)
Operating cash flow	-0.1196* (0.0683)	0.0883 (0.1705)	-0.0822*** (0.0233)	-0.1711*** (0.0357)	-0.1381*** (0.0324)	-0.1426*** (0.0489)
Leverage	-0.0009 (0.0299)	-0.1546** (0.0677)	0.0260*** (0.0099)	-0.0181 (0.0165)	0.0655*** (0.0188)	-0.0839*** (0.0307)
Inta	0.0898*** (0.0103)	0.0660** (0.0305)	-0.0196*** (0.0025)	-0.0136*** (0.0039)	0.0080* (0.0047)	-0.0040 (0.0107)
Book to market	-0.1485*** (0.0257)	-0.1674*** (0.0597)	-0.0162*** (0.0056)	-0.0125 (0.0094)	-0.0255** (0.0118)	-0.0996*** (0.0229)
Sales growth	0.1227*** (0.0181)	0.1614*** (0.0319)	-0.0041 (0.0031)	-0.0029 (0.0043)	0.0106** (0.0050)	0.0037 (0.0080)
Constant	-0.4001*** (0.0722)	-0.0260 (0.2019)	0.1924*** (0.0167)	0.1546*** (0.0315)	0.0655** (0.0304)	0.3316*** (0.0632)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,953	2,113	8,963	3,771	6,634	2,696
R-squared	0.1222	0.2547	0.2801	0.2693	0.0863	0.1433
Number of firms	2,088	1,459	2,581	2,528	2,188	1,988

Notes: Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0. Strong-firm: If the firm's product fluidity (product market threats) is higher than the industry median in the past three years and the current net income is higher than the industry median net income, it identifies it as a strong firm. Weak-firm: If the firm's product fluidity (product market threats) has increased over 20%, with low managerial ability and z-score lower than 1.8, it identifies as a weak firm. Employment growth: percentage change in the number of employees. R&D: R&D expenditures scaled by the total assets. New investment: Following Richardson (2006), new investment=(R&D expenditures+ capital expenditures + acquisitions - Sale of PPE-depreciation and amortization)/at.

### ***Non-linear relationship between product market threats changes and Tobin's Q***

Table 1.13 presents the results of product market threats' impact on the firm's performance. The results clearly demonstrate that since a firm's investments are less impacted by product market threats, if the firm is strong, it is expected that a relatively stronger firm, benefits from the competition, whereas a weaker firm loses out.

The results in Table 1.13 reveals that product market threats significantly positively impact the firm's performance; however, the strong firm benefits more from competition, compared to non-strong firms. Moreover, product market threats significantly negatively impact the weak firm's performance. Considering the sub-sample results together, we can see that product market threats impact firms' performances differently. The strong firm benefits more from the competition, but product market threats decrease the weak firm's performance. The last column in Table 1.13 shows the non-linear term's results. Notably, the product market threat's non-linear term is negatively significant. These results confirm the non-linear relationship between product market threats and the firm's performance.

**Table 1.13: Product market threats and Tobin's Q**

VARIABLES	(1) Full	(2) Strong firm	(3) Non-strong firm	(4) Weak firm	(5) Full
PMT	0.0170*** (0.0052)	0.0264** (0.0107)	0.0134** (0.0057)	-0.0175* (0.0096)	0.0590*** (0.0120)
PMT square					-0.0024*** (0.0007)
ROA	-0.1280** (0.0537)	-0.4736 (0.3978)	-0.1229** (0.0546)	-0.2530* (0.1499)	-0.1299** (0.0537)
Operating cash flow	0.3743*** (0.0920)	1.4713*** (0.3449)	0.2495*** (0.0954)	-0.4318 (0.2686)	0.3741*** (0.0920)
Leverage	0.4181*** (0.0602)	0.7167*** (0.2006)	0.4186*** (0.0618)	0.9147*** (0.1676)	0.4181*** (0.0601)
Lnta	-0.4292*** (0.0238)	-0.7191*** (0.0567)	-0.4109*** (0.0257)	-0.2378*** (0.0475)	-0.4295*** (0.0238)
Constant	4.4981*** (0.1439)	6.8315*** (0.3696)	4.3156*** (0.1515)	2.2178*** (0.2918)	4.3486*** (0.1505)
Year FE	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Observations	65,420	9,431	55,989	3,819	65,420
R-squared	0.0828	0.1710	0.0800	0.2262	0.0832
Number of firms	8,168	2,857	7,864	2,564	8,168

Notes: Robust standard errors in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Dependent variable: Tobin's Q. Strong-firm: If the firm's product fluidity (product market threats) is higher than the industry median in the past three years and the current net income is higher than the industry median net income, it identifies as a strong firm; otherwise, it identifies as a non-strong firm. Weak-firm: If the firm's product fluidity (product market threats) has increased over 20%, with low managerial ability and z-score lower than 1.8, it identifies as a weak firm. High Low managerial ability: If the firm's MA score is higher than the industry-year median, it identifies as part of a high-ability group. If the firm's MA score is less than the industry-year median, it identifies as part of a low-ability group.

## V. Conclusion

This study investigated product market threats' heterogeneous effect on a firm's bankruptcy risk. This study's main contribution is identifying these effects and illustrating the importance of the firm's own financial conditions and managerial ability in facing competition.

The empirical results confirm the hypothesis that product market threats (a) increase bankruptcy risk in competitively weak firms, but (b) reduce it in firms that are competitively strong. The main results indicate that product market threats can be a challenge as well as an opportunity for the focal firm. If the firm is financially weak and the managerial ability is low, market threats become a challenge. However, a financially strong firm with a competitive advantage would benefit more from the market competition. Moreover, additional tests' results reveal that managerial ability could help eliminate product market threats' negative effects on the firm's bankruptcy risk. The results further reveal how product market threats impact the firm's bankruptcy risk—in terms of reducing employment growth and R&D expenditures in weak firms—but exhibit no impact on strong firms. Both strong and weak firms reduce their investments, but weak firms are more negatively impacted. Moreover, the empirical results show a non-linear relationship between product market threats and the firm's performance. Product market threats hurt or improve the firm's performance depending on whether the firm is weak or strong, respectively. These findings aid operations management in firms facing threats from

rivals by turning these threats around and converting them into opportunities, which will not only prevent bankruptcy in such firms but also make them financially stronger.

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# Political Regimes, Governance, and Sustainable Development

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## Abstract

This study contrasts different political regimes' direct, and indirect, effects of governance, institutions, infrastructure, economic performance, and technology & innovation on economic, environmental, and social dimensions. The political regimes studied are closed autocracies, electoral autocracies, electoral democracies, and liberal democracies. We use data from 117 countries. Since development is development, we examine ten different model configurations. We show, and discuss, both expected and unexpected relationships, at the global, and political regime level. Finally, we entertain some future research possibilities.

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# Central Bank Independence, Financial Openness, and Cross-Border Flows of Capital

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## Abstract

Countries worldwide compete for international capital and the host country's macroeconomic stability is among the fundamental factors that matter for foreign investors. In this letter, we specifically examine the effect of central bank independence on cross-border capital flows using the OECD bilateral FDI data over the period 1985–2013. Our results indicate that the intensive margins of outward FDI flows to host countries increase significantly when executive leaders grant greater autonomy to their central banks. Moreover, middle and low-income countries with less overall financial restrictions experience a much greater impact of central bank independence on intensive margins of FDI inflows.

**Keywords:** Foreign direct investment Central bank independence Capital controls

This is an original manuscript of an article published by Elsevier in *Economics Letters*, Vol. 225, April 2023, 111042, available online at: <https://doi.org/10.1016/j.econlet.2023.111042>.

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# Why Are Some Entrepreneurial Ecosystems More Favorable than Others? Comparing Brazil and Mexico

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## Abstract

Brazil and México are regularly compared to each other in the areas of politics, management, economics, inflation, and even soccer. Another important area where the two are compared is in entrepreneurship. A major research problem in the discipline is the lack of a comprehensive framework to compare one entrepreneurial society with another. In some cases, cultural variables are analyzed but fail to include macro-market variables. On the other hand, macro-market variables are analyzed to the exclusion of cultural variables. We propose the use of a novel framework which are entrepreneurial ecosystems. This is because entrepreneurial ecosystems involve the major categories of institutions: 1) regulatory, 2) participatory, 3) supportive, and 4) cognitive. These important institutions capture both cultural and macro-market variables in a way that two entrepreneurial societies can be compared. We aim to compare two large Latin-American economies: Brazil and México using the entrepreneurial ecosystem framework to determine which of the two has more of a favorable environment for entrepreneurial behaviors. Using the Mann-Whitney-U test, we evaluate 12 constructs that cover both cultural and macro-market variables. Our findings suggest that México has a significantly more favorable environmental conditions when compared to Brazil. We also contribute to theory by uncovering evidence that supports the notion that regulatory, participatory, supportive, and cognitive institutions, play important roles when determining the favorability of entrepreneurship in a market.

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# Experimenting with Project Time Estimates: Some Reflections and Takeaways

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## Abstract

Use of Network diagrams and Critical Path Method and PERT method of project completion estimates are all very popular approaches in managing and controlling project execution. While Critical Path method uses single time estimates for task times, under PER process, given the variability in task execution, three time estimates are used and they are averaged using specific weighted formula in accordance with Beta distribution standards. The three time estimates used under PERT method are, i) Optimistic time ii) Pessimistic time and iii) Most likely time. These estimates are then used to calculate probability estimation of completion time.

It is interesting to know what happens when a user attempts estimating project completion probability based on optimistic time estimates and pessimistic time estimates. Intuition suggests that most optimistic time estimate will end up with low probability of success and pessimistic time estimates lead to a high probability of success given the extra safety margin built into such estimates. We present the results of a numerical example based on PERT method estimates generated using MS Excel functions.

Additionally, utilizing a simple system dynamic model we attempt to simulate the scenarios with some well-known project policies and constraints and try to quantify the results. We seek to experiment with alternate project policies to study the effect on completion times and costs. We present our results of such experimentation and the possible insights from such experimentations in this study.

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# Critical Audit Matters and Culture

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## Abstract

Prior research has called for the need to investigate how national cultural values can affect accountant's interpretation of accounting standards (Doupnik and Riccio 2006). We address that call by examining the relationship between national culture and the disclosure of critical audit matters (CAMs). Specifically, we examine the role of culture on the disclosure of CAMs for non-US audit firms and how culture influences the external audit report. We focus on the audit report because it serves an important monitoring function in instilling credibility, trust, and confidence in the financial statements of emerging and international entities. We find that the number of CAMs is significantly associated with Hofstede's (2001) cultural dimensions as is the readability of the audit report. These findings should be of significant interest to the PCAOB as it broadens its oversight across international borders.

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# Una revisión internacional sobre el impacto del nepotismo en el entorno laboral

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### Resumen

El nepotismo es un factor poco explorado en el entorno laboral de las empresas. Se refiere a la preferencia desmedida para favorecer a familiares o personas cercanas en la obtención de puestos importantes dentro de una organización. Puede ocasionar situaciones negativas como la corrupción, el favoritismo e ineficiencia en múltiples procesos debido a la presencia de personas poco capacitadas para los distintos puestos de trabajo dentro de una empresa. No obstante, también puede proporcionar beneficios para los empleadores al permitir contratar a empleados de su confianza.

La presente investigación tiene por objetivo mostrar una revisión sistemática sobre el impacto del nepotismo en el entorno laboral considerando como fuentes de información artículos de revistas indexadas en la base de datos Scopus.

**Palabras clave:** corrupción, empresas, empleados, entorno laboral, favoritismo.

## An International Review about the Impact of Nepotism in the Work Environment

### Abstract

Nepotism is a factor little explored in the work environment of companies. It refers to the excessive preference to favor relatives or close people to obtain important positions within an organization. It can cause negative situations such as corruption, favoritism, and inefficiency in multiple processes due to the presence of poorly trained people for different jobs within a company. However, it can also provide benefits for employers by letting them hire employees they trust.

The purpose of this research is to show a systematic review of the impact of nepotism in the work environment, considering articles from journals indexed in the Scopus database as sources of information.

**Keywords:** corruption, companies, employees, work environment, favoritism

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# Análisis de la educación superior en México y Chile: Un estudio comparativo

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## Resumen

En este capítulo se presenta un análisis comparativo centrado en los modelos educativos de México y Chile. El objetivo del trabajo es describir las políticas, retos, contextos y alcances con un énfasis en las similitudes y diferencias en ambos países. Se reflexiona sobre el beneficio de las alianzas y del trabajo conjunto para garantizar la calidad educativa, la inclusión y los apoyos para docentes e investigadores. Asimismo, se destaca la relevancia de seguir potenciando las estrategias para formar integralmente a jóvenes universitarios exitosos que contribuyan a los avances del mundo globalizado al que pertenecen.

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# Employing WarpPLS in a Doctoral Course on Structural Equation Modeling: First Student Project

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## Abstract

This presentation will discuss the first of two student projects conducted as part of a course on structural equation modeling. The project employed the software WarpPLS to test a model with several hypothesized relationships among variables. The student team independently collected data to test their model, which addressed the following topic: “A Proposed Default Prediction Model for the Online Peer-to-Peer (P2P) Credit Market with a Comparison of Similar Models of the Chinese P2P Market.” Theoretical reviews and analyses or previously published empirical studies informed the development of the model with hypothesized relationships. Additional tests were conducted to ensure confidence on the results of the analyses, including multicollinearity tests.

**Keywords:** WarpPLS, Multiple Regression, Partial Least Squares, Structural Equation Modeling, Multicollinearity.

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# Employing WarpPLS in a Doctoral Course on Structural Equation Modeling: Second Student Project

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## Abstract

This presentation will discuss the second of two student projects conducted as part of a course on structural equation modeling. The project employed the software WarpPLS to test a model with several hypothesized relationships among variables. The student team independently collected data to test their model, which addressed the following topic: “Could we have a European Thanksgiving? Addressing the Politics of Immigration Perception Using SEM.” Theoretical reviews and analyses or previously published empirical studies informed the development of the model with hypothesized relationships. Additional tests were conducted to ensure confidence on the results of the analyses, including multicollinearity tests.

**Keywords:** WarpPLS, Multiple Regression, Partial Least Squares, Structural Equation Modeling, Multicollinearity.

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# Employing WarpPLS in an Undergraduate Course on Data Analytics and Business Decision Modeling: First Student Project

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## Abstract

This presentation will discuss the first of two student projects conducted as part of a data analytics and business decision modeling course, where data was gathered and analyzed through advanced statistical methods with the goal of informing organization decisions. The student team independently collected data to test their model, which addressed a topic relevant to an organization located in Laredo, Texas. The project employed the software WarpPLS to assess whether hypothesized predictors of a main dependent variable in a multiple regression model were statistically significant predictors. The causal relationships among predictors and dependent variable were hypothesized based on knowledge obtained from organizational stakeholders. The path coefficients among predictors and dependent variable were used to prioritize recommended actions, where stronger paths were recommended for higher priority actions. Additional tests were conducted to ensure confidence on the results of the analyses, including multicollinearity tests.

**Keywords:** Data Analytics, WarpPLS, Multiple Regression, Partial Least Squares, Structural Equation Modeling, Multicollinearity.

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# Employing WarpPLS in an Undergraduate Course on Data Analytics and Business Decision Modeling: Second Student Project

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## Abstract

This presentation will discuss the second of two student projects conducted as part of a data analytics and business decision modeling course, where data was gathered and analyzed through advanced statistical methods with the goal of informing organization decisions. The student team independently collected data to test their model, which addressed a topic relevant to an organization located in Laredo, Texas. The project employed the software WarpPLS to assess whether hypothesized predictors of a main dependent variable in a multiple regression model were statistically significant predictors. The causal relationships among predictors and dependent variable were hypothesized based on knowledge obtained from organizational stakeholders. The path coefficients among predictors and dependent variable were used to prioritize recommended actions, where stronger paths were recommended for higher priority actions. Additional tests were conducted to ensure confidence on the results of the analyses, including multicollinearity tests.

**Keywords:** Data Analytics, WarpPLS, Multiple Regression, Partial Least Squares, Structural Equation Modeling, Multicollinearity.

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# McDonald's: Diferencias y similitudes entre México y EUA

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McDonald's es una cadena de comida rápida que opera en México como en Estados Unidos y es uno de los restaurantes más conocidos y populares, en ambos países McDonald's es conocido por su conveniencia, asequibilidad y calidad consistente de alimentos, aunado a ello se caracteriza por ser una empresa socialmente responsable.

El objetivo de esta investigación es identificar, comparar y analizar las diferencias y similitudes que existen en México y Estados Unidos sobre McDonald's. Se tendrán en cuenta las siguientes características: Menú, instalaciones y condiciones generales del negocio como lo pueden ser su cultura organizacional y experiencia laboral de los empleados.

Es preciso señalar que McDonald's es diferente en cada país por las tradiciones y costumbres que tiene la gente, puede ser el tipo de comida, los modales laborales de los empleados, el tipo de servicios que ofrecen, las regiones entre ciudades y lugares frecuentados para establecerse, los requerimientos, etc. buscando siempre satisfacer las necesidades de los clientes y al mismo tiempo logrando captar mayor público.

Uno de los aspectos más destacables es la cantidad de franquicias con las que se cuenta, en EUA existen poco más de 13,000 establecimientos, en su contraparte México solo cuenta con 400 establecimientos, también se realizan adecuaciones a sus menús a fin de conectar con sus potenciales clientes, esto lo vemos con la colocación de productos del gusto de los mexicanos o americanos, el ambiente laboral y las condiciones de trabajo son otros aspectos considerados, a su vez en el ámbito salarial varían en ambos países tanto por el estado o lugar en donde se encuentren, por ejemplo, en la ciudad de Nueva York el pago por hora es de \$15dls y en Carolina \$7dls, en contraste con la parte mexicana donde se sigue el mismo modelo ya que varía dependiendo la zona en donde se ubique, ambos adaptan un modelo distinto en cuanto a las entregas, México al uso de las aplicaciones de entrega, mientras que en EUA es por la plataforma que ofrece McDonald's.

Las investigaciones realizadas en colaboración arrojaron diversos resultados, que, aunque esperados fueron de suma importancia en el desarrollo, las diferencias y similitudes no fueron tan drásticas en cuanto a las opciones que ofrecen a sus clientes, aunque si hay variaciones mínimas a fin de satisfacer las necesidades.

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En conclusión, la participación entre Estados Unidos y México logró captar los detalles, diferencias y similitudes que se tienen entre ambos países en la cual se aprecia que McDonald's ha sabido gestionar sus recursos y posibilidades para establecerse a nivel internacional. Si bien es posible la asimilación entre las costumbres y tradiciones de cada país con la que la comida tiene variaciones como es de ejemplo, también lo es el trabajo para los empleados de dicha empresa como sus clientes consumidores.

# Diferencias y similitudes de KFC México y KFC Estados Unidos

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KFC, o Kentucky Fried Chicken, es una cadena de restaurantes de comida rápida conocida por su pollo frito. Con más de 23,000 locales en más de 140 países, es una de las marcas de comida rápida más reconocidas en todo el mundo. La primera cadena en llegar a México fue Kentucky Fried Chicken en 1963 en la ciudad de Monterrey. Y en 1985 el término y concepto de comida rápida empezó a hacer ruido entre la población mexicana. Dentro de los productos que ofrece KFC existen diferentes paquetes que son: paquetes familiares, paquetes individuales, paquetes infantiles, postres y bebidas. También maneja paquetes de temporada. En la zona de carta podemos encontrar lo que puedes comprar desde un trozo de pollo o tiras de pollo, una hamburguesa, hasta una ensalada individual y un puré de patata individual. En postres podemos encontrar tarta de manzana y helado en diferentes cantidades desde 273 mililitros hasta 1 litro. En el área de bebidas podemos encontrar la famosa Coca-Cola en sus diferentes presentaciones que son en latas y botellas plásticas, así como botellas de agua y jugos. ¡KFC tiene una promoción llamada Ke-Wednesday! Donde sí compras 8 piezas de pollo te regalan 4 piezas y si compras 10 piezas te regalan 5 piezas. En KFC existen dos recetas para saborear el pollo: una es la receta del Coronel Sanders, la Receta Original. El otro es el Crispy Chicken, un pollo crocante con un sabor ligeramente picante. Este año la cadena de restaurantes Kentucky Fried Chicken tiene previsto abrir 40 nuevas unidades en el país, que llegarán a las 500 sucursales en el mercado mexicano. En base a nuestra investigación es analizamos las diferencias y el choque de cultura que hay entre estados unidos y México en la industria de comida rápida en la empresa de KFC. De acuerdo con la investigación realizada en los restaurantes KFC son todos los productos comestibles industriales de las transnacionales tienen el sabor según gustos regionales para su preparación según los gustos de una población para eso cuentan con personal profesional en ingeniería de alimentos y químicos según su ubicación. Otra diferencia de estados unidos y México, en el menú encontrarás pollo picante mientras que estados unidos el pollo no lleva picante, así como todo lo demás, otras son sus instalaciones actualmente en la frontera de México son casi similares a las comodidades de los restaurantes de Estados Unidos, con el mismo trabajo y normas. En cuanto nuestro resultado de la investigación pudimos percibir que no hay mucha diferencia en los menús de estados unidos y en México en cuanto precios de estados unidos es un poco más elevado y la calidad de la comida es muy buena en ambos países. En conclusión la empresa KFC

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no tiene muchas diferencias entre México y Estados Unidos ya que las comparaciones que se hicieron como la comida fueron las mismas.

# Importancia del idioma inglés en la contratación de estudiantes en Reynosa, Tamaulipas

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## I. Introducción

De acuerdo con (Moreno, 2017) la adquisición de una lengua extranjera es afectada por variables emocionales como motivación, ansiedad y autoestima. Stephen Krashen, la llamó la hipótesis del filtro afectivo. Los estudiantes asumen una actitud negativa hacia la lengua meta que interfiere en su comportamiento porque se sienten vulnerables ante un idioma en el que no son competentes. Según (Sanchez, 2017) el tiempo insuficiente dedicado al estudio (TI) es el factor principal del bajo desempeño en inglés según los alumnos. La posición número 2 la ocupa la carencia de buenas estrategias de estudio (CE). En las posiciones 3 y 4 se encuentran la pereza o desidia para estudiar (PE) y el poco o nulo conocimiento de la materia (PC) respectivamente. Estos dos factores se reconocen como aquellos que influyen menos en la reprobación de inglés.

De acuerdo con (Mirian, 2017) en la nueva era de la globalización, el aprendizaje del inglés es de vital importancia principalmente para los estudiantes universitarios. La mayoría de la bibliografía básica de las distintas carreras se encuentra en inglés, al igual que la información necesaria en Internet. La Enseñanza Universitaria constituye el último peldaño hacia la profesionalización, por lo que representa la última oportunidad desde el punto de vista escolar, para que los estudiantes tengan un correcto dominio de este idioma. Después de culminada esta etapa, el nuevo licenciado o ingeniero que sepa comunicarse y entender el inglés, tendrá disímiles puertas abiertas a nivel mundial. Este artículo aborda la utilidad de conocer este idioma en la Enseñanza Superior, así como su utilidad una vez graduado el estudiante.

De acuerdo con (España Chavarria, 2010) la importancia de la inclusión del idioma inglés en el curriculum universitario está basado en las demandas de la globalización e intercambio de mercado, es por eso que el idioma inglés debería ser considerado parte de la formación de estudiantes como futuros profesionales, eso contribuiría al desarrollo integral de la nación.

Según (Luna Hernandez, 2016) la motivación es un proceso fundamental dentro del aprendizaje de una lengua extranjera. Uno de sus aspectos más notable es obtener un comportamiento determinado del estudiante, en el cual el profesor ha de propiciar que el aprendizaje sea motivador y que, a su vez, el estudiante comprenda la importancia del estudio de esa lengua extranjera, vinculada muy estrechamente con la comunicación oral. Se enfatiza en

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el uso de una comunicación oral más real donde los estudiantes desarrollen al máximo sus competencias comunicativas.

## II. Desarrollo

La ciudad de Reynosa, Tamaulipas está repleta de maquiladoras que vienen del extranjero a establecerse aquí, a su vez estas exportan mayormente a Estados Unidos, esto debido a que Reynosa es frontera con el país antes mencionado, se han creado negocios y acuerdos que hasta ahora han prosperado exitosamente. Hablar inglés desde hace mucho dejó de ser un valor agregado y su importancia es cada vez más evidente para los profesionales y las compañías, que ven este idioma como la puerta para mejores oportunidades laborales, la expansión al mundo y de nuevos negocios. En Reynosa hay alrededor de 125, 945 estudiantes cursando una carrera universitaria, entre las cuales se encuentran por mencionar algunas: licenciatura en economía, licenciatura en comercio internacional, ingeniería en sistemas computacionales, arquitectura, ingeniería en sistemas de producción, ingeniería industrial, ingeniería mecatrónica, entre otras. En la presente investigación se espera conocer el principal factor por el que los estudiantes de 18 a 23 años en Reynosa, Tamaulipas entre el 2022 y 2023 están interesados en aprender inglés. Esto mediante la aplicación de encuestas que nos ayudaran a obtener los resultados requeridos. De esta manera se considera factible realizar la investigación y además será un generador de conocimientos, derivaran nuevas preguntas como que métodos son más eficaces para aprender inglés, si sería eficaz que las empresas dicten cursos de inglés en sus instalaciones o apliquen exámenes de inglés cada determinado tiempo. Esta investigación está ligada también a una Línea de Investigación de la UAM RR, llamada Generación de Productos de Investigación, para los negocios internacionales, para el desarrollo empresarial, a través de metodologías, que serán eficientes y confiables.

La interrogante a resolver en esta investigación es la siguiente:

¿En Reynosa, Tamaulipas cual es el factor principal que influye en los jóvenes de 18 a 23 años entre 2022 - 2023 para que estén interesados en aprender inglés?

Con la siguiente hipótesis:

En Reynosa, Tamaulipas el factor principal que influye en los jóvenes de 18 a 23 años entre 2022 - 2023 para que estén interesados en aprender inglés es porque saben la importancia que tiene esta segunda lengua para obtener una oportunidad laboral.

Con los siguientes objetivos:

**OBJETIVOS GENERALES.** El objetivo general del presente trabajo es hacer una investigación para determinar que el factor principal por la que los jóvenes de entre 18 a 23 años de Reynosa, Tamaulipas entre 2022 - 2023 están interesados en aprender inglés es por la importancia que tiene esta segunda lengua en el área laboral.

**OBJETIVOS ESPECIFICOS.**

- Estudiar e identificar si el factor por el cual los jóvenes de 18 a 23 años de Reynosa, Tamaulipas entre 2022 - 2023 están interesados en aprender inglés es porque es importante saber este idioma para entrar en el área laboral.
- Estudiar e identificar si el factor por el cual los jóvenes de 18 a 23 años de Reynosa, Tamaulipas entre 2022 - 2023 están interesados en aprender inglés es simplemente porque les gusta.
- Estudiar e identificar si el factor por el cual los jóvenes de 18 a 23 años de Reynosa, Tamaulipas entre 2022 - 2023 están interesados en aprender inglés es porque es

requisito para obtener su título universitario.

- Estudiar e identificar si el factor por el cual los jóvenes de 18 a 23 años de Reynosa, Tamaulipas entre 2022 - 2023 están interesados en aprender inglés es porque sus papás se lo inculcaron.

Esta investigación es importante para los jóvenes estudiantes debido a que de esta manera podría concientizarse el hecho de lo importante que es el inglés en el área laboral y las tantas puertas que está segunda lengua te puede llegar a abrir haciéndolo así no solo que tengan la intención de aprenderlo sino también de empezar a aprenderlo y practicarlo mientras tengan tiempo.

### **III. Conclusion**

En el presente trabajo de investigación nos dimos cuenta que la mayoría de los jóvenes que están estudiando una carrera universitaria si saben de la importancia que el inglés tiene en el área laboral y de las oportunidades y puertas que esta les puede abrir, pero a la vez muchos no tienen el tiempo o los recursos para aprender, por esta razón se limitan, a su vez también parte de los jóvenes estudia inglés para poder obtener su titulación universitaria.

# The Importance of the English Language in the Hiring of Students in Reynosa, Tamaulipas

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## I. Introduction

According to (Moreno, 2017) the acquisition of a foreign language is affected by emotional variables such as motivation, anxiety and self-esteem. Stephen Krashen called it the affective filter hypothesis. Students assume a negative attitude towards the target language that interferes with their behavior because they feel vulnerable to a language in which they are not competent. According to (Sanchez, 2017) insufficient time dedicated to study (TI) is the main factor of low performance in English according to students. The number 2 position is occupied by the lack of good study strategies (CE). In positions 3 and 4 are laziness or laziness to study (PE) and little or no knowledge of the subject (PC) respectively. These two factors are recognized as those that have the least influence on English failure.

According to (Mirian, 2017) in the new era of globalization, learning English is of vital importance mainly for university students. Most of the basic bibliography of the different careers is in English, as well as the necessary information on the Internet. University Education is the last step towards professionalization, so it represents the last opportunity from the school point of view, for students to have a correct command of this language. After completing this stage, the new graduate or engineer who knows how to communicate and understand English, will have dissimilar doors open worldwide. This article discusses the usefulness of knowing this language in Higher Education, as well as its usefulness once the student graduates.

According to (Spain Chavarria, 2010) The importance of English language inclusion into university's curriculum is based on the demands of globalization and market interchanges, that is why English language must be considered as part of students' instruction as future professionals that will contribute to the integral development of the nation.

According to (España Chavarria, 2010) The importance of English language inclusion into university's curriculum is based on the demands of globalization and market interchanges, that is why English language must be considered as part of students' instruction as future professionals that will contribute to the integral development of the nation.

According to (Luna Hernandez, 2016) motivation is a fundamental process within the learning of a foreign language. One of its most notable aspects is to obtain a certain behavior of the student, in which the teacher has to promote that learning is motivating and, in turn, the

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student understands the importance of the study of that foreign language, linked very closely with oral communication. Emphasis is placed on the use of more real oral communication where students develop their communicative skills to the maximum.

## II. Development

The city of Reynosa, Tamaulipas is full of maquiladoras that come from abroad to settle here, in turn, these export mostly to the United States, this because Reynosa is a border with the aforementioned country, businesses and agreements have been created that until now have prospered successfully. Speaking English has long ceased to be an added value and its importance is increasingly evident to professionals and companies, who see this language as the door to better job opportunities, expansion into the world and new businesses. In Reynosa there are about 125,945 students pursuing a university degree, among which are to mention a few: bachelor's degree in economics, bachelor's degree in international trade, computer systems engineering, architecture, production systems engineering, industrial engineering, mechatronics engineering, among others. In the present research it is expected to know the main factor why students from 18 to 23 years old in Reynosa, Tamaulipas between 2022 and 2023 are interested in learning English. This through the application of surveys that will help us obtain the required results. De this way is considered feasible to carry out the research and will also be a generator of knowledge, will derive new questions such as what methods are most effective to learn English, if it would be effective for companies to teach English courses in their facilities or apply English exams every so often.

This research is also linked to a Research Line of the UAM RR, called Generation of Research Products, for international business, for business development, through methodologies, which will be efficient and reliable.

The question to be resolved in this research is the following:

In Reynosa, Tamaulipas, what is the main factor that influences young people aged 18 to 23 between 2022-2023 so that they are interested in learning English?

With the following hypothesis:

In Reynosa, Tamaulipas the main factor that influences young people from 18 to 23 years old between 2022-2023 so that they are interested in learning English is because they know the importance of this second language to get a job opportunity.

With the following objectives:

**GENERAL OBJECTIVES.** The general objective of this work is to do an investigation to determine that the main factor by which young people from 18 to 23 years of Reynosa, Tamaulipas between 2022-2023 are interested in learning English is because of the importance of this Second language in the workplace.

**SPECIFIC OBJECTIVES.**

- o Study and identify if the factor by which young people from 18 to 23 years of Reynosa, Tamaulipas between 2022-2023 are interested in learning English is because it is important to know this language to enter the workplace.
- o Study and identify if the factor by which young people aged 18 to 23 in Reynosa, Tamaulipas between 2022-2023 are interested in learning English is simply because they like it.
- o Study and identify if the factor by which young people from 18 to 23 years of Reynosa, Tamaulipas between 2022-2023 are interested in learning English is because it is a



requirement to obtain their university degree.

- o Study and identify if the factor by which young people from 18 to 23 years of Reynosa, Tamaulipas between 2022-2023 are interested in learning English is because their parents instilled it in them.

This research is important for young students because in this way you could become aware of the fact of how important English is in the workplace and the many doors that this second language can open to you, making it not only that they intend to learn it but also to start learning and practicing it while they have time.

### **III. Conclusion**

In the present research project, we realize that most of the young adults that are studying a degree know about the importance that English could have to get a labor opportunity and all the benefits that this language has, but some of the them do not have the resources or the time to do it. At the same time, some students learn or study English because they need the points to graduate from university.

# Supportive and Participatory Institutions in Emerging Markets: Do They Contribute to Entrepreneurial Favorability in China and India?

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## Abstract

China and India are two of the most populated countries on earth. They are regularly compared in terms of their size, economic development, and political role in the region. Both countries have remarkably different histories. Although China has made important market reforms in the past 40 years, it remains a one-party state. India, on the other hand, is a democracy and speaks English. This anomaly suggests that India should have a favorable entrepreneurial environment when compared to China. Industry reports and academic research compares, contrasts, and contradicts each other suggesting that one market is favorable than the other. We aim to add to this debate by comparing these two countries using an institutional approach. What this means is that we will empirically compare the supportive and participatory roles of institutions in these countries to see if one is favorable than the other when encouraging entrepreneurial ventures. Using the Global Entrepreneurship Monitor (GEM) data set, we find that India has stronger perceptions of the state's participatory role when encouraging business ventures. On the other hand, we find that China is stronger in its supportive role when promoting new business opportunities. We aim to contribute to institutional theory by suggesting that different institutions play different roles in connecting the dots for a more favorable entrepreneurial society.

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# How does the COVID-19 Pandemic Affect the Relative Market Efficiency of European Credit Derivative and Equity Markets?

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## Abstract

We comprehensively examine the market efficiency and the cross-market informational flow between the European equity and credit derivative markets over 2011-2022. By undertaking both in-sample and out-of-sample analyses, we discover that the European markets exhibit informational flow patterns, which are distinct from their counterparts in the American markets reported in recent studies: (1) the informational flow appears stronger in the direction of credit to equity markets; (2) the COVID-19 pandemic seems to have caused a structural break in the flow direction of credit to equity markets while leaving the other direction intact; and (3) the informational flow in the European markets remains strong and persistent compared with the flat patterns exhibited the American markets over the 2016-2020 sub-window. Moreover, our empirical results suggest that the European markets appear less efficient compared with their American counterparts as both European equity and CDS index returns series exhibit patterns of autocorrelation, challenging the validity of the efficient market hypothesis. Our results have implications for systematic investors, arbitrageurs and stakeholders who monitor systematic European markets for their informational content.

**Keywords:** market efficiency, structural break, CDS Indices, European markets, COVID-19

**JEL classification:** C32, C58, G14, G17

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# Interdependence of Property Prices and Building Vacancy Rates in Residential and Commercial Real Estate Markets: Hong Kong and Singapore

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## Abstract

We investigate the relationship between vacancy rates and property prices in the residential and commercial real estate markets. We find that in Singapore's residential market, the lagged differenced vacancy rate negatively affects the future differenced house price, a relation that results from what we term the "fundamental-driven effect." As housing vacancies can be regarded as excess supply in real estate market, vacancies will result in decreased prices to reduce excess supply and achieve long-term equilibrium when supply exceeds the fundamental demand for residential housing. By considering the two types of property prices in Hong Kong, we identify a long-term relationship between residential prices and office building prices.

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# Design of Trade Agreements: Texts, Methods, and Rationale

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## Abstract

Over the past decades, many countries entered into regional and bilateral trade agreements. Although content and design of these agreements may vary, there is an assumption that these agreements use “copying and pasting” from national laws or previous trade agreements. For instance, more than 50 percent of the language in the Trans-Pacific Partnership was copied word-for-word from the US-Bahrain FTA. Several of these agreements especially those of the U.S and EU serve as templates for future of trade agreements. For example, major chapters of NAFTA have made their way into at least 40 other trade agreements.

There are several reasons for the “copying and pasting” in international trade agreements. These include the efficiency resulting from reusing already existing text and a tendency to maintain the *status quo*. Furthermore, it is easier for countries to use already used language as there will be less risk of agreeing to language that could be incompatible with the existing domestic regulatory regime and thus may require domestic changes, or is inconsistent with another international trade agreement, thus creating a web of complex agreements.

One would assume, which may not necessarily be true, that a dominant country like the U.S. or EU would draft an agreement only for powerful countries’ interests. Texts proposed by other negotiating partners may find their way into the text of a trade agreement and agreed upon by powerful countries out of a desire to conform to the prevailing normative environment or because they want to use the text in future trade agreements.

The purpose of this paper is to examine the English-based texts of agreements concluded by the U.S. and EU in the period 2000 onward to determine whether major parts of these agreements are simply “copying and pasting” from previous agreements or whether innovation adopted in drafting them. A distinction will be made between trade agreements concluded with other developed countries and agreements with developing countries. This will be examined against the norm in international trade relations whereby powerful countries shape international agreements to advance their interests. The analysis will cover major chapters of trade agreements which are economically and politically significant to the negotiating countries such as intellectual property, rules of origin, e-commerce, and investment. In addition, other traditional chapters such as trade in goods, trade in services, and rules of origin will be covered. The last part of the paper provided a conclusion section.

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# Aplicación de métodos de análisis financiero para la toma de decisiones en época de crisis financiera

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## Resumen

Las crisis financieras después de factores internacionales como la pandemia del SARS- COV-19, la guerra de Rusia y Ucrania, el rompimiento de la cadena de suministros, han situado a las empresas de todo el mundo, en un entorno financiero difícil de sortear, no importando el tamaño de estas han buscado como sobrevivir en el mercado, sin embargo, algunas empresas han recurrido ajustar sus egresos, políticas financieras, etc. Esta investigación expone un caso dirigido a las PYMES, que son las más vulnerables y puedan tomar decisiones acertadas a través de métodos de análisis financieros adecuados, sencillos, fáciles de determinar, analizar e interpretar sus resultados para observar el panorama de estas y definir la mejor posición. La metodología utilizada es cualitativa, transversal, documental y correlativa.

**Palabras claves:** Métodos, Análisis, Finanzas

## I. Introducción

Existen una serie de usuarios de la información financiera, internos y externos todos de importancia como: el gobierno para el pago de contribuciones, los empleados para el reparto de utilidades, los proveedores para garantizar el pago de las mercancías vendidas, etc. Pero el accionista que es el propietario de la empresa, es prioritario, ya que si la empresa quiebra, todos dejarían de percibir sus intereses, el gobierno dimitirían de recibir el pago de contribuciones, los empleados perderían sus empleos, y los proveedores dejarían de recibir sus pagos, Por lo tanto el propietario es el principal usuario de la información financiera junto con los que generan la información financiera, como es: Estados Financieros, pero no basta solo generar Información financiera para el pago de contribuciones, sino debe ser analizada e interpretada, para la toma de decisiones a partir de este escrutinio de la información financiera, los propietarios podrán tomar una decisión acertada y dirigida a las políticas establecidas en su negocio cualquiera que fuese el tamaño, es menester mencionar que de acuerdo al tamaño de las empresas Inegi determina que (INEGI, 2023) el 99.8% pertenecen a Pymes, mismos que proporcionan el 72% de empleos en México, lo cual resulta de importancia para comprender que estas organizaciones

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deben utilizar los métodos de análisis financiero antes de la toma de decisiones o cambios de políticas.

El principal objetivo de esta investigación es situar los métodos de análisis financieros que existen para tener una base en la toma de decisiones en las organizaciones en épocas de crisis, y las organizaciones como las PYMES puedan hacer uso de estos métodos. Los métodos de análisis se definen (Guadalupe A. Ochoa Setzer, 2012) como un proceso de juicio valorativo para establecer las consecuencias financieras de las decisiones de negocios, aplicando diversas técnicas que permiten seleccionar la información relevante, realizando mediciones e interpretando estas proporcionan estrategias a los directivos contribuyendo a lograr las metas del sistema gerencial.

El análisis financiero utiliza los estados financieros principalmente el Estado de Situación Financiera NIFB-6 y Estado de Resultado Integral, NIFB-3 (CINIF, 2023) , los rubros entre estos Estados Financieros son comparados entre sí. Para (Francisco Madrigal, 2015) al analizar e interpretar una empresa debe ser bajo un criterio de pensamiento sistémico, holístico y no sólo determinístico., en su expresión considera que para interpretar debe existir una lógica aristotélica con el objetivo de predecir. Las técnicas utilizadas son: Vertical y Horizontal, dentro del Vertical encontramos las razones simples, razones estándar y razón índice, Método de porcentajes integrales y Punto de equilibrio, en cuanto al método Horizontal encontramos: Aumentos y Disminuciones, Tendencias y Gráficas valorativas.

**Las razones simples** se encuentran en México con una Normativa en las NIFA-1-33-2 (CINIF, 2023) (hasta 2022 en NIFA-3) posteriormente se reforman las Normas y quedan consideradas en NIFA-1 considerando los mismos indicadores como: Solvencia, Liquidez, eficiencia Operativa, riesgo financiero y rentabilidad.

Las razones financieras se clasifican en (J.Gitman, 2007):

- Razones estáticas - Por formarse de rubros que proceden de un Estado Financiero Estático como lo es el Estado de Situación Financiera.
- Razones Dinámicas - Por corresponder a rubros que proceden de un Estado Financiero Dinámico como lo es el Estado de Resultado Integral.
- Razones Estático-Dinámico - Por formarse de ambos estados financieros, por ejemplo: Pasivo Total entre Ventas Netas.
- Razones Dinámico- Estático - Por formarse de ambos estados financieros, por ejemplo: Ventas netas entre Capital Contable

**Las razones estándar** de acuerdo a (César, 2013) es la medida de eficiencia que busca la organización encontrarse en ese rango, por lo que se compara con estos indicadores que pueden ser de estudios económicos, de cámaras, de la bolsa de acciones, etc.

**La razón índice** es el comparativo entre razón estándar y razones simples de la empresa, el rango del 100% de eficiencia se les otorga a las razones estándar a un conjunto de razones y se ponderan cada una a juicio del analista, que posteriormente con una regla de tres se determina el porcentaje comparado con estas determinando la eficiencia de la empresa. Pocas empresas llegan a esta medición, sin embargo, otorga a la empresa una especie de benchmarking financiero.

## II. MÉTODO O METODOLOGÍA

El corte metodológico es de tipo cualitativo, transversal, documental y correlativo dentro del contexto organizacional, lo que conlleva a realizar un estudio documental sobre los diferentes Métodos de análisis financieros, aplicadas a las organizaciones en crisis financieras para la toma de decisiones (Sampieri, 2014; Sampieri, 2014) , refiere que todo tipo de investigación debe acatarse a un protocolo metodológico del cual se desarrolle de una manera armoniosa.

### III. DESARROLLO

#### *Situación actual*

Una crisis financiera en la economía de los países, y refiriéndonos a México, es actuar rápidamente en las organizaciones, sobre todo en las PYMES, que son más vulnerables para desaparecer, para una toma de decisiones en estas empresas. por lo tanto, en esta ocasión expondremos el caso práctico de los métodos de las razones financieras, que son indicadores financieros extraídos de los rubros del estado de situación financiera, estado de resultado integral, de acuerdo a (Mitre, 2014) Los Estados financieros que más se realizan en las empresas son el Estado de Situación Financiera y El Estado de Resultados Integral, por lo que las PYMES, podrán determinar estas razones financieras. En este caso la actividad preponderante es comercializadora (venta de ropa, muebles, electrónicos, etc.). situada en la Ciudad de México. Tamaño por sus ingresos en Grande, para dimensionar sus indicadores financieros. Con el fin de observar los resultados.

#### *Análisis*

Tabla 1:

EMPRESA "LA PUERTA DE ORO, S.A DE C.V"		
ESTADOS DE SITUACION FINANCIERA		
CONCEPTO	2020	2021
<b>ACTIVO</b>		
<b>ACTIVO CIRCULANTE</b>		
Efectivo y equivalentes de efectivo	\$26,195,936.00	\$32,494,873.00
Cartera de créditos a corto plazo - Neto	\$25,315,337.00	\$31,514,923.00
Impuesto al valor agregado por recuperar	\$2,841,763.00	\$2,767,846.00
Impuesto sobre la renta por recuperar	\$1,352,277.00	\$--
Otras cuentas por cobrar - Neto	\$2,265,152.00	\$1,111,685.00
Inventarios	\$21,475,001.00	\$23,120,308.00
Pagos anticipados	\$1,474,576.00	\$1,335,977.00
<b>TOTAL DE ACTIVO CIRCULANTE</b>	<b>\$80,920,042.00</b>	<b>\$92,345,612.00</b>
<b>ACTIVO NO CIRCULANTE</b>		
Cartera de créditos a largo plazo - Neto	\$7,524,492.00	\$6,825,777.00
Otras cuentas por cobrar a largo plazo - Neto	\$254,334.00	\$261,849.00
Instrumentos financieros derivados	\$2,913,181.00	\$4,516,211.00
Inversión en acciones de asociadas	\$8,103,937.00	\$9,152,496.00
Propiedades de inversión - Neto	\$22,129,016.00	\$22,431,079.00
Propiedades, mobiliario y equipo - Neto	\$50,684,928.00	\$52,573,640.00
Intangibles - Neto	\$15,900,027.00	\$15,880,069.00
Derechos de uso de activos	\$11,657,953.00	\$11,513,536.00
Impuesto sobre la renta diferido	\$4,755,459.00	\$6,470,404.00
<b>TOTAL DE ACTIVO NO CIRCULANTE</b>	<b>\$123,923,327.00</b>	<b>\$129,625,061.00</b>
<b>TOTAL DE ACTIVO</b>	<b>\$204,843,369.00</b>	<b>\$221,970,673.00</b>
<b>PASIVO</b>		
<b>PASIVO A CORTO PLAZO</b>		
Proveedores	\$24,379,789.00	\$29,577,960.00
Acreeedores	\$8,268,588.00	\$10,658,765.00
Provisiones	\$2,895,211.00	\$3,765,394.00
Deuda a corto plazo	\$749,891.00	\$4,108,112.00
Ingresos diferidos	\$2,190,202.00	\$2,347,740.00
Pasivos por arrendamientos a corto plazo	\$1,973,296.00	\$2,004,445.00
Dividendos por pagar	\$2,016,713.00	\$1,011,602.00
Instrumentos financieros derivados a corto plazo	\$59,882.00	\$5,082.00



Impuesto sobre la renta por pagar	\$--	\$2,116,123.00
<b>TOTAL DE PASIVO A CORTO PLAZO</b>	<b>\$42,533,572.00</b>	<b>\$55,595,223.00</b>
<b>PASIVO A LARGO PLAZO</b>		
Deuda a largo plazo	\$37,804,135.00	\$29,825,109.00
Pasivos por arrendamientos a largo plazo	\$10,437,714.00	\$10,555,645.00
Instrumentos financieros derivados a largo plazo	\$66,229.00	\$-
Beneficios a los empleados - Neto	\$2,729,902.00	\$2,739,046.00
Impuesto sobre la renta diferido	\$3,451,786.00	\$3,368,131.00
<b>TOTAL DE PASIVO A LARGO PLAZO</b>	<b>\$54,489,766.00</b>	<b>\$46,487,931.00</b>
<b>TOTAL DE PASIVO</b>	<b>\$97,023,338.00</b>	<b>\$102,083,154.00</b>
<b>CAPITAL CONTABLE</b>		
Capital social	\$3,374,282.00	\$3,374,282.00
Utilidades acumuladas	\$95,670,435.00	\$106,879,767.00
Reservas de capital	\$8,531,932.00	\$9,373,976.00
Participación no controladora	\$243,382.00	\$259,494.00
<b>TOTAL DEL CAPITAL CONTABLE</b>	<b>\$107,820,031.00</b>	<b>\$119,887,519.00</b>
<b>TOTAL DEL PASIVO Y CAPITAL CONTABLE</b>	<b>\$204,843,369.00</b>	<b>\$221,970,673.00</b>
<b>EMPRESA "LA PUERTA DE ORO, S.A DE C.V"</b>		
<b>ESTADOS DE RESULTADOS INTEGRAL</b>		
<b>CONCEPTO</b>	<b>2020</b>	<b>2021</b>
<b>Ingresos de operación:</b>		
Ventas netas de mercancía	100,016,923	135,700,434
Intereses ganados de clientes	11,953,744	11,138,534
Ingresos por arrendamientos	2,579,175	3,090,038
Servicios	509,044	780,745
Otros ingresos	413,661	311,994
<b>Total de ingresos</b>	<b>115,472,547</b>	<b>151,021,745</b>
<b>Costos y gastos:</b>		
Costo de ventas	73,599,463	93,950,314
Provisión para pérdidas crediticias	5,182,681	1,859,558
Gastos de administración	32,878,303	36,478,513
<b>Total de costos y gastos</b>	<b>111,660,447</b>	<b>132,288,385</b>
Utilidad de operación	3,812,100	18,733,360
<b>Intereses a cargo</b>		
Pérdida cambiaria	-4,210,487	-4,649,854
Costos financieros	-2,883,367	-1,033,370
	-7,093,854	-5,683,224
<b>Utilidad cambiaria</b>		
Rendimientos sobre inversiones	2,666,153	1,324,545
Ingresos financieros	1,510,777	1,276,461
	4,176,930	2,601,006
Participación en los resultados de asociadas	-523,773	737,292
<b>Utilidad antes de impuestos</b>	<b>371,403</b>	<b>16,388,434</b>
Impuestos a la utilidad	382,321	-3,510,175
<b>Utilidad neta consolidada</b>	<b>753,724</b>	<b>12,878,259</b>

**Tabla 2:**

AL 31 DE DICIEMBRE DEL 2021					
FORMULA		INTERPRETACIÓN			
<b>LIQUIDEZ</b>					
1.	A.C. / P.C.	\$ 1.66	OPTIMO	Por cada \$1 de pasivo a corto plazo se tiene \$1.66 de activo circulante para cubrir las deudas.	
2.	A.C. - I / P.C.	\$ 1.25	OPTIMO	Por cada \$1 de pasivo a corto plazo se tiene \$1.25 de activo circulante	
3.	E / P.C.	\$ 0.58	ACEPTABLE	Por cada \$1 de pasivo a corto plazo se tiene \$0.58 de efectivo para cubrir las deudas inmediatamente.	
4.	CNT / P.C.	\$ 0.66	ACEPTABLE	Por cada \$1 de pasivo a corto plazo se tiene \$0.66 para margen de seguridad.	
	CNT = A.C. - P.C.	\$ 16,713,000.00			
<b>Este indicador demuestra la capacidad de liquidez que tiene la empresa para hacer frente de sus deudas a corto plazo</b>					
<b>SOLVENCIA</b>					
5.	P.T. / C.C.	\$ 0.85	RIESGOSO	Por cada \$1 de capital se adeuda \$0.85 de deudas.	
6.	P.T. / A.T.	\$ 0.46	ACEPTABLE	Por cada \$1 de activos totales se adeuda \$0.46 de deudas. No pone en riesgo los bienes de la empresa.	
<b>Este indicador se refiere al apalancamiento financiero que tiene la empresa para utilizar los creditos tanto a corto como a largo plazo, enfrentandolos con el capital propio y el patrimonio</b>					
<b>EFICIENCIA OPERATIVA</b>					
7.	$60 / (C.V / (S.I.I.+S.F.I.)/2)$	4.21	85.44	ACEPTABLE	Nuestros inventarios rotan 4.21 veces al año. Nuestros inventarios se recuperaran en menos de un año que son 85.44 días.
		EN VECES	EN DIAS		
8.	$60 / (VN / (SICC+SFCC)/2)$	4.78	75.38	ACEPTABLE	Nuestras cuentas por cobrar rotan 4.78 veces al año. A si que en 75.38 días podremos recuperar la inversion.
		EN VECES	EN DIAS		
9.	$60 / (CV / (SICP+SFPC)/2)$	3.48	103.38	ACEPTABLE	Nuestras cuentas por pagar rotan 3.48 veces en un año. En 103.38 días podemos pagar las deudas. Entre mas días mejor.
		EN VECES	EN DIAS		
<b>Este indicador demuestra la eficiencia en las politicas establecidas para el retorno de la inversion, en veces y en días</b>					
<b>RENTABILIDAD</b>					
10.	U.B. / V.N.	\$ 0.31	ACEPTABLE	Refleja que por cada \$1 de ventas se genera \$0.26 de utilidad bruta.	
11.	U.O. / V.N.	\$ 0.14	ACEPTABLE	Por cada \$1 de ventas netas se genera \$0.14 de utilidad de operación.	
12.	U.T. / V.N.	\$ 0.12	ACEPTABLE	Por cada \$1 de ventas netas se genera \$0.12 de utilidad.	
13.	RETORNO U.T. / A.T.	\$ 0.07	RIESGOSO	Por cada \$1 de activos totales se genera \$0.06 de utilidad.	
14.	U.N. / C.C.	\$ 0.11	RIESGOSO	Por cada \$1 de capital se genera \$0.11 de utilidad neta.	
<b>Este indicador demuestra la eficiencia rentable que opera la empresa para generar rendimientos</b>					

## **Métodos empleados**

Para aplicar las técnicas es necesario considerar un objeto de estudio, por lo tanto, se considera los estados financieros, así como las fórmulas de razones financieras.

- El Estado de situación financiera se requiere que esté conforme las reglas de presentación que consideran las NIF, por rubros de la NIFC,
- El Estado de Resultados Integral cuenta con todas y cada una de los rubros conforme a la NIFB-3
- Las fórmulas serán las recomendadas por las NIFA-1

## **IV. Conclusión**

La economía mundial se caracteriza por sus constantes ciclos variables macroeconómicas, las cuales las organizaciones deben estar preparadas en diversos escenarios para afrontarlos, el análisis e interpretación dirige la vista a los rubros comparados en las razones financieras, en el caso expuesto por las cuatro etapas analizadas e interpretadas. Se encontraron la etapa de liquidez de manera óptima y sólida, en cuanto a la etapa de solvencia se observó que la empresa se encuentra en una etapa riesgosa al adeudar .85 centavos por cada peso del capital propio, en la etapa de eficiencia operativa la empresa se interpreta que tiene las mejores políticas, en cuanto a la etapa de rentabilidad se observa punto riesgosos entre la utilidad y el activo total, al igual con el capital propio. Sugiriendo que la empresa debe tomar políticas en las etapas de solvencia y rentabilidad.

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# Actions Applied by the Mexican Government to Boost Foreign Trade during the Pandemic and Post-Pandemic

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## Abstract

The objective of this research: Analyze the different intervention strategies applied by the Mexican State in international trade during the pandemic in order to generate policy proposals that strengthen export and import activities in the post-pandemic transition. The methodology used was analytical and descriptive. The results show that, faced with the decrease in commercial activities, the State decided to intervene by creating the new National Customs Agency of Mexico and designating the armed force to ensure the control of customs activities. These actions have generated a better collection of taxes on foreign trade and an increase in exports of 2.1% compared to 2021. Therefore, it is concluded that the actions have allowed a repositioning of the role of the State in matters of international trade. In addition, they are positioned as strategic for the post-pandemic transition, and it is hoped that they will emerge as public policy.

**Keywords:** Pandemic; Strategies; Smuggling; Condition; National Guard.

## I. Introduction

The pandemic crisis that occurred in 2020 left a myriad of consequences in the human, economic and commercial spheres. For Fierro Moreno, Cuauhtémoc Gaxiola and Linares (2021, 65-81) "the world economy could lose 9 trillion dollars over the course of 2020 and 2021 and those developing countries could also lose 220 billion dollars of Gross Domestic Product (GDP) in 2020 alone". In Mexico, according to the Mexican Social Security Institute (IMSS 2021), 647,710 jobs were lost, equivalent to a 3.2% drop in formal employment at the beginning of the pandemic and the closure of millions of businesses in the first 6 months of confinement according to data from the National Institute of Statistics and Geography (INEGI 2022a). For Velázquez and Rivero (2020), more than 70% of established Micro, Small and Medium Enterprises (MSMEs) had to temporarily close their doors due to the imposition of containment that significantly reduced mobility with the intention of slowing the rate of contagion among the population.

For Moreira-Arenas, Ferreira-Pinto, Obregón-Reyes and Quiero-Bastías (2022) the various types of crises negatively impact countries in their political, economic, social and even commercial development. The evolution of international trade has experienced, as a result of COVID-19, a worsening of the downward trend it registered as of the last quarter of 2019. For the Economic Commission for Latin America (ECLAC 2020), the value of exports and imports of goods fell by 17% between January and May 2020 compared to the same period in 2019. Also, the year-on-year decline in trade volume in the two-month period April-May 2020 was much larger than in the same period in 2009, during the financial crisis: 20% for exports and 25% for imports.

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In Mexico, within months of the onset of the pandemic, exports of goods and services fell by 7.3% to USD 434.4 billion, while imports fell by 14.8% to USD 418.2 billion. For 2021, INEGI (2022b) indicates that the volume of total exports of goods and services increased by 18.6% in 2021 to USD 417,170.7 million (MDD) to USD 494,764.5 MDD and is expected to reach a similar percentage in 2022 given that in the month of July total exports are estimated at USD 49,016.4 MDD. This shows that, despite the difficulties of the pandemic crisis, the Mexican government was able to implement strategies to boost international trade. This is important given that the country is highly dependent on foreign trade, which represented 78% of its GDP in 2020.

This leads to the following questions: What has been the strategy adopted by the state to boost international trade during the pandemic? What interventions should the state implement for the post-pandemic transition? These questions lead to the objective of this research: to analyze the different intervention actions implemented by the Mexican state in the area of international trade in order to generate proposals to strengthen export and import activities in the post-pandemic transition.

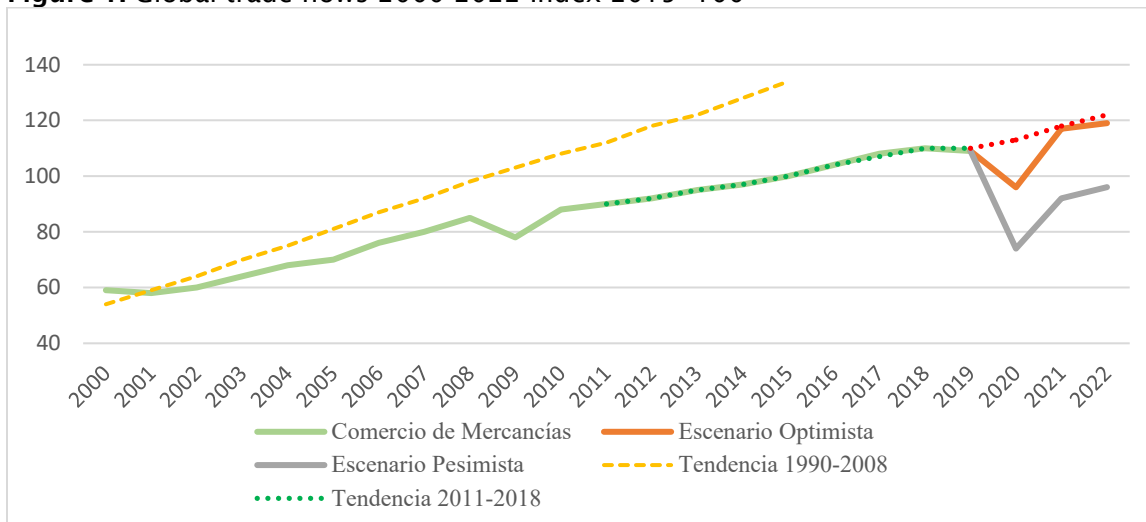
It is hypothesized that the implementation of international trade-oriented actions to counteract the COVID-19 pandemic has had a positive impact on Mexico's exports and imports. In addition to the introduction, the following section reviews the evolution of the pandemic in world trade in general and in Mexico in particular. Section two presents the strategies applied in Mexico during the pandemic to boost international trade. Section three proposes strategies as public policies for the post-pandemic transition in the field of international trade. Finally, conclusions are presented.

### ***The effects of the pandemic on world trade***

The decline in trade flows after 2020 corresponds to slower growth in the global economy. This lower dynamism results in lower demand for goods and services, as shown in Figure 1, and the increased interdependence among the world's countries, as measured by trade-to-GDP ratios, has negative consequences for the growth of economic activities and exports and imports in the major economies. Clearly, the emergency declaration issued by the WHO will exacerbate the negative trend in trade that was already apparent in 2019.

Additionally, it should be noted that the quarantines implemented in Asian countries have caused major disruptions in supply chains due to supply problems due to the shortage of microprocessors, which has mainly affected the automotive industry in the midst of the pandemic due to increased demand in the electronics industry and the lack of foresight in ordering these parts from the producers of these parts.

**Figure 1.** Global trade flows 2000-2022 Index 2015=100



Source: General Secretariat of the World Trade Organization, 2022.

The effect of the decline in trade flows has been mixed at the end of 2019. It has already been noted that trade flows in goods declined. This decline is quantified as follows: Merchandise trade recorded a decline of -0.1% compared to the previous year, 2018, which experienced an increase in merchandise trade of 2.9% over the previous year. However, if that decline, -0.1%, is measured in dollar terms, the drop equates to a 3% decline from the previous year. The amount recorded last year fell to \$18 billion. Mexico contributed 2.4% of this amount and its trade volume grew by 2% compared to the previous year according to the World Trade Organization (WTO, 2020).

Despite the above, 2019 was not entirely negative for international trade, as trade in services recorded a 2% increase to reach USD 6 trillion. However, this increase also registered a lower dynamism compared to 2018, which registered an increase of 9%. In this area, Mexico also contributes 2.4% of total world trade in services. The country, however, recorded a 2% decrease compared to the previous year (WTO, 2020). It should be noted that trade in services shows a more dynamic growth compared to trade in goods. The decrease in one is remarkable compared to the increase in the other as the two are interrelated.

The difference in growth trends between exports of goods and services can be explained according to Oberlo (2020) through a phenomenon that is accentuated as an effect of the crisis caused by the Covid 19 pandemic; that is, a growth in exports of services while those of goods fell, the increase in financial flows resulting from e-commerce operations, Amazon or Alibaba among others as main beneficiaries, the increase in the turnover of digital platforms, Netflix or Amazon Prime, and finally, factors such as sending money from one country to another. Even with the pandemic, online sales are expected to increase in 2020 and this trend will continue until at least 2023.

The global pandemic has meant that global commerce has had to adapt faster than many businesses would have liked. In fact, one of the factors that will contribute to e-commerce this year is precisely the quarantine declared in several countries, which causes, among other things, people who are confined to their homes to increase their consumption levels. In fact, in Mexico, consumer behavior in relation to online shopping is changing rapidly. This is illustrated by the main barrier to e-commerce in the country today. A few years ago, the main concern was the fear that their data would be stolen from the network; now, it is the speed of their internet connection (Internet.Mx, 2018).

The WTO notes that the economic crisis triggered by Covid 19, because of its impact not its genesis, makes it necessary to compare the present with 2008 because of the similarities, but also because of the differences between them. In both cases, the organization points out, as a way of mitigating the effects of the current crisis, governments have intervened by granting funds to companies and families to try to alleviate the effects of the emergency through economic, fiscal and monetary policy measures (WTO, 2020). However, nothing is said, by the organization or any other body, about the impact of such measures in terms of the deterioration of public finances and the cost of the quarantine, lasting several months depending on the country, on the disruption of supply chains and productive activities worldwide, in addition to the labor, social and public health effects that must be taken into account.

Table 1 shows the evolution of world trade during the pandemic. It shows that 2021 saw a strong rebound in trade volumes following the crisis caused by the 2020 pandemic (see figure 1), but growth might have been higher without the recurrent waves of COVID-19 that occurred during the year. All regions recorded export growth below the global average of 9.8%, with the exception of Asia, where exports increased by 13.8%.

The World Trade Organization (WTO 2022) forecasts export volume growth in 2022 to be 3.4 per cent in North America, -0.3 per cent in South America, 2.9 per cent in Europe, 4.9 per cent in the CIS, 1.4 per cent in Africa, 11.0 per cent in the Middle East and 2.0 per cent in Asia. Likewise, import growth will be 3.9 per cent in North America, 4.8 per cent in South America, 3.7 per cent in Europe, -12.0 per cent in the CIS, 2.5 per cent in Africa, 11.7 per cent in the Middle East and 2.0 per cent in Asia. Trade costs would increase in the short term as a result of sanctions, export restrictions, energy costs and transport disruptions caused by COVID-19.

**Table 1: Merchandise trade volume and GDP evolution Purchasing Power Parity, 2018-2023**  
Annual % change

	2018	2019	2020	2021	2022(P)	2023(P)
<b>World Trade Goods Flows Evolution</b>	3.0	0.2	-5.0	9.8	3.0	3.4
<b>Exports</b>						
North America	3.8	0.3	-8.8	6.3	3.4	5.3
South America	-0.9	-1.2	-4.6	6.8	-0.3	1.8
Europe	1.8	0.6	-7.8	7.9	2.9	2.7
Community of Independent States <sup>2</sup>	4.0	-0.3	-1.2	1.4	4.9	2.8
Africa	3.1	-0.3	-7.5	5.1	1.4	1.1
Middle East	4.6	-1.9	9.3	7.3	11.0	2.9
Asia	3.7	0.9	0.5	13.8	2.0	3.5
<b>Imports</b>						
North America	5.1	-0.6	-6.1	12.6	3.9	2.5
South America	4.8	-1.7	-11.2	25.8	4.8	3.1
Europe	1.9	0.3	-7.3	8.1	3.7	3.3
Community of Independent States	4.0	8.3	-5.5	10.7	-12.0	-5.2
Africa	5.4	3.0	-11.8	4.2	2.5	3.9
Middle East	-4.1	5.2	-9.8	5.3	11.7	6.2
Asia	5.0	-0.4	-1.0	11.1	2.0	4.5
<b>Purchase Power Parity (PPP)</b>	3.2	2.5	-3.4	5.7	2.8	3.2
North America	2.8	2.1	-3.8	5.5	2.9	2.1
South America	0.4	-0.5	-6.8	6.3	1.9	2.7
Europe	2.0	1.7	-5.9	5.8	2.3	2.5
Community of Independent States	3.1	2.4	-2.5	4.6	-7.9	-0.1
Africa	3.2	3.0	-2.5	4.6	3.2	3.9
Middle East	0.9	0.4	-4.5	2.8	3.4	3.8
Asia	4.9	4.0	-0.9	6.1	3.8	4.7

Note: These projections incorporate mixed data sampling techniques (MIDAS) for selected countries to take advantage of higher frequency data, such as container traffic and financial risk indices.

Source: WTO for trade data and consensus estimates for GDP.

As noted above, the genesis and development of the global health crisis has been significantly different from the 2008 crisis. The one then had an eminently financial origin; while the one we are facing now has a completely different origin from any other that the world economy has faced in at least the last hundred years. Therefore, the novelty of the causes of the pandemic and its effects enter into the dangerous realm of the unknown as to how to resolve the situation and steer economies and the trading system onto a path of growth, not forgetting that prior to the pandemic, there were already major differences between the world's major trading powers.

In the case of Mexico, Table 2 shows the evolution of the trade balance between 2020 and mid-2022. It shows that the value of merchandise exports in June 2022 was 51,234 million dollars (we are only halfway through the current year), 20.2% higher than in the same month of 2021. According to the Bank of Mexico (2022), this result is explained by the 17.8% expansion in non-oil exports and 56.8% in oil exports. Within non-oil exports, those directed to the United States advanced 21.7% at an annual rate, while those channeled to the rest of the world did so by 1.0%.

<sup>2</sup> Includes Russia and the other 14 former Soviet Republics

**Table 2: Mexico's Merchandise Trade Balance (millions of dollars)**

	2020	2021	2022			
			April	May	June	January- June
<b>Total Exports</b>	<b>417,171</b>	<b>494,765</b>	<b>47,479</b>	<b>50,005</b>	<b>51,234</b>	<b>280,771</b>
Oil & Gas	17,655	29,217	3,825	3,809	4,096	20,599
Others	399,515	465,548	43,655	46,196	47,138	260,172
<b>Total Imports</b>	<b>382,986</b>	<b>505,703</b>	<b>49,364</b>	<b>52,220</b>	<b>55,191</b>	<b>293,715</b>
Oil & Gas	31,408	53,851	6,148	6,995	8,766	36,508
Others	351,578	451,852	43,215	45,225	46,425	257,207
<b>Trade balance</b>	<b>34,185</b>	<b>-10,939</b>	<b>-1,884</b>	<b>-2,215</b>	<b>-3,957</b>	<b>-12,944</b>
Oil & Gas	-13,753	-24,635	-2,324	-3,186	-4,670	-15,909
Others	47,938	13,696	440	971	712	2,965

Source: Own elaboration based on Banco de México, 2022.

## II. Methodology

### *Design*

The present work is based on a non-experimental design; the observed phenomenon is analysed within its natural environment. No hypotheses are tested. The purpose of this study or phenomenon is to analyze the different intervention actions applied by the Mexican State in terms of international trade with the aim of generating proposals to strengthen export and import activities in the post-pandemic transition.

### *Instrument*

The study has a qualitative approach and a documentary data collection technique. According to Cervantes-Guzmán (2021), this type of technique is based on the needs of the study, on information obtained from research archives, in documents of any type, such as bibliographic and periodicals. The former is based on the consultation of books and the latter on articles or essays in magazines and newspapers. In this case, databases such as the World Bank, World Trade Organization (WTO, 2022), Tax Administration System (SAT) and Expansion among others will be consulted.

### *Procedure*

According to Zapata Morán and De la Garza Montemayor (2022, p. 100), the purpose of this section is to carry out an analysis with an objective perspective and to understand the research problem. For this purpose, a series of different academic and scientific documentary sources were compiled. Once the objectives and the context of the research had been established, an analysis of the collected information was carried out in order to establish an in-depth analysis of the topic. Once the analysis of the information was completed, the results of the methodology were executed and a series of conclusions were drawn in relation to the objectives set out, all with the aim of resolving the post-pandemic difficulties in international trade in Mexico.



### **III. Results of trade-related actions implemented by the Mexican government in response to the COVID-19 pandemic as forms of intervention in foreign trade during the pandemic**

In the context of the arrival of the new government in Mexico headed by President Andrés Manuel López Obrador (AMLO), and considering the powers that this office has under Article 89, Section XIII of the Political Constitution of the United Mexican States (CPEUM), on the powers of the president, the government decided to make essential modifications in relation to previous administrations in the area of foreign trade. This paper will seek to analyze some of them.

It should be noted that the discussion and implications of the AMLO government's decision to modify the structure of the customs authority that Mexico had until 2018. The change, according to the government itself, seeks to: "... curb smuggling of goods, drug trafficking, tax evasion" and, as AMLO himself said, "clean up all the country's customs" (Rodríguez, 2011) and consisted of creating a new decentralized body, the National Customs Agency of Mexico (ANAM), which would coordinate with the Tax Administration Service (SAT) but would be under the control of the country's Armed Forces.

The Mexican government's decision resulted in the Armed Forces having control over the country's customs offices and the appointment of the directors of each office, which was previously carried out by the General Directorate of Customs, and the internal operation of Mexican customs offices. However, one point stands out here that has not been fully clarified by the relevant authorities. Coordination between the SAT, the Ministry of National Defence (Sedena), and the Ministry of the Navy (Semar) could lead to a potential conflict if the former were to encroach on the latter's new powers or vice versa.

It is assumed that the aforementioned cooperation between the SAT, Sedena, and the Navy could work in practice; however, it is a prerequisite that it takes place within the ambit of a government with high legitimacy (such as AMLO's) and that it can avoid egos and differences between the leadership of ANAM and the armed forces. However, the story could be very different for future governments that do not have the same legitimacy as the current one.

In addition to the possible administrative conflict already mentioned, there is the fact that the Sedena and Semar have been included in an additional activity to those already conferred on them by the CPEUM. The supervision of customs operations is added to the construction of airports, two sections of the Tren Maya and the 2,700 branches of the Banco del Bienestar (Rodríguez, 2021). AMLO's decision is based on his belief in the greater honesty and efficiency of the armed forces compared to civilian bodies in customs operations and the construction of public works, in addition to the appeals that some sectors of society have filed with the intention of suspending the construction of priority infrastructure works, as President López has declared since he was a presidential candidate.

The presidential position on the designation of the armed forces and the control of customs in the country is primarily aimed at combating smuggling in Mexico. Smuggling has a long history in the country. In fact, "... in nineteenth-century Mexico - as well as throughout Latin America - smuggling was an important part of everyday life for a large majority of people (Bernecker, 2005)". As can be expected, the persistence of smuggling practices in the country could not be explained without the ineptitude or complicity of the customs authorities.

To illustrate the aforementioned complicity of the customs authorities in those days, we have the following:

"When an American merchant wanted to import, in the first half of the 1920s, goods worth 15,000 pesos, he bribed, on the Pacific coast, the port commander with 1,000 pesos, the chief customs inspector with 500, and the soldiers in charge of control with another 500. The 2,000 pesos he paid in total for the bribe was

much less than what he would have had to pay as import tariff<sup>3</sup> (sic)" (Beafoy, 1828).

It is quite feasible to think today that it is possible that this kind of practice is still going on, even if the amounts of money are very different. Normally, smuggling occurs in the importation of goods, as in the case mentioned in the previous paragraph. However, there are also exports of goods that are carried out under illegal conditions, and the customs authorities are certainly aware of the outflow of goods. An example of this is the foreign sales of iron ore to China, which were carried out and left profits of 100 million dollars for Mexican criminal cartels such as the Caballeros Templarios Templar and the Zetas (Nájar, 2014).

However, the use of armed forces in a country is not a unique case. In fact, in 2021<sup>4</sup>, the US government presented a document in which it requested the assistance of the armed forces, temporarily, to help the Border Patrol control customs crossings at the US-Mexico border. However, the document states that the assistance of the Mexican army will be temporary and limited, without the border control agencies losing their authority and functions.

### ***How is smuggling combated in Mexico?***

Smuggling consists of: "Introducing or removing goods from a country in violation of the Laws and regulations or prohibition measures or to evade or attempt to evade applicable fees without filling out the customs declaration to avoid controls" (Medina Vázquez and Hernández Contreras 2013). In other words, smuggling is an act that seeks to avoid or reduce the payment of duties and to present documents or certificates that could be more expensive or time-consuming to process than the bribe that could be paid to a customs official. It is relevant to note that this crime, which is a crime, harms public finances and is one aspect of the corruption of corruption, a practice that costs up to 9.5 billion pesos in 2021 compared to 14.141 billion pesos in 2019 (Rodríguez, 2022).

The crime of smuggling has two aspects. The first is called Open Smuggling and consists of avoiding presenting goods at entry and exit checkpoints, and customs, of goods in national territory and thus avoiding compliance with any type of tax, health, or national security obligation. The other is somewhat more interesting and is known as Technical or Documented Smuggling and consists of falsifying documents or making false declarations in the preparation of import or export pedimentos, depending on the case.

An example of documented smuggling is the triangulation of goods, which consists of falsifying the origin of imported products by preparing false certificates of origin to receive preferential tariffs or to avoid the payment of compensatory quotas that should be paid, or the misuse of export promotion programs such as the, The misuse of export promotion programs such as the former Temporary Import Programmes for the Production of Export Articles (PITEX), the Highly Exporting Companies Programme (ALTEX), Foreign Trade Companies (ECEX) and the Sectoral Registers in various industries, which allow companies that have them to import inputs and goods that cannot be introduced by those that do not (Hernández Meneses, 2006).

As is to be expected, the practice of smuggling, in its two aspects, implies damage to public finances, since those who commit it do not pay taxes and duties, or not as much as they should, to foreign trade, in addition to the message given to society that cheating is justified in order to reduce import costs in foreign trade operations. The amount involved in smuggling practices in the country's customs is very complicated to calculate and the effect it could have on national industries is something that can be perceived in the medium and long term. Therefore, something must be done by the Mexican government to prevent the commission of this crime.

One of the most serious attempts to combat smuggling in Mexico so far has been made by the Director of SAT, Raquel Buenrostro, who presented an initiative that seeks to combat technical

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<sup>3</sup> The term tariff, at least in foreign trade, refers exclusively to import taxes, and it is, therefore, redundant to speak of import tariffs.

<sup>4</sup> The document's title is "Military Support for Customs and Border Protection Along the Southern Border Under the Posse Comitatus Act".

smuggling and which consists, among other things, of requesting the use of a Carta Porte, or "Letter of Approval", Among other things, it calls for the use of a Carta Porte and the CFDI<sup>5</sup> for all goods transported in the country, and an amendment to Articles 104 and 106, Section C, Section II of the Federal Fiscal Code (CFF) (Ávila, 2021), which penalizes with imprisonment those who commit smuggling, in addition to eliminating their registration in the Importers' Register and the cancellation of their Customs Agent's license.

The regulatory changes come on top of President López Obrador's decision to send the armed forces to regulate the operation of the country's customs, but it is the SAT that is in charge of supervising the operation of the customs traffic light, which represents a sui generis decision that the Mexican government has implemented intending to eliminate the practice of smuggling. However, the use of the army and navy in controlling the security and operation of the country's 49 bonded warehouses can help reduce corrupt practices in the bonded warehouses if all those involved are truly committed to combating both sides of smuggling.

### ***Results of anti-smuggling efforts***

Although no figure or statistic reflects the regulatory change outlined above, it is possible to infer what the impact of the change may have been by looking at the evolution of the collection of revenue from foreign trade. However, there are two critical things to consider that may explain the figure for 2021, the latest available data, compared to the previous year. First, the variation in economic activity in the year requested compared to the previous year, and then, the zero change in tariffs and tax rates applicable to foreign trade in the years considered.

In Mexico, there are two types of taxes applied to foreign trade operations. The first type is taxes. The first of these is the General Import and Export Tax, which is regulated by the provisions of the law of the same name (LIGIE). This legal instrument includes the little more than 14,000 tariff items that are included in the General Import and Export Tax Tariff (TIGIE) and that indicate the tariff to be charged on import operations.

The LIGIE and the Free Trade Agreements signed by the country contemplate two types of tariffs. The average tariff is indicated in the first one for each tariff item, and the second one is the preferential tariff indicated in the second one. In addition, countervailing duties continue to be levied on less than 230 tariff items following investigations carried out by the International Trade Practices Unit (UPCI) on Unfair International Trade Practices (Secretaría de Economía 2022).

Also, in the group of taxes, we can find the case of Value Added Tax (VAT) charged on imports in accordance with the provisions of Article 1 of the Value Added Tax Law, which in its last part states that those who carry out import and export operations are subject to the payment of the tax<sup>6</sup>. In the case of this tax on imports, it is levied in the same way as it is levied in the same case in the national territory, 16% on the products that pay it, exempting food, books, and medicines, and 8% when the tax is levied in the Border Border Strip.

Another tax that can be paid on imports is the Tax on New Cars (ISAN), which is levied only in the case of the definitive import of cars, and the law on this tax states that a new car is: "... a new car is understood to be that which is sold for the first time to the consumer by the manufacturer, assembler, authorized distributor or dealer in the vehicle sector"<sup>7</sup>. Also, ISAN is not payable if a car does not exceed the price limit of \$292,552.97 Mexican pesos without considering the amount corresponding to VAT<sup>8</sup>.

The last case of a tax that can be levied in Mexico on definitive import operations is the Special Tax on Production and Services (Impuesto Especial sobre Producción y Servicios, IEPS). This is levied on the sale of fuels - gasoline, diesel, natural gas, etc. -, foodstuffs, beverages, high-calorie breads and biscuits and, finally, on alcoholic beverages and cigars. The collection of this tax does not differ in any way from the rates applied to the marketing of the products mentioned above. A table illustrating the collection related to foreign trade operations is presented below:

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<sup>5</sup> Comprobante Fiscal Digital por Internet

<sup>6</sup> Art. 1 Value Added Tax Law

<sup>7</sup> Art. 1 Fraction 1 of the New Car Tax Law

<sup>8</sup> Art. 8 Section 2. of the New Car Tax Law

**Table 3.** Collection of taxes on foreign trade in Mexico (Millions of pesos)

Impuesto	2021	2022	Absolute Variation	Real change (%)
Trade Taxes <sup>9</sup>	474,609	520,941	46,332	2.1
IVA	351,265	458,048	106,783	21.3
IEPS	90,150	18,533	-71,617	80.9
ICE <sup>10</sup>	32,632	43,639	11,007	24.4
Otros	562	721	159	19.3

Source: SATributaria

As can be seen in Table 3, collection has increased in the case of VAT and ICE and, according to the SAT, the decrease in the collection of IEPS is due to the subsidy that the federal government has granted in an attempt to contain the increase in the price of fuels worldwide and the effect of smuggling of this type of products. It is also worth remembering that the figures for 2021 reflect a significant recovery in economic activity in relation to the 2019-2020 period, characterized by the suspension of several productive activities in the framework of the sanitary emergency decreed by the authorities due to Covid 19.

In terms of duties paid on foreign trade, those paid in Mexico include the Customs Processing Fee (DTA) and Prevalidación. The former is paid on imports and exports. For the former, the calculation is equivalent to the payment of 8 pesos per thousand of the Customs Value of Goods (VMA). The charge is the minimum, \$378.00 pesos, when multiplying the VMA by 0.008 results in an amount equal to or less than the minimum charge. If the result is a higher amount, that amount will be charged. Prevalidación always has a fixed charge of 180 pesos plus VAT, regardless of the type of customs operation.

These data suggest that the country has recovered its commercial activity compared to the most critical period of the pandemic. In addition, the higher tax collection suggests that smuggling may have decreased as a result of operational changes in customs administration and greater control of customs facilities by the armed forces. Perhaps individuals and companies that used to commit criminal acts such as smuggling are more willing to comply with legal provisions related to import or export clearance in the face of changes in related laws.

Finally, the following table shows the aforementioned trade recovery:

**Table 4.** Mexican foreign trade situation 2019- 2021 (Millions of dollars)

Year	Exports	Imports	Commercial Balance
2019	468,023.58	494,762.35	-26,738.77
2020	416,196.21	392,521.04	23,675.17
2021	485,495.66	492,609.30	-7,113.64

Source: Own elaboration with data from Expansión/ Datosmacro.com. Available at: <https://datosmacro.expansion.com/comercio/exportaciones/Mexico>

As can be seen in Table 4, after the fall in the country's economic and trade activity, the pace of exports and imports recovered, causing the figures for 2021 to be very similar to those recorded in 2019. However, it should be noted that in 2020 there was a trade surplus, which was reversed in 2019 and 2021. It is worth remembering that the country's foreign trade is normally characterized by trade deficits, the exceptions being the years following an economic crisis. Examples are the period from 1982 to 1988, 1995-1996, and 2020 (Expansión, 2022).

Despite the data on the growth of Mexican exports, it should be noted that the participation of small and medium-sized enterprises is marginal. Of the total number of such companies in the country, just over 4.5 million, just over 33,000 export; however, the volume of their foreign sales represents 5% of Mexico's total exports (Pérez Munguía, 2013). The above figures seem to show

<sup>9</sup> Includes revenue reported by the Customs Auxiliary, plus Foreign Trade Taxes (ICE).

<sup>10</sup> Foreign Trade Taxes (ICE) consider the General Import Tax (IGI) and the General Export Tax (IGE).

that the efforts of agencies such as ProMéxico<sup>11</sup> have not been enough to increase the importance of SMEs in the country's foreign trade and that the disappearance of this organization has not altered the evolution of trade flows in any way.

It seems that the trade surpluses recorded by Mexico in the years mentioned in the previous paragraph originate from a depreciation of the Mexican peso in relation to the dollar and that when this depreciation stabilizes, almost always with a fall in the value of the peso except in 2020 and its current parity, importers in the country reduce their purchases abroad due to the purchasing power lost by the peso as a result of its devaluation. Subsequently, when the effect of this situation stabilizes, the rate of imports into the country recovers.

To illustrate the above, the peso's depreciation in relation to the dollar in the years mentioned in the previous paragraph, let us take 1 September of each year as a reference for the exchange rate of the Mexican peso. Thus, using data from Banco de México, the information is presented in Table 5:

**Table 5. Peso-dollar parity on 1 September in selected years**

Year	Peso-Dollar Exchange Rate
1982	70.00 <sup>12</sup>
1983	148.35
1984	193.46
1985	332.50
1986	714.50
1987	1,485.50
1988	2,295.00
1995	6,245.30 <sup>13</sup>
1996	7.55
2019	20.12
2020	21.74
2021	19.96

Source: Own elaboration with data from Banco de México. Website: <https://www.banxico.org.mx/SielInternet/consultarDirectorioInternetAction.do?sector=6&accion=consultarCuadro&idCuadro=CF373&locale=es>

In short, Mexico's foreign trade is recovering to pre-pandemic levels, has changed its administrative structure by including the armed forces in the operation of the 49 customs offices, and is experiencing increased tax collection, which suggests that the country is making progress in combating smuggling practices. It is also experiencing increased tax collection, which suggests that the country is making progress in combating smuggling practices. Mexico's trade deficit was recorded again in 2021 after the quarantine effect from March 2020. In the first half of 2022, the country registers a deficit of 12,944 million dollars (INEGI, 2022c).

#### **IV. Proposed state actions as a post-pandemic transition in Mexican foreign trade**

The federal government is implementing a measure that, although not without controversy, is registering positive figures in terms of promoting legality in customs clearance and compliance with fiscal and regulatory obligations in the country's foreign trade. Because of the phenomenon itself, smuggling is complicated in its calculation and determination, it is inferred that the country has recovered the rhythm of its commercial activity but will benefit from greater efficiency in the

<sup>11</sup> *ProMéxico* was a trust fund of the Federal government of Mexico —a subdivision of the Secretariat of Economy— that promoted international trade and investment. Source: Wikipedia

<sup>12</sup> On the previous day, 31 August 1982, the dollar was quoted at \$104.00.

<sup>13</sup> \$6.24 New Pesos

registration and compliance with customs provisions. This section, therefore, makes two proposals for post-pandemic actions to strengthen Mexican foreign trade.

### ***National Customs Agency of Mexico (ANAM)***

It is a decentralized body of the Ministry of Finance and Public Credit responsible for the administration of customs in Mexico, created in January 2022, whose function is to apply and ensure compliance with the legal rules governing goods in international trade. It also collaborates with the Tax Administration Service. The collection of taxes on foreign trade shows an increase of 2.1% with respect to the year 2021, indicating that perhaps the agency is showing positive results post-pandemic.

### ***Military command in the ports***

While the proximity to the United States benefits the country, it should be noted that it is also detrimental mainly because of the uncontrolled entry of weapons. This allows criminal groups to take possession of the country's different ports in order to control the entry and exit of illicit goods such as drugs and arms trafficking and to strengthen corruption and other crimes.

According to Gallegos (2020), this forced the government of President Andrés Manuel López Obrador to intervene by delegating control and surveillance of the ports to military commanders. Although it is not the first government to apply this measure, there are signs of hope for the post-pandemic period when a better collection of taxes on foreign trade is observed, which is important according to Zamora Torres and Reyes Real (2022) in public customs management in order to increase its efficiency and thus improve the flow of trade. Additionally, the presence of the armed forces ensures an overall improvement in international security standards in the traffic of goods, according to Núñez-García and Lechuga-Cardozo (2022).

## **V. Conclusions**

The pandemic crisis has generated much health, economic, environmental, social and trade damage. In Mexico, exports of goods and services decreased by 7.3 per cent while imports fell by 14.8 percent. By 2021, the volume of total exports of goods and services increased by 18.6% and is expected to reach a similar percentage in 2022 given that as of July total exports are estimated at 49,016.4 MDD. This shows that the international trade sector has been favorable for the country. This situation led to two questions: What has been the strategy adopted by the state to boost international trade during the pandemic? What are the interventions that the state should implement for the post-pandemic transition?

The research results indicate that the creation of the new National Customs Agency of Mexico (ANAM) and the introduction of the armed forces (National Guard) to control customs have allowed achieving a 2.1% growth in exports in 2022 compared to 2021 and a higher collection of taxes on foreign trade. These results allow us to answer the first question. Furthermore, to test the hypothesis that implementing international trade-oriented actions to counter the COVID-19 pandemic has positively impacted Mexico's exports and imports.

These actions have allowed for the repositioning of the state's role in international trade. It is worth noting that the country is highly dependent on foreign trade because it represented 78% of its GDP in 2020. Also, these actions have favored a better performance of net exports during the pandemic, so it is recommended to continue in the transition period to the post-pandemic. One of the limitations of this research is related to the short time that the new National Customs Agency of Mexico (ANAM), which was created in January 2022, has been in operation.

This will allow for an objective assessment of the new decentralized body of the Ministry of Finance and Public Credit. It is hoped that the Mexican government's two actions to boost foreign trade in the post-pandemic period will result in public policies.

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# Modelo teórico de la Norma ISO 9001:2015 y el desempeño organizacional de las agencias aduanales

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## Resumen

A continuación, se presenta la revisión documental del proyecto de investigación que busca determinar la influencia de los principios de la norma ISO 9001:2015 en el desempeño organizacional de las agencias aduanales en la ciudad de Nuevo Laredo, Tamaulipas. Para este fin se realizó la consulta de diferentes estudios empíricos relacionados con el tema que permitieran establecer la relación potencial entre las variables del estudio y finalmente se propone la interacción teórica.

A partir de esta revisión documental se encontró que la implementación de la norma ISO 9001 representa diversos beneficios para las organizaciones entre los que podemos mencionar el desarrollo de una filosofía enfocada a la mejora continua, el cambio de enfoque en tareas a procesos para el desarrollo de las actividades, mayor satisfacción del cliente, incremento de la productividad organizacional, así como la mejora de distintos indicadores financieros.

La investigación presentada servirá de soporte o podrá ser de utilidad en, otro puerto aduanero del país o en la contraparte estadounidense que, en el caso de la frontera, resultaría interesante conocer mediante un proyecto comparativo del sector.

**Palabras clave:** ISO 9001:2015, Agentes aduanales, Desempeño organizacional.

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# Comportamiento de la balanza comercial de productos agropecuarios de México, 1993-2022

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## Resumen

El objetivo de esta investigación es analizar el comportamiento de la balanza comercial agropecuaria de México, e identificar la tendencia y estacionalidad de los productos agrícolas con mayor participación económica para el periodo 1993-2022. La metodología consiste en la estimación de estadísticos descriptivos y modelos econométricos de series de tiempo, con base en los datos del Servicio de Información Agroalimentaria y Pesquera (SIAP) y del Instituto Nacional de Estadística y Geografía (INEGI). Los resultados indican que existen dos etapas en el comportamiento de los saldos de la balanza comercial agropecuaria, la primera en el periodo de 1993-2014 que es deficitaria, mientras que la segunda en el periodo de 2015-2021 que tiende a ser superavitaria. Asimismo, se identificó que los productos agrícolas que han mostrado una tendencia creciente en términos de la aportación económica a la balanza comercial son el aguacate, jitomate y pimienta. A partir de los modelos econométricos se determinó que existe un comportamiento estacional significativo en las exportaciones de los tres productos agrícolas, así como un nulo efecto de la crisis financiera de 2008 y de la pandemia causada por COVID-19. Por último, se concluye que con la integración de México al Tratado de Libre Comercio de América del Norte (TLCAN, actualmente T-MEC), se han registrado cambios favorables en el comercio de productos agropecuarios del país.

**Palabras clave:** balanza comercial, apertura comercial, estacionalidad, agropecuario, exportaciones.

## Behavior of the trade balance of agricultural products in México, 1993-2022

### Abstract

The aim of this paper is to analyze the behavior of agricultural trade balance in México and identify the trend and seasonality of agricultural products with the highest economic participation for the period 1993-2022. Descriptive statistics and time series econometric models were estimated, based on the data of the Agricultural and Fisheries Information Service (SIAP) and the

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National Institute of Statistics and Geography (INEGI). The results indicate that there are two stages in the behavior of the agricultural trade balance, the first one from 1993-2014 with a deficit, while the second one from 2015-2021 with a surplus trend. Likewise, it was identified that the agricultural products that showed an increasing trend in terms of the economic contribution to the trade balance are avocado, tomato and pepper. Based on the econometric models, it was determined that there was a significant seasonal behavior in the exports of the three agricultural products, as well as a null effect of the 2008 financial crisis and the pandemic caused by COVID-19. Finally, this paper concluded that with the integration of México to the North American Free Trade Agreement (NAFTA, currently USMCA), there have been favorable changes in the trade of agricultural products in the country.

**Keywords:** trade balance, trade openness, seasonality, agriculture, exports.

# Determination of Factors that Alter Copper Concentration on Solder SAC 305 in Wave Solder Equipment

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The lead-free solders implementation on Wave Solder technologies has been developed new challenges to face on manufacturing industries raised with standards and quality requirements to release nontoxic electronic products for environment and human health; as a consequence for this practice, need arose control the copper dissolution in the alloys contained on solder pots from the equipment due to the defects related with the viscosity of the solder as insufficiencies, holes into the filled barrels and incomplete, are commonly symptoms when this metal exceeds its limit concentration due the solder acquires an anormal viscosity that don't let flow correctly through the printed circuit board pads during the process intermetallic.

The purpose of the following project its related to determinate factors involved in the productive environment process that alters copper concentration on solder alloys contained into solder pots from *Vitronics Delta V* in order to establish a control usage related to new and recycled solders, based on studies developed by Di Maio, Hunt, Bale, Ariga and Tamaio that represent the statements to identify elements on the industry involved directly or indirectly on the process to consider their control in case to be a correlation between the copper dissolution percentage and main contributors. During the analysis were necessary identify factors involved; due it's a study based on a section of the equipment has been detected their parameters stablished to solder as wave height, RPMs, temperature and their interaction with solder brand, PCBs processed, humidity environment. Once detected, the ones that don't reflect an impact on the copper dissolution to focus the analysis on elements that can define the copper dissolution on the solder alloy.

As a challenge were identified differences on a manufacturing stage from the described on scientific articles due the interaction of the factors suffer changes except for those ones standardizes and defined for its usage (the ones involved on the set up of the equipment). To measure the copper dissolution on the factory its necessary extract samples for a laboratory analysis to determinate the weight of the elements that composted the solder alloy.

To evaluate and define a result its useful statistical tools and formulas as sample determination to evaluate a population or universe and regression analysis in order to evaluate factors and determinate if there exists a correlation between them and the copper concentration. Due the complex on manufacturing areas, has been stablished for this study extract the samples required from the orders planned to be produced in order to evaluate the response of each scenario according to consume of solders and parameters established to evaluate the interaction between the elements involved and determinate a response with the purpose to stablish a control.

As result from the experiment were detected an equation in which one can be evaluate the impact on the factors identifying as the most relevant the recycle solder to increase the copper dissolution and the new solder bar to keep the system controlled.

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# Estudio de los factores para la reducción de tiempo muerto en el proceso de montaje superficial

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## Resumen

Actualmente existe una gran competencia entre las empresas por ello el mantener una alta productividad y calidad es de suma importancia, ya que esto les permite a las empresas destacar más una de otra, ser una mejor opción para los clientes. Para poder determinar qué factores impactaban el tiempo muerto, se implementó un sistema para el monitoreo y registro de las causas que impactan el tiempo muerto en la empresa Season Group ubicada en Reynosa, Tamaulipas, México. Dentro de este análisis se encontró que existen 4 categorías de primer nivel "4Ms" que están relacionada a "Método, Maquina, Material, Mano de obra". Dentro de estas categorías se realizó un análisis de segundo nivel para poder determinar los factores más importantes que impactan en el tiempo muerto de una empresa, dentro de estos factores se encuentran el mantenimiento preventivo (maquina), el cual toma un roll fundamental, aunque algunas empresas no le dan la importancia que se debe, ya sea por una cuestión interna de la empresa o por decisión de la alta gerencia. Otro factor de importancia que impactaba directamente al tiempo muerto son los cambios de modelo en los cuales si no se cuenta con una metodología implementada esto puede tomar demasiado tiempo eh impactar la productividad en el proceso de manufactura (método).

Para atacar los problemas relacionados a mantenimiento preventivo relacionado a el área de montaje superficial en la empresa Season Group, la cual cuenta con 4 líneas de manufactura, se diseñó un plan de mantenimiento semana, mensual y anual, iniciando primeramente por las recomendaciones del fabricante para después determinar las actividades extras a realizar, con la finalidad de mantener en una funcionalidad optima todos los equipos funcionando, se inició con el monitoreo de métricos como tiempo muerto por máquina, así como factores como MTTR (mean time to repair) y otro como MTBF (Mean time between failure), esto nos dio información importante para poder realizar acciones de manera proactiva y así poder prevenir tiempo muerto a causa de la máquina. Otra metodología en la cual se trabajo fue la del SMED para cambios de modelo rápido, se trabajó con esta metodología para determinar qué factores nos estaban impactando para tener cambios de modelo de más de 3hrs, cuando el standard en la industria es no más de 20min. Se realizó la implementación de esta nueva metodología primeramente en una de las líneas de manufactura para determinar su efectividad, logrando reducir el tiempo muerto a causa de cambios de modelo más de un 80%, para después implementarlo en el resto de las líneas de manufactura del área de montaje superficial.

En final se puede concluir que, si no se tiene un buen programa de mantenimiento total en una empresa, esto puede ocasionar deterioro, desgaste y que los equipos dejen de funcionar resultando en tiempo muerto a causa de estas fallas. El tener una metodología como el SMED permitirá poder estandarizar de manera clara las actividades y elementos a considerar para un cambio de modelo por máquina y proceso. Atacando estos factores se logró reducir en un 40% el tiempo muerto en el área de montaje superficial en la empresa Season Group de Reynosa.

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# Training Model for Salary Associates in Valves Productions Lines

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## Abstract

The need for organizations to optimize productivity and quality to ensure competitiveness makes the training activities of their staff important. This helps ensure that staff acquire the knowledge, skills, abilities, attitudes and aptitudes necessary for a specific position and should seek to update and develop staff to perform future roles, thus forming individuals focused on continuous improvement.

Competency-based management aims to increase the productivity and competitiveness of people within any organizational role. Competency-based management is not only developing people's skills, but also having an adequate framework so that we achieve that people's capabilities are transformed into effective competence and results. Competency Management is to assume that the best way to manage the company, to achieve its objectives, is to achieve that correct competence of its staff. To achieve results, two critical machine areas were separated from non-critical machines 1 general format was developed, 1 special per machine/area depending on whether it is critical or not, where the development of new personnel is monitored and even the personnel already incorporated in the organization but that is being trained in a new operation, thus achieving a more effective focus on personnel development and certifying them by categories, we involve the production departments, quality training, security giving a clear vision of what is expected to be learned and even helps in detecting associates with high value for the company, 3 methodologies were merged among them we find D.I.C.E, ILUO System (Toyota), methodology of the 4 steps. In conclusion it has been very favorable since the formats endorse the training with the skills that need to be in critical operations.

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# Mitigating Extraneous Cognitive Load When Designing and Developing Online Asynchronous Courses: Lessons Learned

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## **ABSTRACT**

Faculty all over the United States have dedicated themselves to teaching using technology to improve students' engagement, especially during pandemic. Faculty members often seek examples of best practices to help students succeed. This article provides seven strategies to support faculty in mitigating extraneous cognitive load when designing and developing online asynchronous courses.

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# Understanding Talent-Driven Movements in the Workplace

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## Abstract

This article analyzes different talent-driven movements in the workplace, especially those related to a lack of trust and appreciation. Talent-driven workplace movements are not new and can be traced back for decades. It appears that each generation has had its own. These movements have acquired media attention and have become business buzzwords. Their main characteristics and the problems they bring about are described to provide a better understanding of what each entails. The method used was the literature review, and the information about trust and appreciation in organizations was collected and connected with issues such as productivity, performance, and engagement. Since the topics analyzed are recent and related to the workforce, different media outlets and managerial publications have been included.

**Keywords:** trust, appreciation, workplace, talent movements

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# An Institutional Perspective on Strategic Alignment of International Human Resource Management in Emerging Market Multinational Enterprises

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## Abstract

Multinational enterprises (MNEs) seek global alignment of International Human Resource Management (IHRM) systems and practices for efficiency and control. Previous studies have provided conflicting evidence regarding the best approach of HR implementation across countries, failing to provide a consensus for how MNEs approach cross-national HR practices. Adopting an institutional perspective, we offer a conceptual model of Strategic IHRM that highlights how disparate institutional contexts in host countries may make such alignment problematic. We extend the model to Emerging Market Multinationals (EMNEs), highlighting why EMNEs differ from traditional MNEs in seeking SIHRM alignment. Implications for practice and future research are discussed.

**Key Words:** International Human Resource Management (IHRM); Strategic International Human Resource Management (SIHRM); Emerging Market Multinationals (EMNEs); Institutional Distance; Internationalization; Horizontal Alignment

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# WTO Free Trade Agreements Impact on Globalized World GDP, FDI, Trade, and Poverty: Geo-Political, Trade, and Economic Analysis

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## Abstract

The WTO's global trading system has been contributing a significant increase global growth and development. Regionalism developed concurrently with this trend towards globalization. This began to alter in the 1990s when regionalism began to proliferate all over the globe. The present paper focuses on the role of FTA, PTA, Plurilateral, Trade blocks on growth of FDI, International Trade, World GDP, Poverty. The results of WTO agreements scenario revealed that FTA signed and in effect has a vast increase from 35 in 2000 to 185 in 2022. WTO notified and not notified Plurilateral FTAs were five in 2000 that rose to 68 in 2017. The WTO's PTAs intended to support economic growth in developing nations. Countries which come under providers of PTAs are majorly USA, Russia, Australia and some of EU counties. Bilateral FTAs increased from 46 to 204 while Plurilateral FTAs gradually increased from 5 to 77 during 2000-2022. Most of the countries from Africa, South America and most of the Western Asian countries are beneficiaries. Major countries come under the regions of both beneficiary and providers of PTAs are India, China, Kazakhstan, Chile, Morocco, turkey etc. FTAs by country in the year 2020, Afghanistan (2) is least followed by Nepal (3) and highest in Singapore (39) followed by Republic of Korea (34), India (32) and China (32). The EU and NAFTA are opening up to world trade. EU, NAFTA, Pacific Alliance Trade blocks are wider in scope for global trade. The results of the role of FTA, PTA, Trade blocks on growth of FDI, International Trade, World GDP, Poverty shows that world FDI inflows are increased from US\$ 239.42 Billion in 1990 to US\$ 2.2 trillion in 2021. The world GDP trend is increasing at increasing rate from 1998 to 2021 except 2002, 2010, 16, 19 indicating free trade agreements played significant role in Globalized world. The world GDP annual growth shown in mixed trends. The growth rates very high during 2000, 2010 and 2020. The trends of world exports are increasing at increasing rate from 1990 to 2020 except 2009, 2013, 16, 19 and the world imports are increasing at increasing rate from 1990 to 2019 except 2009, 2013, 16, 20. The trends show that the number of tariff agreements are increasing at increasing rate from 1990 to 2020 except 1998, 2017. The MFN duty free imports increased from 141418.379 US\$ Thousands in 1991 to in 8070.574436 US\$ Thousands 2021. The AHS duty free imports are decreased tremendously. The results show that the poverty account ratio decreasing at

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decreasing rate from 37.8% in 1990 to 8.4% in 2021 indicating free trade role in reduction of poverty in globalized world. The study concludes that impact of FTA on increase in World GDP, FDI, Trade and reduction of poverty is significant. All the Free Trade Agreements, Plurilateral, Preferential Trade Agreements, Trade Bloc were either directly or indirectly, formed and controlled by the world leader WTO thus promoting trade over various nations from underdeveloped to Developed Countries. Thus, keeping demand and supply gap to minimum, increasing goods flow from producers to consumers thus increasing producer's income and providing consumers at basic and reasonable prices. Hence, Geopolitical leaders should also coordinate with national level, international level, WTO, think tank institutes for policy development and implications for further success of global trade across the barriers.

**Keywords:** Free Trade Agreements, Plurilateral, Preferential Trade Agreements, Trade blocs, Globalized world

## I. Introduction

The GATT multilateral trade negotiations, the liberalization of trade and investment, the deregulation and privatization of national industries, and the steadily declining cost of international trade due to technological advancements in telecommunications and transportation all ramped up globalization in the years following World War II. Geo-political movement of a truly "global" trading system was not the GATT. It was a crucial part of the Western liberal political bloc at a time when they felt threatened by the Second World's 'communist' and 'socialist' nations (Abbott, 2007).

The integration of globalization economy has advanced rapidly since World War II. This was made possible by an expansion in economic activity, particularly foreign direct investment and international trade. For instance, the total ratio of foreign trade to gross domestic product (GDP) was 25% in 1960, reaching a peak of 52% in 1999. In 1980, the ratio of FDI to GDP was only 11%; by 1998, it had increased to 34%. The figures for international trade and investment support the rising speed of globalization (Shujiro, 2002). Dastagiri MB et. al (2022) Conclude that the power to resolve international and transnational problems resides with global multilateral institutions. The multilateral infrastructure expanded rapidly after World War II. The international economy has grown significantly in recent years as a result of the growth and effectiveness of the multilateral system. The UN, World Bank, IMF, and WTO are global multilateral organizations that should apply the dictum "Think universally and act regionally and locally" to global governance and the resolution of economic, environmental, and social issues. The WTO's global trading system has seen a significant increase in involvement as a result of the decline in the Soviet Union's military might and the collapse of the communist Chinese government's ideological foundation. The United States' dominance of the political (or economic) world is unpopular in Europe, Latin America, and Asia (Abbott, 2007).

Regionalism developed concurrently with this trend toward globalization. This began to alter in the 1990s when regionalism began to proliferate all over the globe in the otherwise staid field of economics. A major contributor to this trend of regional integration has been the use of free trade agreements (FTAs). 239 regional trade agreements (RTAs) had been reported to GATT or the World Trade Organization (WTO) by the end of September 2001 (Shujiro, 2002). Government trade and finance ministries have shifted their focus away from discussions in multilateral platforms like the WTO and more toward bilateral and regional trading agreements over the past decade. This shift has a range of factors, including changes in the geo-political environment and difficulties in multilateral negotiations faced by the multinational corporate sector. This is true within the WTO, as shown by the stagnation of the Doha Development Agenda (DDA). At the World Intellectual Property Organization, it is also accurate (WIPO). Even multilateral organizations with a small membership, like the Organization for Economic Cooperation and Development

(OECD), have failed to advance topics seen as crucial by the global business community, particularly the Multilateral Agreement on Investment (MAI) (Abbott, 2007).

In a Free Trade Agreement (FTA), two or more nations come to an understanding on a variety of issues, including investor protections, intellectual property rights and obligations affecting trade in goods and services. Because of its trade liberalisation policies, which boosted GDP development and increased market size, the EU has attracted FDI (Thomas, USDA). Dastagiri MB et. al (2022) researches on how different economic systems govern global agriculture and farmer welfare in the age of the multinational corporation. It is clear that industrialized nations have adopted a capitalism system, whereas developing nations embrace socialism. In western agriculture, subsidies and direct income measures safeguard agriculture and farmers. Additionally, the majority of nations in the globe have mixed economies.

The WTO and the free trade regime essential for all of the WTO member economies. According to the research so far, the elements influenced by trade liberalization that have the greatest impact on the flow of FDI into a region are changes in per capita GDP, GDP growth, and market size. The present paper focuses on the role of FTA, PTA, Plurilateral agreements, Trade blocks on growth of FDI, International Trade, World GDP, Poverty. This paper is intended to help world governments and MNC's to pursue issue-based plurilateral agreements and put trade policies into practice in the future.

## **Objectives:**

1. To analyze FTAs, PTAs, Plurilateral Agreements, Trade Blocks status, scenarios, progress and benefits to globalized world.
2. Comparative analysis of FTAs, PTAs, Trade Blocks in region and continent wise performance for global trade.
3. To analyze the impact of WTO agreements on World GDP, FDI, Exports, Imports and Poverty.
4. To suggest strategies and policies for future development of global trade.

## **II. Research Methodology**

This is a geopolitical trade and economic policy research. Meta-analysis, scientific, and political policy approach employed to evaluate FTAs, PTAs, Trade Blocks status, scenarios, progress and benefits to globalized world. The data on these agreements are collected from WTO, Asian Regional Integration Center (ARIC), World Bank, OECD, World Investment report of UNCTAD, USDA, OECD, World Integrated Trade Solutions websites and reviews of the writers' studies. These accords' achievements, setbacks, geopolitical sway, and potential future roles have all been examined. The time frame for the study is 1944 to 2022. Secondary data sources are the foundation of the entire investigation. The results were validated using the meta-analysis, scientific methodology, and political policy analysis. WTO Trade Agreements scenarios, Trends, growth rates of World GDP, FDI, exports, imports and poverty estimated. Finally, the study suggests the policy measures for future development of global trade.

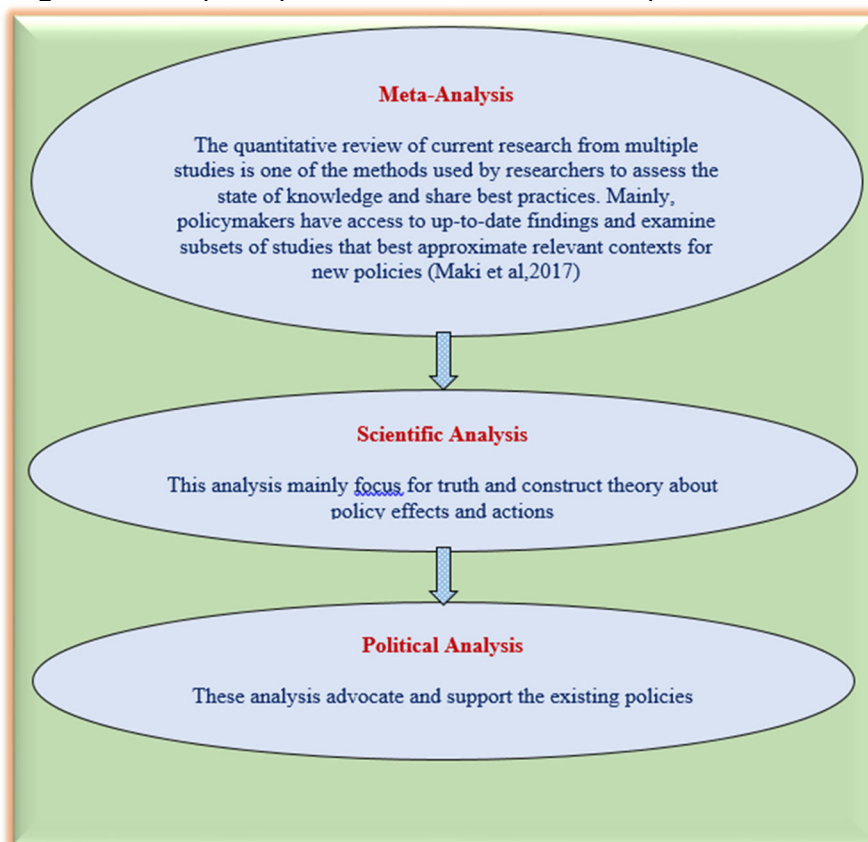
**Policy analysis:** The understanding of policy challenges and the advantages of identifying those with workable solutions are made possible by policy analysis (Cairney, 2020). To accomplish the goals of the current study, three main types of analysis were used, as shown below:

1. Meta-analysis
2. Scientific analysis, and
3. Political analysis

The investigation of the global trade policy concerns is done using meta-analysis which is the study of analysis on analysis. The scientific method of policy analysis has contributed to the

development of theory and truth regarding the varying national policies around the world. The dominant study recycled primarily political analysis to promote and support the chosen policies of international free trade agreements.

**Figure 1.** Policy analysis used in the current study.



### III. Results and discussion

#### *i) Scenario of FTA's, PTA's Trade blocks*

Year wise Free Trade Agreement (FTA) by status is given in Table 1 from the year 2000-2022. In this, we could observe that Framework Agreements signed under negotiations was zero in 2000 and rapidly increased till 2012 and started declining till 2022 but was constant from 2014-2017 and 2018-2022. Negotiations launched has increased from 6 in 2000 to 81 in 2022. FTAs signed but not in effect has followed an irregular trend in increasing and decreasing. Signed and in effect FTAs has a vast increase from 35 in 2000 to 185 in 2022. Out of this total, also increased from 51 to 281 and proposed from 3 to 90 during the same period of 2000-2022. It shows that the number of FTAs that have been signed and are currently in effect has increased globally each year.

It is necessary to review signed but inactive FTAs and take the appropriate steps to turn them into active FTAs. The number of proposed FTAs must also be converted into active or in effect FTAs. Members of the WTO decided in 2006 to put in place a temporary framework to increase RTA transparency and comprehend how they affect the international system. In accordance with this procedure, members inform the WTO about their RTAs, and the WTO Secretariat then compiles a factual presentation for the whole membership to consider. Without regard to

concerns about notice requirements, WTO members decided to work toward turning the interim mechanism into a permanent mechanism at the 10th Ministerial Conference in Nairobi in 2015.

**Table 1: Year wise FTA by Status (Cumulative).**

Year	Under Negotiation		Signed but not yet in effect	Signed and in effect	Total	Proposed
	Framework Agreement signed	Negotiations launched				
2000	<u>0</u>	<u>6</u>	<u>6</u>	<u>39</u>	51	<u>3</u>
2001	<u>0</u>	<u>8</u>	<u>5</u>	<u>42</u>	55	<u>2</u>
2002	<u>2</u>	<u>8</u>	<u>6</u>	<u>45</u>	61	<u>8</u>
2003	<u>3</u>	<u>10</u>	<u>12</u>	<u>51</u>	76	<u>16</u>
2004	<u>12</u>	<u>16</u>	<u>12</u>	<u>59</u>	99	<u>27</u>
2005	<u>16</u>	<u>28</u>	<u>12</u>	<u>67</u>	123	<u>39</u>
2006	<u>14</u>	<u>37</u>	<u>8</u>	<u>80</u>	139	<u>45</u>
2007	<u>13</u>	<u>42</u>	<u>11</u>	<u>86</u>	152	<u>45</u>
2008	<u>11</u>	<u>44</u>	<u>9</u>	<u>97</u>	161	<u>43</u>
2009	<u>11</u>	<u>45</u>	<u>9</u>	<u>103</u>	168	<u>51</u>
2010	<u>11</u>	<u>47</u>	<u>10</u>	<u>109</u>	177	<u>55</u>
2011	<u>12</u>	<u>47</u>	<u>9</u>	<u>117</u>	185	<u>60</u>
2012	<u>10</u>	<u>58</u>	<u>7</u>	<u>123</u>	198	<u>52</u>
2013	<u>9</u>	<u>60</u>	<u>5</u>	<u>128</u>	202	<u>57</u>
2014	<u>5</u>	<u>63</u>	<u>8</u>	<u>135</u>	211	<u>63</u>
2015	<u>5</u>	<u>65</u>	<u>6</u>	<u>144</u>	220	<u>69</u>
2016	<u>5</u>	<u>72</u>	<u>6</u>	<u>147</u>	230	<u>78</u>
2017	<u>5</u>	<u>78</u>	<u>9</u>	<u>150</u>	242	<u>91</u>
2018	<u>4</u>	<u>78</u>	<u>14</u>	<u>155</u>	251	<u>95</u>
2019	<u>4</u>	<u>78</u>	<u>18</u>	<u>162</u>	262	<u>94</u>
2020	<u>4</u>	<u>81</u>	<u>17</u>	<u>169</u>	271	<u>93</u>
2021	<u>4</u>	<u>81</u>	<u>13</u>	<u>181</u>	279	<u>92</u>
2022	<u>4</u>	<u>81</u>	<u>10</u>	<u>186</u>	281	<u>90</u>

Source: <https://aric.adb.org/fta>. Last Updated: 26<sup>th</sup> Aug, 2022.

Table 2 shows that Free Trade Agreements by WTO Notification and Status from year 2000-2022. From this table we can brief that GATT Art. XXIV (95) and GATT Art. XXIV and GATS Art. V (69) and early announcements (27) were constant from year 2015 - 2022. Total notified FTAs gradually increased from 14 in 2000 to 138 in 2022 and total notified also gradually increased from 14 to 88 over the period. The overall number of FTAs that were not notified is rising every year. Therefore, the essential actions must be performed to transform unnotified FTAs into notified FTAs by the member countries across the world.

**Table 2: FTA by WTO Notifications and Status (cumulative).**

Year	Enabling Clause	GATT Art. XXIV	GATT Art. XXIV & GATS Art. V	Early Announcement	Total Notified	Total Not Notified
2000	6	8	1	0	14	14
2001	6	16	2	1	23	14
2002	7	17	3	1	25	16
2003	7	22	8	2	31	19
2004	8	30	11	4	42	25
2005	8	32	13	7	44	29
2006	8	36	17	10	50	37
2007	8	42	22	16	61	38
2008	13	49	26	18	75	38
2009	14	59	34	19	87	39
2010	18	63	40	20	96	43
2011	19	69	47	22	105	48
2012	19	74	52	24	112	51
2013	20	82	55	26	122	54
2014	20	89	62	26	129	58
2015	22	94	68	27	137	63
2016	22	95	69	27	138	65
2017	22	95	69	27	138	69
2018	22	95	69	27	138	74
2019	22	95	69	27	138	80
2020	22	95	69	27	138	83
2021	22	95	69	27	138	86
2022	22	95	69	27	138	88

Table 3 depicts the FTA's scope from year 2000-2022. A bilateral is when a Trade agreement involves two parties while Plurilateral trade agreements has more than two parties. Bilateral FTAs increased from 46 to 204 while Plurilateral FTAs gradually increased from 5 to 77 during 2000-2022. BTA formation has seen a spectacular increase in interest Asian region, is the result of this growth of frequently overlapping BTAs and PTAs. Whatever name it receives, BTAs are without a doubt a bad approach to manage commerce and reduce welfare. The WTO is able to exchange concessions across divergent interests in a multilateral framework, making it the best venue to try to resolve the most stubborn of BTAs, the sector-excluding BTA, as well as the most difficult of sectors, agriculture (Jayant, 2008). Recent innovations in multilateral agreements involving a few WTO members to address the changing requirements of business societies have been warmly welcomed by these. Plurilateral agreements can and must offer solutions and give the WTO the much-needed momentum it needs to effectively address global concerns. The WTO and the free trade regime essential for all of the WTO member economies, are supported in large part by the issue-oriented strategy of multilateral initiatives. Do multilateral accords replace the role of the WTO? The answer is unambiguously "no." They ought to and do support the WTO, which is dealing with significant problems brought on by FTAs (Nakatomi, 2013).

**Table 3. FTAs by Scope (cumulative).**

YEAR	BILATERAL	PLURILATERAL
2000	46	5
2001	49	6
2002	53	8
2003	65	11
2004	79	20
2005	98	25
2006	110	29
2007	118	34
2008	126	35
2009	131	37
2010	136	41
2011	140	45
2012	149	49
2013	148	54
2014	154	57
2015	160	60
2016	164	66
2017	173	69
2018	178	73
2019	187	75
2020	196	75
2021	203	76
2022	204	77

Source: <https://aric.adb.org/fta>. Last Updated: 26<sup>th</sup> Aug, 2022.

Table 4 represents the Bilateral FTAs based on different geographical locations under WTO notification during 2000-2017.

Various regions given above, and countries are as follows:

- Central and West Asia: Tajikistan, Turkmenistan, Armenia, Azerbaijan, Georgia, Kazakhstan, and the Kyrgyz Republic.
- East Asia: Republic of Mongolia, China, People's Republic of Hong Kong, Japan, Korea, Taiwan.
- Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka are all located in South Asia.
- Southeast Asia, which includes Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.
- The Pacific: Timor-Leste, Tonga, Tuvalu, Vanuatu, Federated States of Nauru, Australia, Cook Islands, Fiji Islands, Kiribati, Marshall Islands, Micronesia, New Zealand, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Vanuatu, and Tonga.

Table 5 represents Plurilateral FTA over various regions in 2000 and 2017. In this WTO notified Plurilateral FTAs were 5 in 2000 and 37 in 2017. Under not WTO notified Plurilateral FTAs and various geographical locations – signed and in effect was zero and four, signed but not in effect were zero and five, negotiations launched zero and 20, FA signed were zero and two,



**Table 4. Bilateral FTAs by Geographic Area, WTO Notification and Status, 2000 and 2017.**

BILATERAL FTAs	WTO NOTIFIED		NOT WTO NOTIFIED												TOTAL	
			Signed and In Effect		Signed but not yet In Effect		Negotiations launched		(FA) signed		Proposed		Total Not Notified		Notified & Not Notified	
	2000	2017	2000	2017	2000	2017	2000	2017	2000	2017	2000	2017	2000	2017	2000	2017
<b>Within sub-region</b>																
Central Asia	2	9	7	8	0	0	0	0	0	0	0	0	7	8	9	17
East Asia	0	2	0	3	0	0	0	0	0	0	0	0	0	3	0	5
Oceania	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
South Asia	0	5	0	0	0	0	0	1	0	0	0	0	0	1	0	6
Southeast Asia	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1

Source: <https://aric.adb.org/fta>. Last Updated: 26<sup>th</sup> Aug, 2022.

**Table 5. Plurilateral FTAs by WTO Notification and Status, 2000 and 2017.**

	WTO NOTIFIED		NOT WTO NOTIFIED												TOTAL	
			Signed and In Effect		Signed but not yet In Effect		Negotiations launched		(FA) signed		Proposed		Total Not Notified		Notified & Not Notified	
	2000	2017	2000	2017	2000	2017	2000	2017	2000	2017	2000	2017	2000	2017	2000	2017
<b>PLURILATERAL FTAs</b>																
Asian Plurilateral	4	7	0	0	0	1	0	2	0	0	0	0	0	3	4	10
Asian Plurilateral + Asian Country	0	5	0	0	0	1	0	0	0	0	0	0	0	1	0	6
Non-Asian Plurilateral + Asian Country	0	19	0	1	0	1	0	10	0	2	0	0	0	14	0	33
Cross-regional Plurilateral	1	4	0	2	0	2	0	0	0	0	0	0	0	4	1	8
Asian Plurilateral + Non-Asian Plurilateral	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1
Cross-regional Plurilateral +	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1
Cross-regional Plurilateral + Asian Country	0	1	0	0	0	0	0	5	0	0	0	0	0	5	0	6
Cross-regional Plurilateral + Non-Asian Plurilateral	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cross-regional Plurilateral + Non-Asian Country	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	2
<b>TOTAL</b>	<b>5</b>	<b>37</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>5</b>	<b>68</b>

Source: <https://aric.adb.org/fta>. Last Updated: 26<sup>th</sup> Aug, 2022.

during 2000 and 2017 respectively. In 2017, 31 were total not notified FTAs across the regions. Therefore, a total of both WTO notified and not notified Plurilateral FTAs were five in 2000 that rose to 68 in 2017.

From the above region specifications, Asian Plurilateral refers to a group with more than two Asian countries' members. Cross Regional refers to group of more than two countries which includes the members of Asian and non-Asian countries. From the perspectives of trade liberalisation and rulemaking, the WTO, FTAs, and issue-based plurilateral agreements need to be taken into consideration jointly. Promoting issue-based multilateral agreements aids in identifying the issues with the WTO and providing a path for improvement. Governments will need to be well-versed in all of these different tools in order to give the best possible response in the face of advancing globalization and ongoing changes in the economic environment. Issue-based plurilateral agreements can work in tandem with FTAs to drive trade liberalization and rulemaking. It is incorrect to see the WTO and FTAs as the only two options available in the current circumstances. It is essential to constantly take issue-based plurilateral agreements into account.

The significance of issue-based plurilateral agreements has been amply demonstrated by developments since the founding of the WTO. The Financial Services and Basic Telecommunications Services Agreements (liberalisation + rulemaking), the ACTA (rulemaking), and the ITA (liberalisation) are examples of how the plurilateral strategy has been successful in advancing trade.

These agreements, particularly the ITA, also imply that well-designed plurilateral agreements would be accessible and advantageous to developing nations, provided that they are constructed in a way that takes into account those countries' economic interests and technical ability limitations. To encourage increased engagement from developing nations, transparency in the negotiation process, technical aid, and capacity building are crucial.

It is a fact that the majority of significant trade agreements reached following the founding of the WTO are plurilateral in nature. As a result, in the decision between the WTO and FTAs, they may be a good third option.

Table 6 depicts the FTAs by country in the year 2020. In this of the total FTAs, were least and less than 10 in the following countries namely: Afghanistan (2), Bangladesh (8), Bhutan (4), Cook Islands (4), Fiji (6), Hong Kong, China (9), Kiribati (4), Maldives (4), Marshall Islands (5), Micronesia Federated States of (5), Mongolia (2), Nauru (4), Nepal (3), Niue (4), Palau (4), Papua New Guinea (7), Samoa (5), Solomon Islands (6), Tajikistan (8), Tonga (4), Turkmenistan (5), Tuvalu (4), Vanuatu (6). Among these Afghanistan (2) is least followed by Nepal (3) and highest in Singapore (39) followed by Republic of Korea (34), India (32) and China (32).

#### **Notes:**

1. Framework Agreement signed: serves as a future negotiations framework where the parties initially negotiate the contents of a framework agreement (FA).
2. Negotiations launched: The parties start the first round of negotiations or set up a date or declare the launch of negotiations officially, through the relevant ministries.
3. Signed but not yet in effect: Parties after completion of negotiations sign the agreement but yet to be implemented.
4. Signed and in effect: After ratification from legislative or executive, Provisions of FTA come into force.

According to the Asian Regional Integration Center (2016), there were 60 FTAs in force from 2008 to 2016, and 38 of those FTAs included an investment chapter or provision. Of the 38 FTAs, 34 have a chapter on investments, and 4 more have provisions on investments in the services chapter.

Table 6. FTA Status by Country/Economy, 2020.

COUNTRY/ECONOMY	Under Negotiation		Signed but not yet In Effect	Signed and In Effect	TOTAL
	Framework Agreement signed	Negotiations launched			
Afghanistan	0	0	0	2	2
Armenia	0	3	2	13	18
Australia	0	4	1	18	25
Azerbaijan	0	1	0	10	11
Bangladesh	0	3	1	4	8
Bhutan	0	1	0	3	4
Brunei Darussalam	0	1	0	11	13
Cambodia	0	1	1	9	11
China, People's Republic of	0	9	2	21	32
Cook Islands	0	0	0	4	4
Fiji	0	0	0	6	6
Georgia	0	0	0	14	14
Hong Kong, China	0	1	0	8	9
India	0	16	0	16	32
Indonesia	0	6	3	15	24
Japan	0	6	0	20	27
Kazakhstan	0	5	2	13	20
Kiribati	0	0	0	4	4
Korea, Republic of	0	12	3	19	34
Kyrgyz Republic	0	3	2	13	18
Lao PDR	0	1	0	10	11
Malaysia	1	6	1	17	26
Maldives	0	1	2	1	4
Marshall Islands	0	0	0	5	5
Micronesia, Federated States of	0	0	0	5	5
Mongolia	0	0	0	2	2
Myanmar	1	2	0	8	11
Nauru	0	0	0	4	4
Nepal	0	1	0	2	3
New Zealand	0	5	1	14	21
Niue	0	0	0	4	4
Pakistan	1	7	1	9	18
Palau	0	0	0	4	4
Papua New Guinea	0	0	0	7	7
Philippines	0	3	0	10	13
Samoa	0	0	0	5	5
Singapore	0	8	1	27	39
Solomon Islands	0	0	0	6	6
Sri Lanka	0	4	0	6	10
Taipei, China	0	2	0	8	10
Tajikistan	0	0	0	8	8
Thailand	1	9	0	15	25
Tonga	0	0	0	4	4
Turkmenistan	0	0	0	5	5
Tuvalu	0	0	0	4	4
Uzbekistan	0	1	0	9	10
Vanuatu	0	0	1	5	6
Viet Nam	0	3	0	15	19

Source: <https://aric.adb.org/fta>. Last Updated: 26<sup>th</sup> Aug, 2022.

**What are Preferential Trade Agreements?**

The WTO's PTAs are unilateral trade preferences. The Generalized System of Preferences (GSP) or preferential trade agreements (PTAs) are special trade statuses granted by various nations. It is intended to support economic growth in developing nations. They consist of the Generalized System of Preferences programs that allows a member to unilaterally offer a lower or zero tariffs to a trading partner as developed nations impose preferential tariffs on imports from developing nations.

Over the past 20 years, the number of preferential trade agreements (PTAs) has skyrocketed. Modern PTAs eliminate various behind-the-border barriers in addition to removing barriers at the border by regulating foreign direct investment (FDI), liberalising services, and safeguarding intellectual property rights. A little over 100 PTAs existed in the 1990s, but as of now, there are more than 700 PTAs in existence, according to the Desta dataset (Dür et al. 2014). Preferential liberalisation is actively pursued by both developed and developing nations, and the number of North-South PTAs (i.e., PTAs between developed and developing nations) has increased since the creation of the North American Free Trade Agreement (NAFTA). PTAs have evolved into the main method by which the US and the EU attempt to regulate their economic relations with certain nations or groupings of nations in recent decades. In addition to NAFTA, the United States has PTAs with a total of 20 nations. In conclusion, preferential trade liberalisation, rather than unilateral or multilateral, has accounted for the majority of trade liberalisation during the previous 20 years.

The rise of PTAs has not substantially altered the way commerce is managed globally, despite being spectacular. The most significant shift is that contemporary PTAs now also regulate investment, intellectual property rights (IPRs), competition policy, and government procurement, to name a few things in addition to tariff reductions. In other words, PTAs establish what has been referred to as "deep integration" between countries by removing barriers not just at the border but also behind it.

**Figure 2: WTO's PTAs overview.**

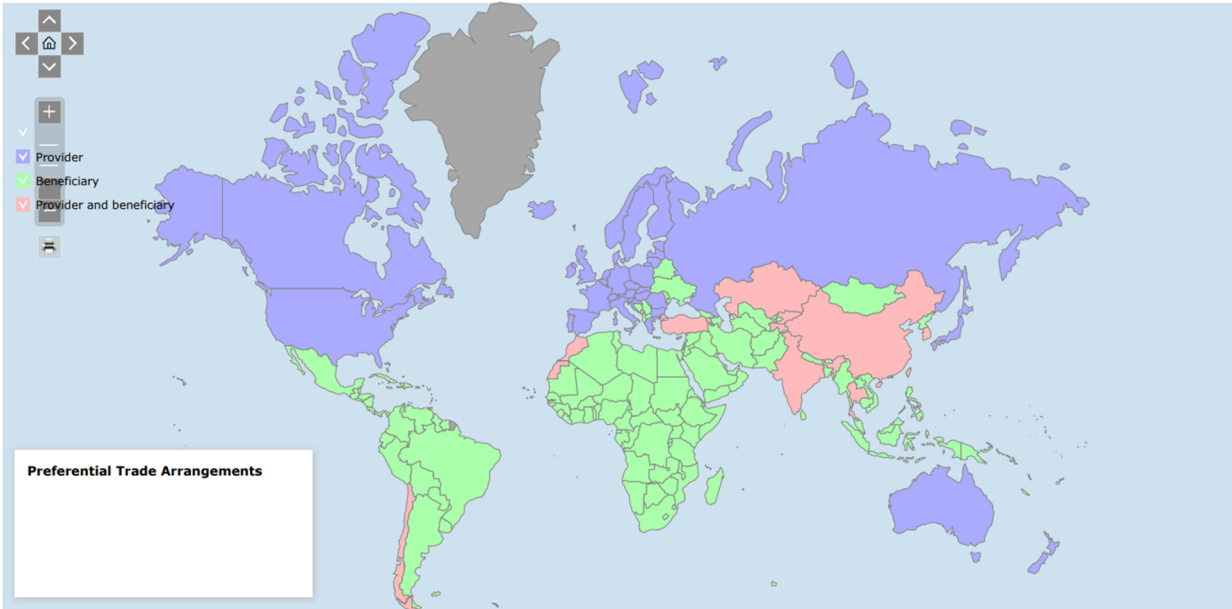


Figure 2 depicts the overview of the WTO's PTAs across the globe. Areas within the blue colour are provider countries, areas within the green region are beneficiary countries of PTAs and the regions covered in the red color are both provider and beneficiary countries. So we can observe that countries which comes under providers of PTAs are majorly USA, Russia, Australia and some

of EU countries. Most of the countries from Africa, South America and most of the Western Asian countries are beneficiaries. Major countries come under the regions of both beneficiary and providers of PTAs are India, China, Kazakhstan, Chile, Morocco, turkey etc.

### ***What are Trading Blocs?***

Trading blocs are often groups of countries that cooperate and promote trade in a certain region. Trading blocs promote trade formation among members and trade liberalisation since members are valued more highly than non-members (the release of trade from restrictive barriers). The World Trade Organization (WTO) authorizes trade blocs, if they result in less protection from other nations than existed before the formation of the trading bloc.

The most significant trading blocs currently are:

- European Union (EU) – a single market and customs union with a single currency
- European Free Trade Area (EFTA)
- North American Free Trade Agreement (NAFTA) - between the USA, Canada and Mexico
- Mercosur - a union for customs between Brazil, Argentina, Uruguay, Paraguay and Venezuela
- Association of Southeast Asian Nations (ASEAN) - Free Trade Area (AFTA)
- Common Market of Eastern and Southern Africa (COMESA)
- South Asian Free Trade Area (SAFTA) – countries of India and Pakistan created in 2006
- Pacific Alliance - Countries of Chile, Colombia, Mexico and Peru had a regional trade agreement in 2011.

***Trade Bloc and Trade Creation:*** Trade creation is the transition, brought about by joining a trade agreement, from a higher cost source of output to a lower cost source of supply. When a nation joins a free trade zone or agreement or a customs union where there is both free trade between members and a single external tariff, trade is created.

***Trading Blocs and Trade Diversion:*** Trade diversion is the switching of business from a lower-cost foreign supplier outside of a customs union to a more expensive supplier inside the union. A country's decision to join a customs union, where there is free trade within the customs union but also a common external tariff, is defined by trade diversion.

***Most Significant Trading Blocs:*** The most significant trade blocks and their achievement are shown in Table 7. EU is the largest single market region in the entire globe. It is dedicated to opening up world trade as well. NAFTA agreement turned the three biggest nations in North America into a free-trade bloc. NAFTA has fundamentally altered the North American economic space and increased the global competitiveness of all three parties. For more than 50 years, ASEAN has supported regional stability and development, and it is ideally situated to solve pressing regional concerns. The EU and NAFTA are opening up to world trade. EU, NAFTA, Pacific Alliance Trade blocks are wider in scope for global trade.

**Table 7: Trade blocks and their significant achievements.**

Sl No.	Trade Bloc	Features	Significance achievement
1	<b>European Union (EU):</b>	One of the most globalized economies is the European Union. It is also the largest single market region in the entire globe. One of the foundations of the EU was free trade among its members, and it is dedicated to opening up world trade as well.	EU international commerce increased between 1999 and 2010, and it currently makes up more than 30% of the EU's economy (GDP). The EU negotiates contracts on behalf of its member nations and is in charge of their trade policies. In international trade discussions, the EU's collective power is more influential than the perspectives of its individual members.
2	<b>European Free Trade Association (EFTA):</b>	It is an intergovernmental organization founded in 1960 by seven European nations to encourage economic integration and free trade for the benefit of its Member States. Upon joining the European Union (EU), all initial signatories resigned from EFTA, with the exception of Norway and Switzerland, as did Finland, which had become an associate member in 1961 and a full member in 1986.	Since Liechtenstein joined in 1991 and Iceland joined in 1970, EFTA presently has four members. In addition to being a dynamic force for free trade and a club of nations with shared economic interests, EFTA offers significant advantages to its members. Iceland, for instance, can still exert control over its fish resources while having full access to the EU Internal Market under the EEA agreement with minor restrictions for fishery goods. The EEA and EFTA's commitment to free trade have proven to be a winning combination, and the same is true of Norway and Liechtenstein, the other EFTA-EEA nations. The agreements reached between EFTA and its numerous partners guarantee that the economic actors in question are treated fairly and equally and have access to the market. The development of the economies of the regions covered by EFTA's numerous agreements is aided by freer trade. It indirectly supports a more unified global economic, social, institutional, and political environment in a way that is sometimes underappreciated.
3	<b>North American Free Trade Agreement (NAFTA):</b>	Contentious 1992 trade agreement that gradually removed the majority of tariffs and other trade restrictions on goods moving between the United States, Canada, and Mexico. The three largest countries in North America became a free-trade bloc as a result of the deal. NAFTA was put into effect in 1994 and lasted until it was replaced in 2020.	Relations between the US and Mexico have developed into a deep social and cultural alliance. Growing links have been developed as a result of the greater mobility of people, products, and services. The sharing of concepts and approaches for resolving issues that are common. The North American economic landscape has been substantially changed by NAFTA, which has also improved the three parties' global competitiveness.
4	<b>MERCOSUR:</b>	An economic and political group made up of Uruguay, Brazil, Paraguay, and Argentina is known as Mercosur. Founded in 1991 to establish a common market, promote growth, and strengthen democracy.	Mercosur enjoyed early success, notably a tenfold rise in commerce inside the bloc in its first decade. With a \$1.4 trillion GDP, Brazil makes up 60% of the contribution, followed by Argentina at 30%, Paraguay and Uruguay at 5% each. Since the fund was established in 2004, more than \$1 billion in nonrefundable loans have been disbursed.
5	<b>Association of Southeast Asian Nation (ASEAN):</b>	Australia sees Southeast Asia as the nucleus of an Indo-Pacific region that is tranquil, stable, and resilient. It has enormous strategic, economic, and diplomatic importance for future. Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam are the 10 Southeast Asian nations that make up ASEAN.	For more than 50 years, ASEAN has supported regional stability and development, and it is ideally situated to solve pressing regional concerns. With these investments, Australia's development cooperation program with ASEAN has increased more than ever before. Australia's main trading partner is the ASEAN. Australia's trade with ASEAN nations reached \$100.6 billion in 2020, surpassing bilateral trade with Japan and the US. In 2020, our bilateral investment with ASEAN totaled more than \$242 billion.
6	<b>The Common Market for Eastern and Southern Africa (COMESA):</b>	It is the largest regional economic organization in Africa, with 19 members and a membership of almost 390 million people. These 19 nations make up COMESA, which in 2009 also created a customs union. Burundi, Comoros, D.R. Congo, Djibouti, Egypt, Eritrea, Ethiopia,	Both COMESA and its forerunner, the PTA, have made significant progress in the areas of commerce, customs, transportation, financing for development, and technical cooperation. Additionally, there have been notable advancements in the agricultural and industrial production sectors. Trade liberalization and facilitation initiatives are having a positive impact. Intra-COMESA trade

SI No.	Trade Bloc	Features	Significance achievement
		Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, and Zimbabwe are among the COMESA countries.	increased by US\$1.7 billion in 1994 from US\$834 million in 1985, representing an annual growth rate of 14%; studies suggest that this figure may eventually reach US\$4 billion. COMESA's challenge is to fully utilize its potential.
7	<b>The South Asian Free Trade Area (SAFTA):</b>	It is a free trade agreement that was negotiated on January 6, 2004, between the members of the South Asian Association of Regional Cooperation (SAARC). The South Asian Free Trade Area was established on January 1 <sup>st</sup> , 2006, after being signed in 2004.	The SAARC countries signed the pact in an effort to enhance and maintain regional economic and trade cooperation. India, Pakistan, and Sri Lanka, emerging nations in South Asia, were obligated by SAFTA to reduce their tariffs to 20% in the first phase of the two-year term ending in 2007. While the least developed nations (LDNs), which are Bangladesh, Afghanistan; the Maldives, Nepal, Bhutan, and Bangladesh, have an additional three years to cut rates.
8	<b>Pacific Alliance:</b>	The Latin American Pacific Basin Initiative's Pacific Alliance was launched on April 28, 2011, as a regional integration project involving Chile, Colombia, Mexico, and Peru. By gradually pursuing the free movement of goods, services, capital, and people, the Pacific Alliance seeks to create an area of deep integration that will foster further growth, development, and competitiveness of the economies it includes. It also aims to serve as a platform for economic and trade integration with an eye toward the Asia-Pacific region. The Sixteenth Pacific Alliance Summit, which took place on January 26, 2022, ended with the signing of a Free Trade Agreement with Singapore and a Declaration on Creative Economy.	The negotiations for the commercial component were finished in August 2013. Among other things, this includes agreements to eliminate tariffs on 92% of products and services right away and the balance gradually. To strengthen, facilitate, and promote the use of technologies for the exchange of products and services, an agreement on e-commerce was negotiated. Financial integration has been encouraged through the Integrated Latin American Market (MILA), a stock exchange integration platform used by Colombia, Chile, and Peru without any merger or corporate integration of members. It is anticipated that Mexico will join in the first half of 2014. Students from the four nations can now get financial aid to study in an Alliance Member Country thanks to the creation of the Student and Academic Mobility Platform. · The Scientific Research Network for Climate Change was founded; and · An agreement to establish the Pacific Alliance Cooperation Fund was signed.

## IV. Impacts of WTO Trade Agreements on World GDP, FDI, Exports, Imports and Poverty

### *i) Impact of FTA's, PTA's, Plurilateral, Regional Blocks on FDI, GDP, Trade and Poverty*

#### **a) FDI**

Both directly through investment provisions and indirectly through trade liberalization, RTAs can have an impact on FDI. According to the research so far, the elements influenced by trade liberalization that have the greatest impact on the flow of FDI into a region are changes in per capita GDP, GDP growth, and market size. Both agricultural and nonagricultural industries must adhere to this. A trade agreement's impact on FDI will depend on how much these aspects are impacted by it.

#### **Foreign direct investment, net inflows (BoP, current US\$)**

Direct stock flows in the reporting economy that are made by foreign investors are referred to as foreign direct investment. The requirement for establishing the presence of a direct investment relationship is ownership of 10 percent or more of the voting stock's common shares. The currency used for the data is the current US dollar (The World Bank).

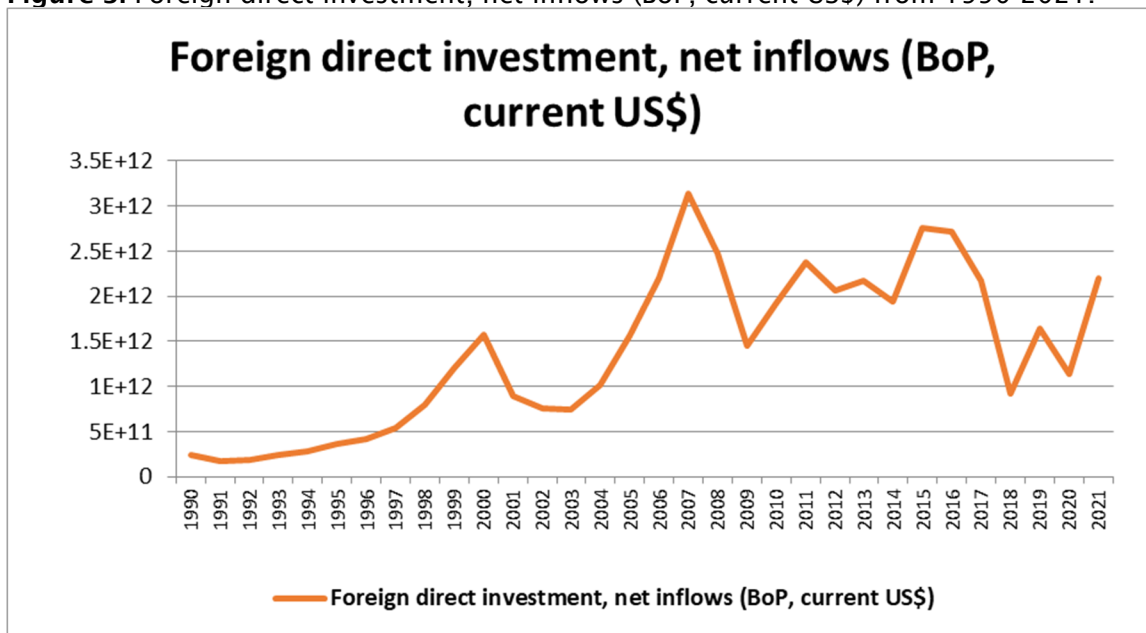
In the first half of 2022, global FDI flows increased by 20% overall, but this conceals a 22% decline in the second quarter. Given rising interest and inflation rates, rising energy costs, and Russia's full-scale invasion of Ukraine, this decline is hardly unexpected (OECD, 2022). According



to the UNCTAD's World Investment Report 2022, worldwide FDI increased by 64% in 2021 to reach around \$1.6 trillion.

Foreign direct investment flows reached \$1.6 trillion last year, returning to pre-pandemic levels. Due to flexible funding and infrastructure investment, cross-border transactions and international project funding were particularly robust. However, especially in developing nations, the recovery of greenfield industrial investment is still precarious (World Investment Report, 2022).

**Figure 3:** Foreign direct investment, net inflows (BoP, current US\$) from 1990-2021.



**Figure 4:** Foreign direct investment, net outflows (BoP, current US\$) from 1990 to 2020.

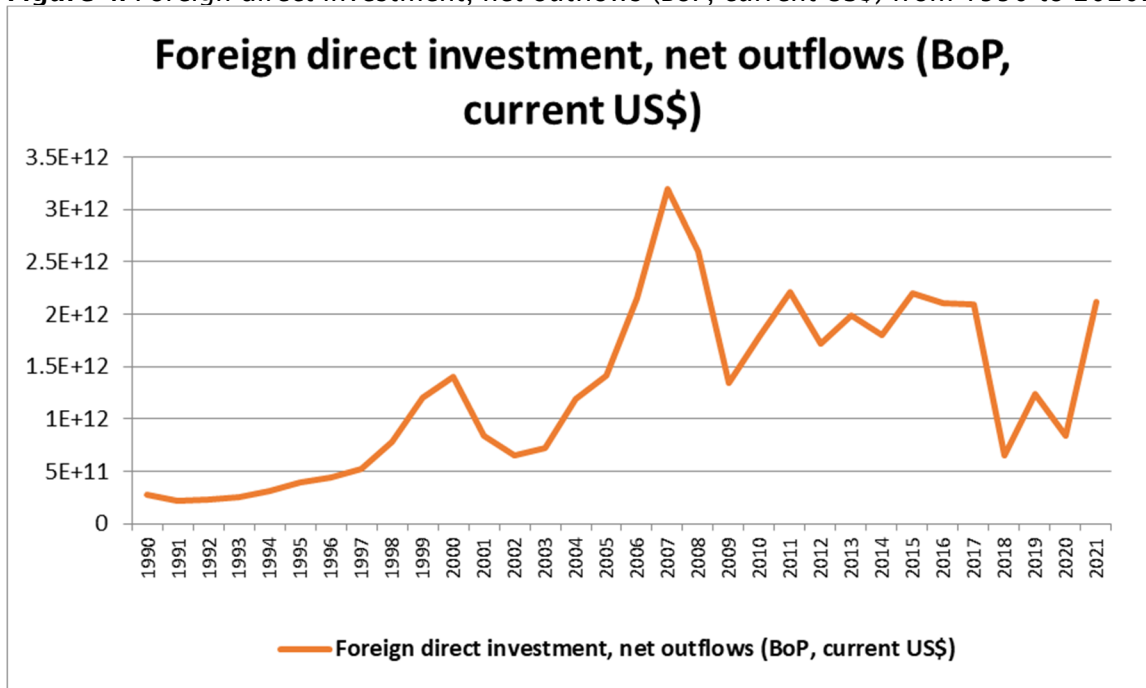


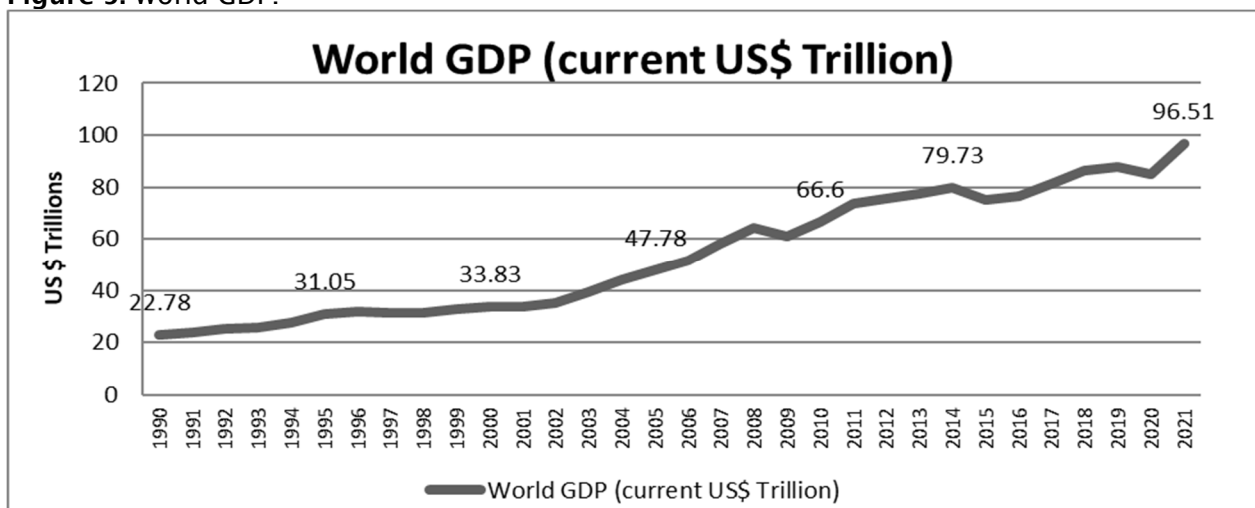
Figure 3 represents the trends of world FDI inflows from the period between 1990 to 2021 in current US\$. From the figure we can observe that the world FDI inflows are increased from US\$ 239.42 Billion in 1990 to US\$ 2.2 trillion in 2021. World FDI inflows were reached highest in 2007 i.e., US\$ 3.13 Trillion.

World FDI net outflow trends during the period between 1990 to 2021 were depicted in the figure 4. This figure clearly shows the increasing trend of the FDI outflows. Worlds FDI outflows were increased from US\$ 277.9 billion in 1990 to US\$ 2.12 trillion in 2021. In 2007 the world FDI outflows shown highest level by reaching to the level US\$ 3.2 Trillion.

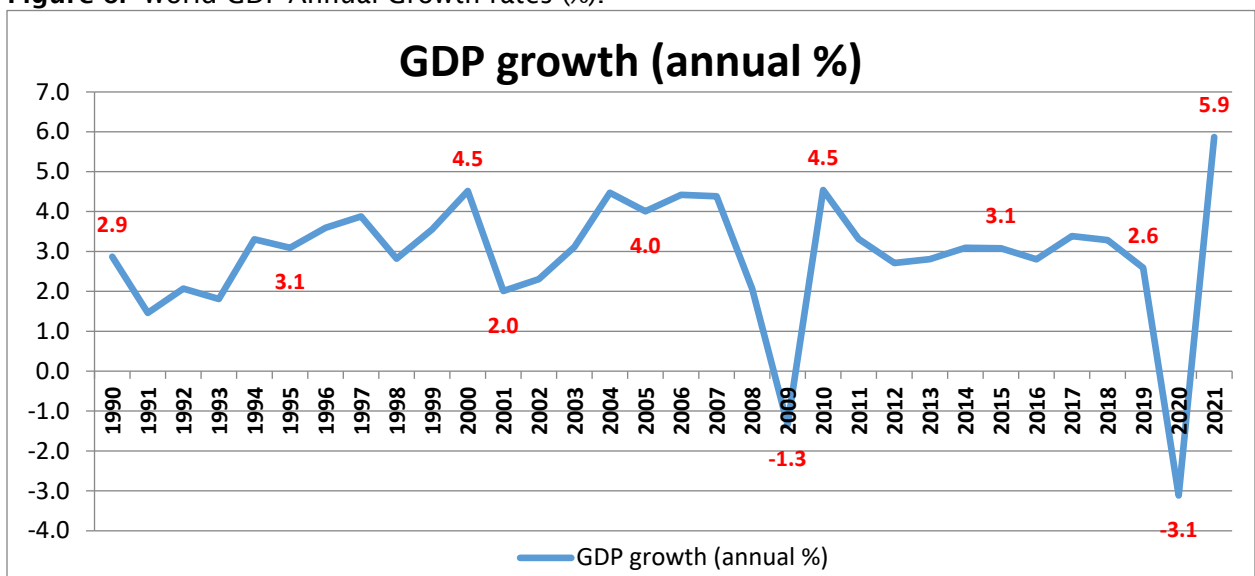
**b) World GDP**

Impacts of Trade Agreements on World GDP has shown in Fig 5. The results show that the world GDP increased from 22.78 US\$ Trillion in 1990 to 96.51 US\$ Trillion in 2021. The trends show that the world GDP is increasing at increasing rate from 1998 to 2021 except 2002, 2010, 16, 19 indicating free trade agreements played significant role in Globalized world.

**Figure 5: World GDP.**



**Figure 6: World GDP Annual Growth rates (%).**



World GDP Growth (annual %) has shown in Fig 6. The results show that the world GDP annual growth shown in mixed trends. The growth rates very high during 2000, 2010 and 2020. But during 2009 negative because of financial crisis and 2021 negative because of Covid effected on world GDP Growth rates.

**c) World Exports and Imports**

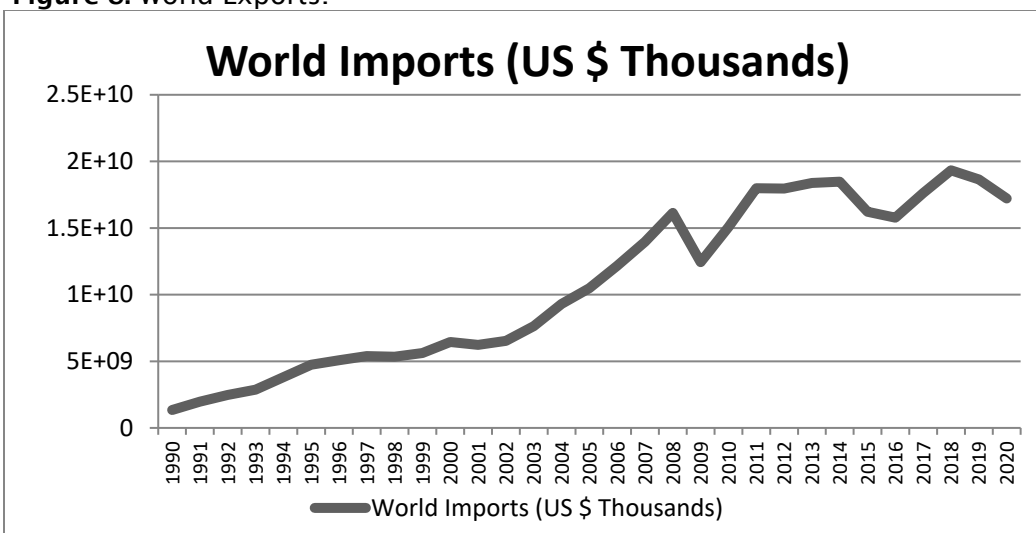
Impacts of Trade Agreements on World exports has shown in Fig7. The results show that the world exports increased from 1378180083US\$ thousands in 1990 to 19237810179 US\$ thousands in 2021. The trends show that the world exports are increasing at increasing rate from 1990 to 2020 except 2009, 2013, 16, 19 indicating free trade agreements played significant role in Globalized world.

**Figure 7: World Exports.**



Source: World Integrated Trade Solutions.

**Figure 8: World Imports.**



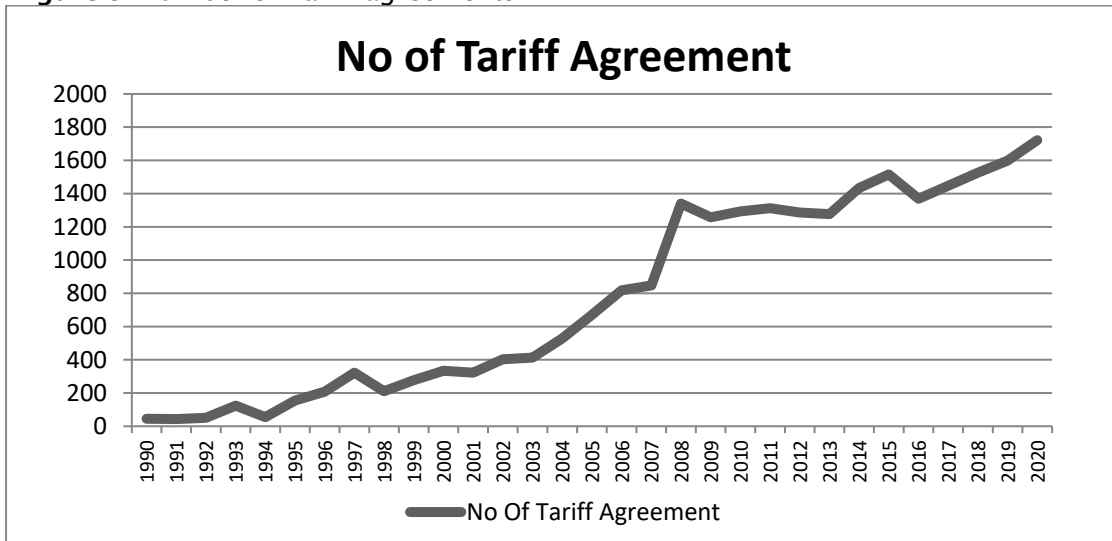
Source: World Integrated Trade Solutions.

Impacts of Trade Agreements on World Imports has shown in Fig 8. The results show that the world Imports increased from 1347848481 US\$ thousands in 1990 to 17221103582US\$ thousands in 2021. The trends show that the world imports are increasing at increasing rate from 1990 to 2019 except 2009, 2013, 16, 20 indicating free trade agreements played significant role in Globalized world.

**d) Tariff and Duty Agreements Trends**

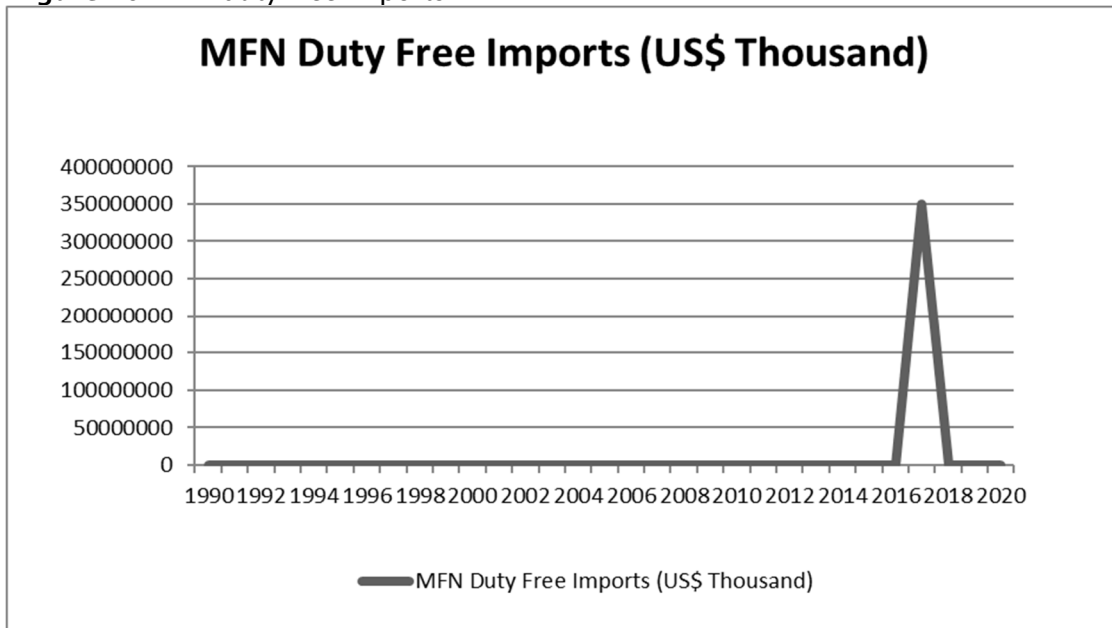
Number of Tariff agreements has shown in Fig 9. The results show that the agreements increased from 45 in 1990 to 1772 2020. The trends show that the number of tariff agreements are increasing at increasing rate from 1990 to 2020 except 1998, 2017, indicating free trade agreements played significant role in liberalizing the global world.

**Figure 9: Number of Tariff agreements.**



Source: World Integrated Trade Solutions.

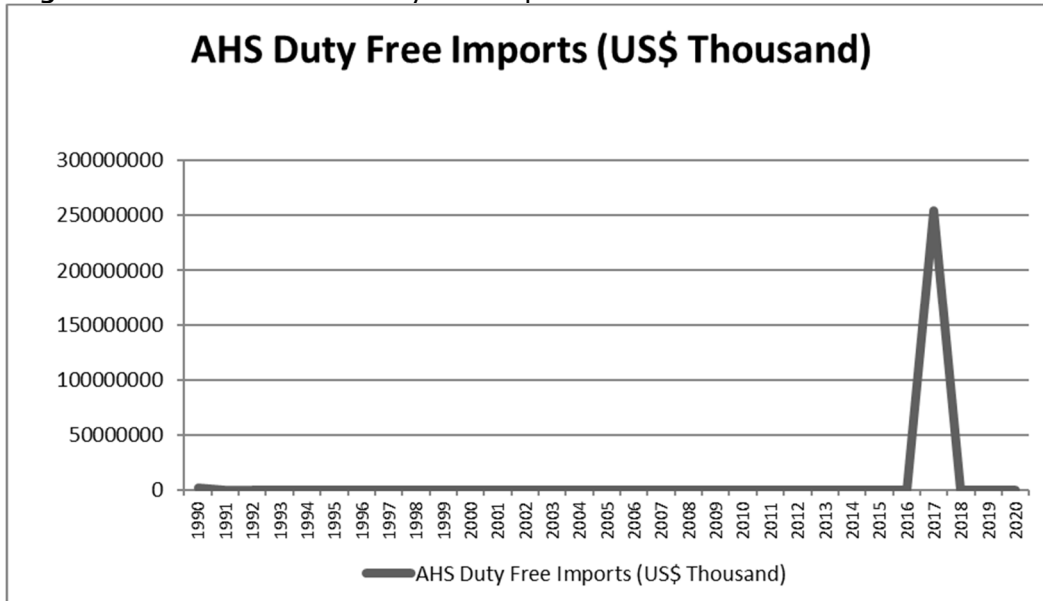
**Figure 10: MFN duty free imports.**



Source: World Integrated Trade Solutions.

Number of MFN duty free imports has shown in Fig 10. The results show that the MFN duty free imports increased from 141418.379 US\$ Thousands in 1991 to in 8070.574436US\$ Thousands 2021. The trends show that the MFN duty free imports are increased tremendously in 2018., indicating free trade agreements played significant role in liberalizing the global world.

**Figure 11:** Number of AHS duty free imports.

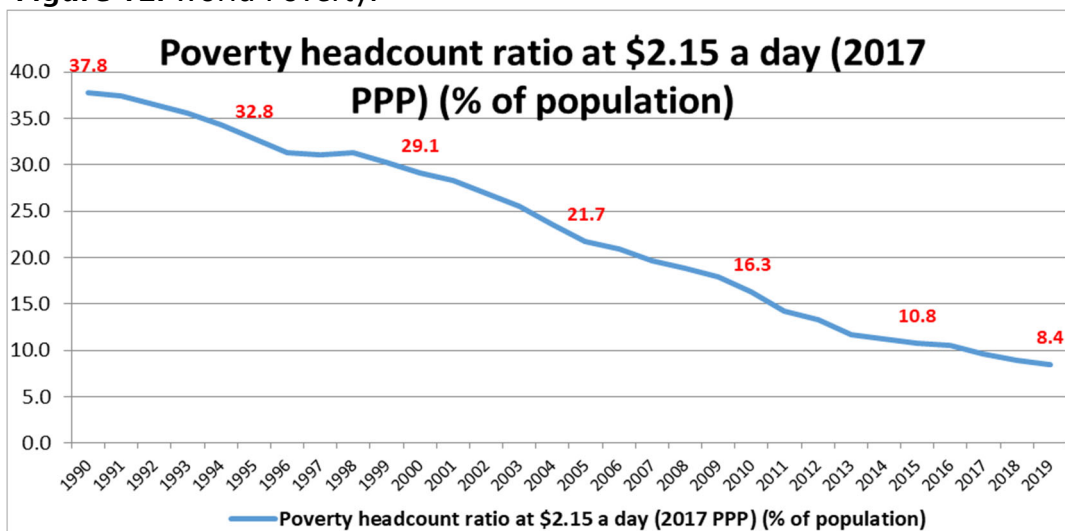


Source: World Integrated Trade Solutions.

Number of AHS duty free imports has shown in Figure 11. The results show that the AHS duty free imports decreased from 2473468.251US\$ Thousands in 1990 to in 11369.31189US\$ Thousands 2021. The trends show that the AHS duty free imports are decreased tremendously.

**e) Poverty**

**Figure 12:** World Poverty.



Source: World Bank Data.

World poverty head account ratio (population %) has shown in Fig 12. The results show that the poverty account ratio decreasing at decreasing rate from 37.8% in 1990 to 8.4% in 2021 indicating free trade role in reduction of poverty in globalized world.

## V. Conclusion

The integration of globalization economy has advanced rapidly since World War II. This was made possible by an expansion in economic activity, particularly foreign direct investment and international trade. The WTO's global trading system has seen a significant increase global growth and development. Regionalism developed concurrently with this trend toward globalization. This began to alter in the 1990s when regionalism began to proliferate all over the globe in the otherwise staid field of economics. The present paper focuses on the role of FTA, PTA, Trade blocks on growth of FDI, International Trade, World GDP, Poverty. The meta-analysis, scientific approach, and political policy analysis were used to validate the results. WTO Trade Agreements Scenarios, Trends, growth rates of World GDP, FDI, exports, imports and poverty estimated.

The results of WTO agreements revealed that FTA signed and in effect has a vast increase from 35 in 2000 to 185 in 2022. It shows that the number of FTAs that have been signed and are currently in effect has increased globally each year. Over various regions WTO notified and not notified Plurilateral FTAs were five in 2000 that rose to 68 in 2017. From the perspectives of trade liberalisation and rulemaking, the WTO, FTAs, and issue-based plurilateral agreements need to be taken into consideration jointly. Promoting issue-based multilateral agreements aids in identifying the issues with the WTO and providing a path for improvement. Governments will need to be well-versed in all of these different tools in order to give the best possible response in the face of advancing globalization and ongoing changes in the economic environment. The significance of issue-based plurilateral agreements has been amply demonstrated by developments since the founding of the WTO. It is a fact that the majority of significant trade agreements reached following the founding of the WTO are plurilateral in nature. As a result, in the decision between the WTO and FTAs, they may be a good third option. Asian Regional Integration Center (2016) reported that from 2008 to 2016, there were 60 FTAs in force, and 38 of those contained an investment chapter or provision. Of the 38 FTAs, 34 have a chapter on investments, and 4 more have provisions on investments in the services chapter. The WTO's PTAs are unilateral trade preferences. It is intended to support economic growth in developing nations. Countries which come under providers of PTAs are majorly USA, Russia, Australia and some of EU counties. Most of the countries from Africa, South America and most of the Western Asian countries are beneficiaries. Major countries come under the regions of both beneficiary and providers of PTAs are India, China, Kazakhstan, Chile, Morocco, turkey etc. FTAs by country in the year 2020 Afghanistan (2) is least followed by Nepal (3) and highest in Singapore (39) followed by Republic of Korea (34), India (32) and China (32).

The results of the role of FTA, PTA, Trade blocks on growth of FDI, International Trade, World GDP, Poverty shows that world FDI inflows are increased from US\$ 239.42 Billion in 1990 to US\$ 2.2 trillion in 2021. World FDI inflows were reached highest in 2007 i.e., US\$ 3.13 Trillion. World's FDI net outflow trends during the period between 1990 to 2021 clearly shows the increasing trend of the FDI outflows. In 2007 the world FDI outflows shown highest level by reaching to the level US\$ 3.2 Trillion. According to the research so far, the elements influenced by trade liberalization that have the greatest impact on the flow of FDI into a region are changes in per capita GDP, GDP growth, and market size. The EU and NAFTA are opening up to world trade. EU, NAFTA, Pacific Alliance Trade blocks are wider in scope for global trade.

The trends the world GDP is increasing at increasing rate from 1998 to 2021 except 2002, 2010, 16, 19 indicating free trade agreements played significant role in Globalized world. The results show that the world GDP annual growth shown in mixed trends. The growth rates very high during 2000, 2010 and 2020. But during 2009 negative because of financial crisis and 2021 negative because of Covid effected on world GDP Growth rates. The trends of world exports are increasing at increasing rate from 1990 to 2020 except 2009, 2013, 16, 19 and the trends show that the world imports are increasing at increasing rate from 1990 to 2019 except 2009, 2013,

16, 20 indicating free trade agreements played significant role in Globalized world. The number of Tariff agreements increased from 45 in 1990 to 1772 in 2020. The trends show that the number of tariff agreements are increasing at increasing rate from 1990 to 2020 except 1998, 2017, indicating free trade agreements played significant role in liberalizing the global world. The MFN duty free imports increased from 141418.379 US\$ thousands in 1991 to 8070.574436 US\$ thousands 2021. The MFN duty free imports are increased tremendously in 2018., indicating free trade agreements played significant role in liberalizing the global world. The AHS duty free imports are decreased tremendously. The results show that the poverty account ratio decreasing at decreasing rate from 37.8% in 1990 to 8.4% in 2021 indicating free trade role in reduction of poverty in globalized world.

The study concludes that the Impact of FTA on increase in World GDP, FDI, Trade and reduction of poverty is significant. According to the research so far, the elements influenced by trade liberalization that have the greatest impact on the flow of FDI into a region are changes in per capita GDP, GDP growth, and market size.

All the Free Trade Agreements, Preferential Trade Agreements, Trade Bloc were either directly or indirectly, formed and controlled by the world leader WTO thus promoting trade over various nations from underdeveloped to Developed Countries. Thus, keeping demand and supply gap to minimum, increasing goods flow from producers to consumers thus increasing producer's income and providing consumers at basic and reasonable prices. Hence, geopolitical leaders should also coordinate with national level, international level and WTO, think tank institutes for policy development and implications for further success of these trade motives across the barriers. Issue-based Plurilateral agreements can work in tandem with FTAs to drive trade liberalization and rulemaking. It is incorrect to see the WTO and FTAs as the only two options available in the current circumstances. It is essential to constantly take issue-based Plurilateral agreements into account.

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# U.S. Foreign Aid to Bangladesh: Trends and Prospects

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## Abstract

Bangladesh was born in 1971 through a bloody war of independence with Pakistan and as such inherited a war-ravaged economy with damaged infrastructure, abandoned industries, administrative vacuum, and severe paucity financial and other resources even to run the basic functions of the government. In that environment, Bangladesh had to rely heavily on foreign assistance from different sources to restore infrastructure, run the administrative functions of the government in the immediate term and later to focus on medium to longer term economic development efforts. Such assistance had been received from various individual donor countries such as the India, Russia, U.S., Japan, Australia, Netherlands, U.K., France, Germany, Italy, and other developed countries to name a few. Historically, the U.S. has played the role of one of the top donor countries over the years. In addition, the country received foreign assistance from various global multilateral organizations such as the World Bank, the I.M.F., The U.N. and its various sub-agencies, among others. Some of the assistance came with conditions attached, some without, some in the form of grants and aid, and others came as concessional loans and/or regular market-based loans. This paper critically examines the role and importance of total foreign assistance received by Bangladesh over the years in relation the assistance received from the U.S. in promoting economic development of Bangladesh. It discusses foreign aid controversies, the motives of foreign aid from both recipient and donor perspectives, the trend and composition of aid, and the prospects of aid flows in a changing aid climate in the US and in the global context.

## I. Introduction

Located in South Asia, Bangladesh was one of the poorest countries in the world at the time of independence. According to the World Bank (World Bank 2023) data, as of 2021, the country has a large population of 170 million living in a small land area of only 130,170 sq. km with one of the highest population density in the world. At the time of independence, the country inherited a very poor country with a low per capita income of only 128 USD per year in 1971. With significant progress made over the years, the country has achieved a much higher level of per capita income of U.S.\$2,458 USD in 2021, elevating the economic status of the country to a Lower Middle-Income Country (USAid, 2023).

Due to its poor economic conditions in the aftermath of its independence, various donor countries and agencies have provided the country with substantial amounts of public foreign assistance. In some peak years, it received a sum of \$1,611 million in foreign aid (ERD 1992), which constitutes about \$14 per capita and about 7 percent of its GDP. More importantly, foreign aid constituted an extremely high proportion (about 90 percent) of the country's annual development budget in some peak years. These numbers and percentages, however, have declined in recent years with total aid received in the amount of \$1,320.5 million in which constituted about \$9.3 per head and about 2.2% of GDP, all in 2005. In addition, Bangladesh received a very negligible amount of FDI (Foreign Direct Investment) flows in the 1990's with a trend towards some increase in recent years amounting to 1.34% of GDP in 2005.

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Bangladesh thus provides a test case for examining the role of foreign assistance in promoting economic development in the context of a developing economy. The primary objective of this preliminary study is to examine the debates and controversies over foreign assistance, motives of foreign assistance from both recipient and donor perspectives, the trend and composition of foreign assistance and the prospects of foreign assistance flows in a changing aid climate in the US and the world.

## **II. The Foreign Aid Controversy**

The issue of foreign aid has always been a highly controversial subject. The debate on this issue dates to the 1950's when the United States, then a capital surplus country, started an ambitious foreign assistance program to help the war-ravaged Europe and the developing countries achieve rapid economic transformation. During the same time, many capital-deficient developing countries adopted rapid economic growth as their most important national economic goal. These countries resorted to foreign capital as the primary means to achieve that goal. Unfortunately, the growth experiences with foreign aid have not always been very satisfactory. The apparent failure of foreign aid to bring about significant prosperity led to a series of debates among economists and policy makers in both developed and developing countries on its effectiveness for promoting economic development.

A large body of literature exists on this subject covering different viewpoints, ideological orientation and theoretical and empirical results. A review of the existing literature indicates two easily identifiable views, i.e., the traditional pro-aid view and the radical (and conservative) anti-aid view. The pro-aid view contends that capital imports exert significant beneficial effects on the recipient countries. It is argued that foreign capital not only augments (complements) domestic resources, but also helps them mitigate severe foreign exchange constraints, provides access to modern technology, essential raw materials, capital equipment, spare parts and managerial skills, and allows easier access to foreign markets, all positively contributing towards economic growth (Chenery 1960; Chenery and Adelman 1966; Chenery and Eckstein 1970; Chenery and Strout 1966; Papanek 1972; 1973, Rosenstein-Rodan 1971, among others). In this context, it is also argued that capital flowing from the surplus countries with relatively low domestic rates of return to the deficit countries with relatively high rates of return, thus benefiting the capital surplus countries earn higher rate of return and also improve global allocation of world resources.

However, the growth experience of many capital-importing developing countries over the last four decades does not conform to the conventional wisdom. Some countries may have even witnessed a negative experience with foreign capital flows. This empirical phenomenon along with other adverse effects led to the emergence of the anti-aid view on the subject. It is interesting to note that the anti-aid view is shared by both the radical and conservative views (based on different reasons, however). According to this view, foreign capital exerts significant negative effects on the recipient countries because it substitutes (rather than complements) domestic resources, helps import inappropriate technology, distorts domestic income distribution, and is biased towards a bigger, inefficient and corrupt government in those countries (for the radical view, see Frank 1969; Griffin 1970; Griffin and Enos 1970; Rahman 1967; 1968, and Weisskoff 1972a; 1972b, among others and for the conservative view, see Bauer 1971; Bauer and Yamey (1981); Bovard 1986; and Friedman in Bhagwati and Eckaus 1970, pp. 63-77, among others). On the issue of whether foreign capital acts as a substitute for domestic capital, the empirical results are mixed at best (Griffin 1970; Griffin and Enos 1970; Gupta 1970; Gupta-Islam (1983); Rahman 1968; Papanek 1973, among others).

## **III. Motives for Aid**

Motives for aid can be discussed from two perspectives: Donor's motives and the Recipient's motives. These are discussed below.

## ***The Recipient Perspectives***

While analyzing the motives for aid from a recipient country perspective, one needs to ask why countries like Bangladesh wants to receive aid from various donor countries such as the U.S.? There could be a number of motives at work here, some being economic and others being non-economic nature. Firstly, foreign aid may be desired to promote economic growth of a country. To achieve this lofty goal, the country needs to mobilize sufficient resources such as domestic savings to achieve a target rate of growth. However, Bangladesh faces serious deficiency in this respect. This deficiency is known as the domestic savings gap, which is measured by the difference between the available domestic savings ratio (SY: Savings as percentage of GDP (Gross Domestic Product)) and the needed investment ratio (IY: Investment as percentage of GDP). For Bangladesh, this gap (shortfall) has remained quite high over the years since independence (Figure 1). In 1989, for example, the IY ratio was 11.7% whereas the domestic SY ratio was less than 2% (Islam, 1999). Note that the SY ratio has remained quite low since independence. This fact indicates that the country has failed to generate adequate resources from domestic sources to finance its development activities. As a result, it is argued that foreign resources can complement this acute savings gap.

Secondly, another major resource gap which may seriously constrain the country's growth potential is the foreign exchange gap (also known as the trade gap). This resource gap is measured by the difference between export ratio (XY: Export as percentage of GDP) and the needed import ratio (MY: Imports as percentage of GDP). The import ratio remained consistently at a much higher level than the export ratio for all the years since 1972 (Figure 2), and the gap reached a peak in 1982 with the MY of 21.8% against the XY of 7.5%, reflecting a foreign exchange gap of 14.3% (Islam, 1999). The gap, however, declined somewhat after 1982 but it still remains at a high level (Islam, 1999). Intuitively, the existence of this gap implies that the country does not generate enough exports to pay for its needed imports of food, materials, resources and other inputs, which are essential to support its industrialization and economic growth. Foreign resources can complement this resource gap as well.

Thirdly, Bangladesh lags behind most other countries in terms of access to modern technology and know-how. A foreign aid program can be designed to mitigate this severe growth-inhibiting problem. Fourthly, a country may seek foreign assistance in terms to managerial and marketing skills in order to help the country to explore foreign markets for its export products and to harness its natural resources such as coal, natural gas, etc. Fifthly, Bangladesh needs foreign resources to deal with natural and other calamities such as recurring floods, cyclones, tidal waves, famine, hunger, malnutrition, and disease.

Sixthly, a country may seek aid from a donor country to protect and secure its own country from any perceived or actual external threats from any foreign country. Finally, the political, bureaucratic, and military establishment of a country may seek foreign assistance to maintain their grip on power and to promote their own 'self-interest', i.e. to promote their own narrow personal well-being by using various corrupt practices in using and allocating aid resources.

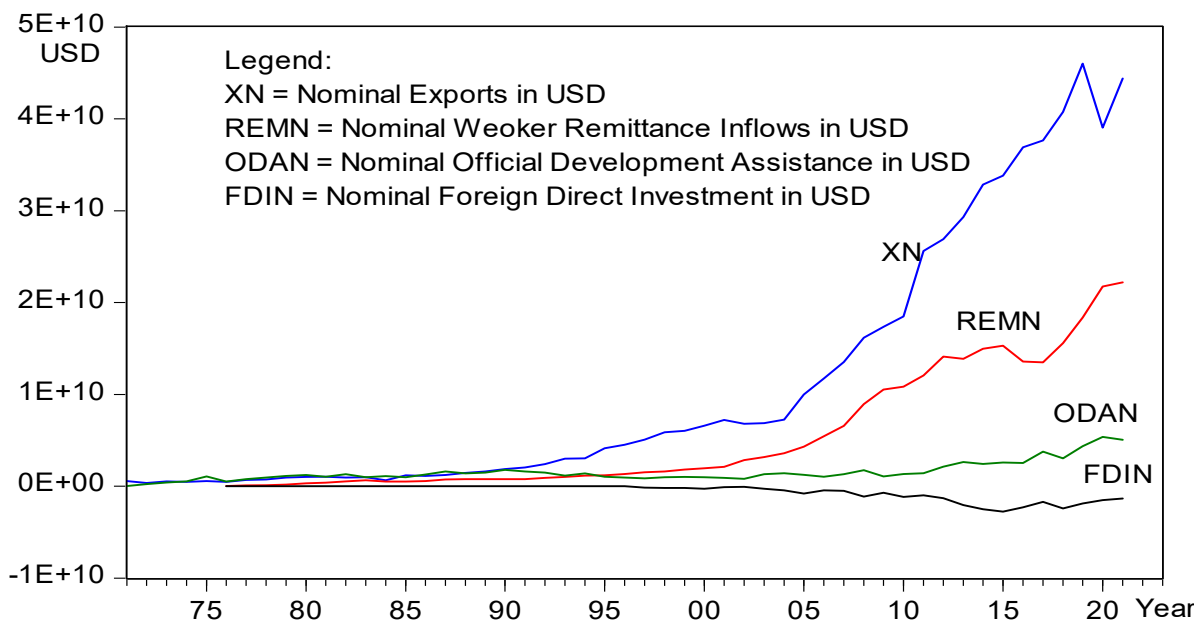
## ***The Donor Perspectives***

Why donors such as the U.S. give aid to other countries such as Bangladesh? There could be a number of motives for giving such aid, of which, a several of them are mentioned here. Firstly, there could be a purely humanitarian motive involved. A donor country may give aid to Bangladesh to deal with different natural calamities facing the country such as flood, cyclone, tidal waves, famine, hunger, malnutrition, and disease, among others. A donor country may give food or other items as aid to deal with such human catastrophes. Secondly, a donor country may take a genuine interest on the help a poorer recipient country to achieve economic development. For this purpose, a donor country may provide food aid, commodity aid, project aid, and to provide assistance towards technology transfer. In this regard, a donor country may also use aid as a tool to pressure the recipient governments to adopt and promote healthy economic policies for the country. These two motives can be considered as 'altruistic' motives for giving aid.

Thirdly, a donor may help a recipient country in order to promote its own self-interest such as to promote its own geopolitical, strategic, and military interests. In this context, a donor country may also give aid to support and maintain oppressive and autocratic/dictatorial regimes, which are friendly to the policies pursued by the donor country. Examples may include military aid and or aid to combat terrorism. Fourthly, a donor country may be motivated to give aid to a recipient country purely to promote its own economic interests abroad. For example, foreign aid can be given to a country, which is interested to buy good and services from the donor country or to allow the donor country citizens and businesses to have easier access to various natural or other resources of the recipient country. Fifthly, a donor may be motivated to give aid to a country in order to secure political and diplomatic support from the recipient country towards the policies of the donor country in the international forums. These last three motives can be considered as the donor pursuing its own 'self-interest' through its foreign aid program. In other words, the donor is using foreign aid an instrument to promote its own foreign policy.

#### IV. External Resources into Bangladesh Development: Composition and Trend

Since independence, Bangladesh has been receiving foreign resources from several sources in order to complement the two major resource gaps mentioned earlier. The country has been receiving foreign resources in terms official development assistance (also known as foreign aid), foreign private capital flows (in the form of foreign direct investment (FDI) and foreign portfolio investments (FPI)), export receipts, and remittances from expatriate Bangladeshi workers. The second listed source, i.e. foreign private capital flows to the country has been very limited to date as the country has failed to develop sufficient political, legal, and institutional infrastructure to attract such investments in a large scale (Figure 1).



Now, focusing on the remaining three listed external sources, it seems that the size and relative importance of each has varied substantially over time (Figure 1). It appears that foreign aid was the largest source of foreign resources during the early years of independence till 1991. Since 1991, however, foreign receipt from exports surpassed foreign aid and became the largest

source of foreign receipts and has remained so to date with foreign aid becoming the second largest source. Another major shift occurred in 1996 when remittances from expatriate Bangladeshi workers surpassed foreign aid to become the second largest source, leaving foreign aid to become the third largest source of foreign resources for the country. Thus, relative importance of foreign aid has diminished since 1996. Further, it appears that the absolute amount of foreign aid has also started to decline after reaching a peak in 1990 (Figure 1). Thus, as of now (2022), Export receipts is the largest source of external resources followed by remittance flows and then by foreign assistance in the third position, Finally, FDI stays as the least important source of external resources contributing to the development of the country.

## **V. U.S. Aid to Bangladesh: Brief Historical Background**

The issue of U.S. aid to Bangladesh needs to be examined within the framework of Bangladesh-U.S. relationship. The relationship can be divided into three distinct periods: First: the Pre-independence Period; Second: The Immediate Post independence 1971 – 1975 Period; and third: the Post-1975 Period.

### ***The Pre-Independence Period***

As mentioned earlier, Bangladesh received independence from Pakistan in 1971 through a short but bloody liberation war. Before its independence, Bangladesh was part of Pakistan and was known as East Pakistan from 1947 to 1971. During that period, the U.S. had a very friendly relationship with Pakistan including East Pakistan. However, when the liberation war began in the then East Pakistan to gain independence from Pakistan, the then U.S. administration headed by Nixon-Kissinger regime sided strongly with Pakistan against the wishes and aspirations of the majority of the people of the then East Pakistan (now Bangladesh). This blind U.S. support for Pakistan can be partially attributed to the geopolitical and strategic interests of the U.S. in the context of the then prevailing Cold War atmosphere. During that period, the U.S. was aligned with Pakistan to counter the Indo-USSR influence in the region, the latter supporting the liberation war of Bangladesh. The U.S. administration went to the extent of openly opposing the creation of independent Bangladesh. In doing so, the U.S. gave arms and ammunition to Pakistan, provided all possible economic and financial support and provided diplomatic and political support for Pakistan in the U.N. and other international forums. The U.S. even went to the extent of sending nuclear-armed warships (the 6<sup>th</sup> fleet) to the Indian Ocean to intimidate India and the USSR so as not to interfere directly in the affairs of Pakistan.

### ***The 1971 – 1975 Period***

Despite the U.S. support for Pakistan, Bangladesh finally achieved its independence in 1971 with direct and indirect help of India and Russia. Naturally, because of these events, the relationship between the U.S. and Bangladesh began with extreme 'hostility' towards each other during the early 1970's. This hostile relationship continued up until 1975, even though the U.S. officially recognized the existence of Bangladesh as an independent nation in 1972 and it made some gestures to ease tensions and improve relationship with the administration in Bangladesh. The then Bangladesh administration headed by Sheikh Mujibur Rahman and his ruling Awami League party viewed these U.S. gestures with a great deal of suspicion and apprehension. The U.S. gestures were also of questionable motive. As a result, although some foreign aid from the U.S. was provided, the relationship did not improve on a substantial scale during this post-independence transitional period.

## ***The Post-1975 Period***

The relationship between Bangladesh and the U.S. changed dramatically in 1975 after a bloody military coup in which Mujibur Rahman, the founding father of the nation and the then head of the government, along with many of his family members and followers were killed and a new administration headed by Khondoker Mushtaque Ahmed took over the power. Since then, each successive governments including the Zia Regime, the Ershad regime, the Khaleda regime, the Hasina regime, the second Khaleda regime, the military-backed caretaker governments in Bangladesh at different times and the current Sheikh Hasina (daughter of the founder father Sheikh Mujibur Rahman) regime has maintained a friendly and cordial relationship with the U.S. Thus, it appears that the Bangladesh-U.S. relationship has evolved over time from a state of pre-independence 'friendship' to immediate post-independence 'hostility' and then to subsequent post-1975 period of 'friendship'. It is generally expected that the current friendly relationship will continue in the future due to mutual interest as both sides are expected to benefit economically, politically and diplomatically from this ongoing relationship.

## **VI. Conclusion**

The research on this topic is still ongoing. The author is still engaged in collecting time series data on various typed of foreign assistance flows from various countries including the U.S. From the incomplete research, it appears from the previous discussion that the magnitude and the relative share of foreign assistance and foreign aid to Bangladesh has been declining consistently over the years. The same decline is observed from the U.S. The support for foreign assistance from the U.S. to other countries has declined for various political, diplomatic, ideological, and economic reasons. As such, countries like Bangladesh have to find alternative sources of foreign funding such as to attract more FDI for its development. Bangladesh may also try to organize strong lobby efforts in the U.S. and other donor countries to get more support and funding. However, more foreign funding from the U.S. seems to be grim at this time.

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# Impact of Globalization and Multinational Corporations on Farmer Suicides in India: An Overview, Effects, Strategies, and Policies

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## Abstract

In 2021, in India nearly 1,64,033 farmers suicides were recorded in accordance with the recent NCRB report. The tragic trend of farmer suicides over the past few years in some states brings to light some of the high social and ecological costs associated with the globalization of unsustainable agriculture. Since 1990s, the India's epidemic of farmer suicides has an increase which resulted into huge agrarian distress. Since farmers suicide impacted not just the farmers but also their families hence, this is a severe socioeconomic problem. The study analyzes the impact of Globalization and MNC's on farmers suicide and suggest strategies and policies. The results show that due to regressive agricultural policies, output declines, insufficient credit support, private parties' intervention and other factors, Indian agriculture is in turmoil. Farmland has rapidly fragmented as a result of globalization, population expansion that is growing quickly, and family breakdown. Privatization of seed sector led to high cost of cultivation which made farmers vulnerable to take loans and resulted into the worst debt trap. The difficulties experienced by Indian farmers have increased as a result of globalization's effects and the rising power of multinational companies (MNCs) and their political influence. This issue has to be addressed by government regulations. In conclusion, there has to be a thorough and ongoing effort to address farmer suicides in India. While the government's actions are a positive move, more must be done to guarantee that farmers have access to the tools and assistance they require to prosper. To properly address this issue, a comprehensive strategy that considers the intricate interaction of numerous variables causing farmer suicides is essential.

**Keywords:** Farmers suicide, Globalization, MNCs, Strategies, Policies

## I. Introduction

In India, farming is a financially risky occupation due to the numerous uncertainties surrounding the annual agricultural revenue. The current epidemic and accompanying lockdown have demonstrated to everyone the importance of farmers, since they supported India's rural economy during the lockdown but farmers are generally exposed to both price and yield risk, even in the best of circumstances, farming is a risky economic endeavor due to the limited and fragmented land holding specially in India. In India, the farmers' access to automation, sophisticated irrigation, and other investment-based technical advancements is barred due to fragmented land holdings which indeed results into minimal productivity and high cost of production. Farmland has rapidly fragmented as a result of globalization, population expansion that is growing quickly, and family breakdown. Farm labor is a physically demanding job, the difficulties of running a

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farm business and navigating the legal system may be stressful psychologically. Globalization and other related factors have led farmers into financial traps and to misery that results in suicide. Due to regressive agricultural policies, output declines, insufficient credit support, private parties' intervention and other factors, Indian agriculture is in turmoil. The state's agricultural industry has been marginalized as a result, which has had a negative economic impact on farmers, especially marginal and small farmers and agricultural laborers (TS, 2017). In India, farmer's suicide has been a social problem for the last three decades. Lack of knowledge, scientific crop management practices, diversification practices, unsuitable systems (such as delayed availability of high-quality input materials, insufficient irrigation infrastructure, and non-remunerative prices for farmers), and the dominance of middlemen in agricultural marketing at the time of price fixing in procurement all contribute to the small-scale crop cultivation industry's already troubled economy (Gajbhiye, 2020). The agrarian issues has recently been a major source of worry, the distress in the agrarian sector has been seen in terms of increase in farmers suicide rate. The problem of suicide is intricate and complicated. Both the neurological and the socioeconomic domains have some significant link.

State involvement and welfare programmes were abandoned as a result of the advent of globalization, which placed a priority on liberalization and privatization. The import of food grains at lower costs has indeed a result of liberalization and globalization, which have resulted in the distress in farmers income which may be big reason of increase of suicide as farmers are compelled to burn their harvested crops in the fields this due to the pricing risk associated to it (Gajbhiye, 2020).

State involvement and welfare programmes were abandoned as a result of the advent of globalization, which placed a priority on liberalization and privatization, previously the focus of the agrarian sector was on food security and controlling inflation but the outbreak of MNC's in the market has lead farmers in India lost their autonomy and self-reliance as a result of MNCs made them dependent on the business with introduction of hybrid seeds which are ecologically vulnerable and expensive (Shiva, 2000). The increase of suicide rates emphasises the significant societal cost of non-sustainable agriculture practices and globalisation. As a result, to relieve the distress a digital agricultural mission has been developed by the Indian government for the years 2021-2025. This mission would include projects based on cutting-edge technology including artificial intelligence, blockchain, drones, robots, remote sensing, and geographic information systems (GIS). Utilizing new technologies can help farmers increase their incomes as agriculture continues to be modernized. Companies including Cisco, Ninjacart, Jio Platforms, ITC, and NCDEX e-Markets have signed a Memorandum of Understanding (MOU) with the Ministry of Agriculture for pilot projects (NeML) (Sharma, 2022). These initiatives may relieve the stress to increase the socio-economic conditions and doubling the income of the farmers which may directly or indirectly impact the rate of suicides. The harbinger of the study is to underline the impact of globalization and outbreak of MNC's on farmers suicide and trend associated with it.

## ***Objectives***

1. To investigate the causes of farmers suicides
2. To analyze Impact of globalization, MNC's on suicide rate.
3. To analyze how MNCS made farmers vulnerable in terms of cost and non-ecological practices.
4. To suggest Policies and strategies for the safety of farmers

## **II. Methodology**

For the investigation of the pattern and factors of farmer suicide in India, the current study primarily draws on National Crime Records Bureau (NCRB) data on "accidental deaths and suicide in India" for the years 1995 to 2021. The metrological data is compiled from the India Meteorological Department (IMD), Imports and Export is compiled from Agricultural Census

Various issues, consumption of fertilizers and per capita income are compiled by Agriculture statistics at a glance various issues.

### ***Exponential growth model***

The exponential growth model is a mathematical illustration that shows how a quantity increases or decreases over time at a rate proportionate to its current value. This can be illustrated as:

$$y(t) = y_0 * e(kt)$$

Where:

y(t) is the value of the quantity at time t

y<sub>0</sub> is the initial value of the quantity at time t=0

k is the exponential growth rate, a positive value for growth or a negative value for decay

e is the mathematical constant approximately equal to 2.718

### ***Factors Responsible for Farmers suicide: Pooled OLS***

The most common statistical technique for analysis of panel data is pooled ordinary least squares (OLS) which is used to examine the association between two or more variables. It might be used to examine the connection between numerous elements (including social, economic, and environmental issues) in the context of farmer suicides.

A pooled OLS regression estimates the regression using a sample of data that includes information from several time periods. This enables the estimate of a solitary regression equation that encapsulates the connection between the independent factors and the dependent variable throughout all locations or time periods. The outcomes of a pooled OLS regression may be used to pinpoint the elements that are most closely linked to farmer suicides and to calculate the size of these connections. Following that, strategies and interventions aiming at lowering the frequency of farmer suicides may be designed and put into effect using the information provided.

This research examines the impact of agricultural trade with respect to imports and exports, how weather shocks (annual rainfall and gross irrigated area) and consumption of fertilizers have impacted the farmers suicide. This can be illustrated as:

$$FS = \beta_0 + \beta_1 grossIA + \beta_2 fe + \beta_3 imports + \beta_4 AF + \beta_5 exports + \beta_6 I + \epsilon_i$$

Where,

FS= The number of farmers suicides

gross IA= Gross irrigated area

fe = Total consumption of fertilizers

Imports= total national agriculture imports

AF= Total Annual rainfall

Exports =Total national exports

I = per capita income

## **III. Results and discussions**

### ***Investigating the causes of farmer suicides (Meta-Analysis)***

The situation of farming in India is quite different from other countries, in recent years the situation has gotten worse due to adverse weather shocks, commodity price fluctuations and declining productivity leading to increase in farmers' debt, these have impacted farmers adversely. In accordance with the study conducted by Sadanandan the proportion of all bank

loans that were given to agriculture fell precipitously after 1989, from around 20 to 12% by 1994. It had already decreased by half by the 2000s, and only around 8% of it was given to farmers directly (TS, 2017). This decline of loans leads to the increased rates of loans from non-institutional sources, including moneylenders generally called as sahu-kars, who demanded significantly higher interest rates, which resulted in increase in debt which may be a key reason explaining why farmers committed suicide in greater numbers in particular areas (Kennedy & King, 2024). The distress in agriculture sector due to lack of technology and inadequate irrigation facilities may directly or indirectly contribute to increased debt and less productivity and leading to crop failure on top of it leading demand of cash crops which is truly for export and cost of cultivation is more as compared to food crops which contributed as factor that have led farmers into financial traps and to misery that resulted in increase in suicide rates. Farmer suicides have been connected to an agrarian distress more widely, which is sometimes attributed to the neoliberal policies of the late 1980s and regressive reforms taken by the government resulting in this distress (Mohanty, 2005). The increase of suicide rates emphasises the significant societal cost of non-sustainable agriculture practices and globalisation. As a result, to relieve the distress a digital agricultural mission has been developed by the Indian government for the years 2021–2025 (Sharma, 2022). These were the some of the cause of farmers suicide in India apart from these lack of information (Merriott, 2016) and family problems are also a major cause of this misery.

**Table 1.** Major causes associated to farmers suicide (NCRB, 2015)

Major causes associated to farmers suicide	Percent (of suicide)
Drug abuse /alcoholic addiction	4.1%
Marriage Related issues	2%
Poverty	1.1%
Property disputes	1.1%
Illness	10.5%
Family problem	11.7%
Family related issues	19.5%
Bankruptcy or indebtedness	38.7%

The results of Table 1 shows that Bankruptcy or indebtedness is the major (38.7%) cause of farmers suicides. According to reports citation, "Bankruptcy or Indebtedness" and "Farming Related Issues" accounted for 38.7% (3,097 out of 8,007 suicides) and 19.5% (1,562 out of 8,007 suicides) of all such suicides in 2015, respectively. Family Issues (933 suicides), Illness (842 suicides), and Drug Abuse/Alcohol Addiction (330 suicides) accounted for 11.7%, 10.5%, and 4.1% of all suicides among farmers and cultivators, respectively (*National Crime Records Bureau. Accidental Deaths and Suicides in India, 2015*).

### ***Impact of globalization on suicide rate***

The tragic trend of farmer suicides over the past few years in some states brings to light some of the high social and ecological costs associated with the globalisation of unsustainable agriculture. These costs are not only felt in the cotton-growing regions of different states, but also in all areas

where commercially grown and chemically farmed crops are grown (Shiva, 2000). Globalization may have altered the social equilibrium, resulting in a modest rise in suicides. The increase of suicide rates emphasises the significant societal cost of non-sustainable agriculture practises and globalisation (Shiva, 2000). In order to profit from agricultural exports, agribusiness is harvesting both agricultural stocks and agricultural subsidies. Globalization indeed impacted the deregulation of imports and export scenario of food grains leading to upsurge of prices (Gajbhiye, 2020). The constantly growing privatization of India's seed sector has not been embraced with unanimous approval. The costs and hazards of globalization are solely carried by small farmers and landless peasants, while its expansion of markets favors seed and chemical MNC's.

The pervasive sectoral breakdown in the context of genetically altered seeds, which in addition to the usual hazards of seed failure have the potential to lead to genetic contamination and severe ecological risks, this problem of accountability becomes important and calls for strong certification and liability for the commercial seed sector. Through local engagement and community management, the farmers' direct trade network must be enhanced, as well as their seed supply. The farmers seed supply in India is quite different from private commercial seed supply and hence, private commercial seed supply should have strict state regulation.

Since the middle of the 1980s, when liberalization first began to encroach on the Indian economy, land reform has largely disappeared off the Indian polity's radar. The abolition of zamindari was one of the most major measures done in independent India, and the most significant tool of social justice was land reform laws in several states to assure fair right to land and to avoid consolidation of land ownership. While the reform package has reduced the benefits provided to small farmers, low-income customers, and national food security, it has strengthened the inclination toward centralized control over agriculture (Mohanty, 2005).

### ***How MNCS has made farmers vulnerable in terms of cost and non-ecological practices.***

The focus of the agrarian sector was on food security and controlling inflation but the outbreak of MNC's in the market has led farmers in India lost their autonomy and self-reliance as a result of MNCs made them dependent on the business with introduction of hybrid seeds which are ecologically vulnerable and expensive (Shiva, 2000). The constantly growing privatization of India's seed sector has not been embraced with unanimous approval. The costs and hazards of globalization are solely carried by small farmers and landless peasants, while its expansion of markets favors seed and chemical MNC's.

Seeds and biodiversity, which were once owned by farmers and local communities as common property, are now the property of a small number of companies, like Monsanto, Syngenta, Duport, Dow, and Bayer. Now, these chemical tycoons have influence over both crops and medication. India is actually losing its biological and genetic resources, our nation's fundamental riches, and the wisdom of our local people that is built on biodiversity, mostly due to biopiracy (shiva, 2004). The outbreak of MNCs' in India and disrupted privatization of the seed sector. In the long run there would be irreparable harm done to the country and future generations if this were not stopped by the proper legislation and policy measures.

In agriculture, weeds and pests are signs of unsustainable practices. The prevalence of weeds, pests, and diseases has increased as a result of the green revolution or chemical agriculture. Toxic chemicals known as herbicides and pesticides are used to manage weed and insect issues in crops which makes farming business a high investment sector, the rise of cost of cultivation made farmers vulnerable to take loans and resulted into the worst debt trap. The best example of this rise in suicides is the failure of the cotton crops and the ensuing suicides in Andhra Pradesh between November 1997 and February 1998 as a result of pest destruction and the suicide of over 100 farmers as a result of debt brought on by paying close to Rs 12,000 per acre for pesticides which highlight the high social and ecological costs of the globalisation of unsustainable agriculture, which are felt not only in the state's cotton-growing regions but also in all other areas where commercially grown and chemically farmed crops are grown (Shiva, 2000).

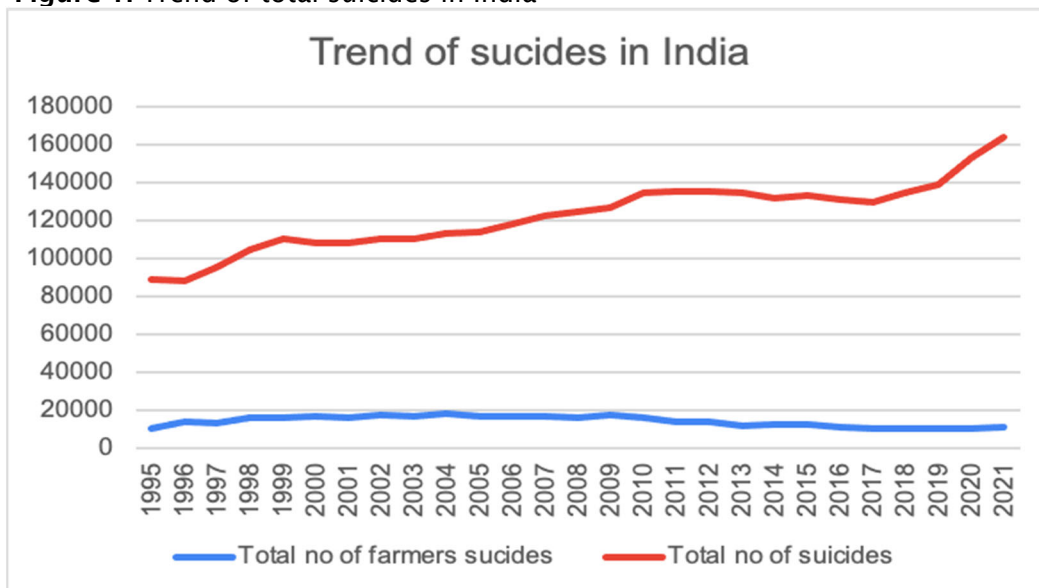
There have been several econometric models used to analyze the impact of globalization on farmer suicides in India. One of the most commonly used models is the panel data regression model, which looks at the relationship between farmers suicides and various socioeconomic, environmental, and agricultural factors. This model allows researchers to control for various confounding variables and to examine the impact of globalization on farmer suicides over time. We started with the Exponential growth model to analyse the trend of farmers suicide from 1995 to 2021.

### ***Trend associated with Farmers suicide in India***

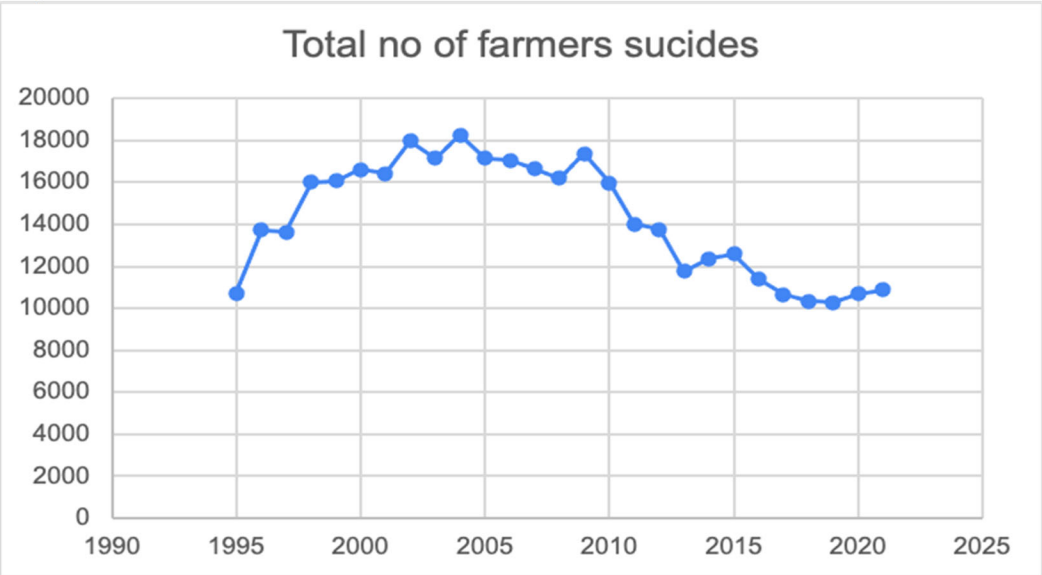
The trends associated total number of farmers and total suicide numbers shown in Fig1 and 2. The trend is showing in many years increasing trends. The incidence of farmer suicide is not influenced by just one or two factors, but rather by a combination of natural disasters, market fluctuations, unpaid loans taken out by farmers for agricultural inputs, and personal issues. The temporal analysis of farmer suicide thus reveals variations in terms of numbers. Due to drought in both 2002 and 2004, when there were 17,971 and 18,241 farmer suicides, respectively, and since the WTO modified its export and import regulations in 2004 and India lowered its import tariffs at the WTO's recommendation, more affordable agricultural items were imported. Due to a regular monsoon during these specific years and a significant underreporting of farmer suicides, 2014 saw the lowest incidence of farmer suicide since 2011. Up until 2011, most farmer suicide cases occurred in central and southern India, particularly in the states of Maharashtra, Madhya Pradesh, and Andhra Pradesh. However, the post-2011 period shows that the phenomenon of farmer suicide is now affecting states that benefited from the so-called green revolution (Chauhan, 2019).

In last few years the trend is very discrete, till 2019 we have seen the downward trends due to different economics reforms and policy implementation but COVID -19 and tentative lockdown made farmers vulnerable hence, there is sudden raise in suicide from 2020.

**Figure 1:** Trend of total suicides in India



**Figure 2:** Total number of Farmers suicide from 1995-2021



**Figure 3:** Trend of Farmers suicides in past 5 years

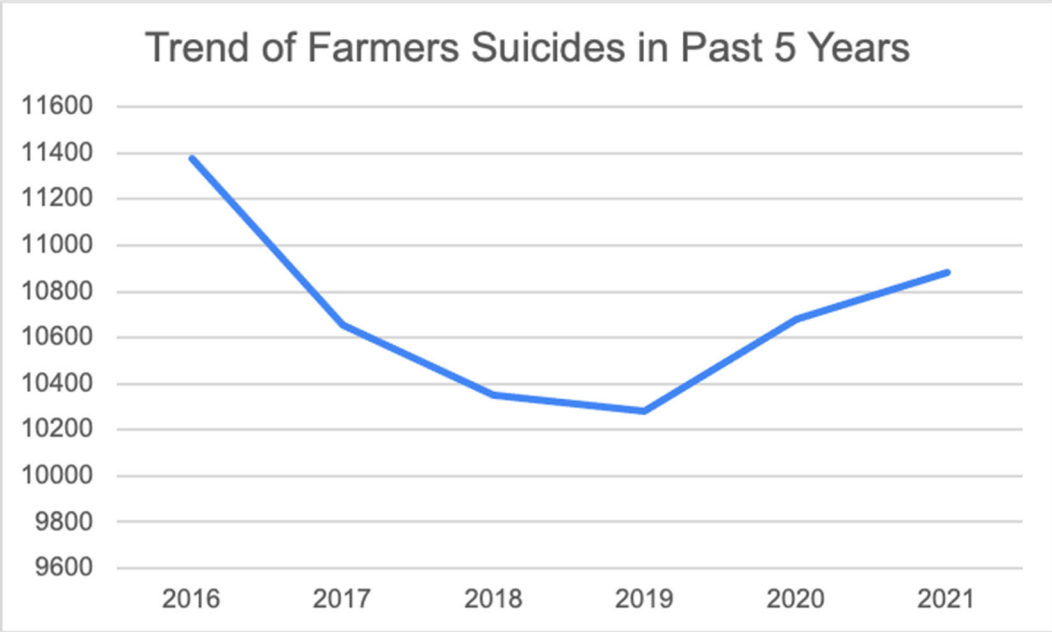


Table 2 illustrates the farmers suicides have negatively increased by 1.5% and is significant, the goodness of the fit is 36.4%.

Additionally, there have been studies that have used a spatial econometric model to analyze the relationship between farmer suicides and globalization. This type of model looks at the geographical distribution of farmer suicides and the impact of various socioeconomic and environmental factors, including globalization, on these patterns and hence, we went ahead with Pooled OLS and we have some significant results.

**Table 2: Exponential growth model: Growth of farmers suicides in India**

Model Estimation				
Dependent Variable: The number of farmer suicides				
Model summary:				
R Square	F	sig	cons	$b_1$
0.364766	14.35557	0.0000	39.95807	-0.015144

**Table 3: Estimation of factors associated to farmers suicides**

Dependent Variable: The number of farmers suicides			
Variables	coef	Std error	Prob
$\beta_0$	17885.62	1732.381	0.000
AF	-0.0842	1.57	0.000
grossIA	-0.008	1.157	0.037
fe	-0.05531	0.05	0.000
Import	0.02	0.12	0.004
Export	0.03	0.18	0.09
Per capita income	0.021	0.121	0.000
R-squared: 0.804102			

Estimation of factors associated to farmers suicide shown in Table3. In India, a one-unit increase in rainfall will result in an 8.4 percent decrease in suicide. Farmer suicide is significantly influenced by irrigation. A one-unit increase in irrigated land will result in a 0.08% reduction in farmer suicides. Improved irrigation systems will boost agricultural output and reduce farmer suicides. Farmer suicides are significantly reduced by aggregate income; however, the reduction is relatively slight. The consumption of fertilizers gives deep insights on commercialization and increase in productivity, a one-unit increase in consumption will lead to 5.5% decrease in suicides. In conclusion, econometric models have been used to analyze the impact of globalization on farmer suicides in India. These models provide valuable insights into the complex interplay of various factors contributing to this issue and can be used to inform policy interventions and other efforts aimed at reducing the incidence of farmer suicides.

#### IV. Conclusion

In India, the pattern of farmer suicides has persisted since globalisation, and a number of additional variables are adding to the issue. Due to greater competition from foreign markets brought on by the opening of the Indian market to international commerce, crop prices and

farmer income have decreased. Additionally, the government's elimination of agricultural subsidies and price supports has made farming for small and marginal farmers increasingly unprofitable. Due to this and the growing cost of inputs like seeds and fertilizer, farmers are now more indebted and under financial strain. Additionally, as a result of globalization, India's economy has shifted away from agriculture and rural development and towards urbanization and industry. As a result, vital infrastructure and services, such as healthcare and education, have been underfunded and neglected in rural communities. These difficulties have made Indian farmers more vulnerable, causing them to feel distressed and eventually contributing to the high rates of farmer suicides. Due to a number of circumstances, the occurrence of farmer suicides in India has grown to be a significant problem. The difficulties experienced by Indian farmers have increased as a result of globalization's effects and the rising power of multinational companies (MNCs) and their political influence. In response, the Indian government has put in place a number of programmes designed to lessen the financial burden on farmers and deal with the underlying causes of the issue. The Pradhan Mantri Fasal Bima Yojana, which offers insurance coverage for crop losses brought on by natural catastrophes, is one of the most renowned programmes. Additionally, the National Agricultural Market (e-NAM) offers a platform for farmers to sell their goods directly to customers, cutting out middlemen, while the Pradhan Mantri Kisan Samman Nidhi offers direct financial support to small and marginal farmers. The National Institute of Agricultural Extension Management (MANAGE), which offers training and capacity development programmes for farmers and agricultural extension workers, was formed by the government to promote agricultural education and research. The National Bank for Agriculture and Rural Development (NABARD) further provides financial assistance for a variety of agricultural initiatives. Despite these initiatives, farmer suicides remain a significant problem in India. Many farmers, according to critics, are unable to get the benefits and support they require since these programmes are frequently insufficient and poorly administered. Farmers are now under even more financial strain as a result of the declining pricing of agricultural goods brought on by the influence of MNCs.

In conclusion, there has to be a thorough and ongoing effort to address farmer suicides in India. While the government's actions are a positive move, more must be done to guarantee that farmers have access to the tools and assistance they require to prosper. To properly address this issue, a comprehensive strategy that considers the intricate interaction of numerous variables causing farmer suicides is essential. The difficulties experienced by Indian farmers have increased as a result of globalization's effects and the rising power of multinational companies (MNCs) and their political influence. This issue has to be addressed by government regulations.

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# COVID-19 Effects on the Freight Transportation System in Mexico: A Demand and Supply Shock Analysis

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## Abstract

The COVID-19 pandemic keeps on affecting the transportation of goods worldwide. However, it is in emerging economies where its effects are the most adverse. Although several studies currently seek to understand the levels of vulnerability and the impact on freight transportation during the pandemic, these works frequently assumed a developed markets context or a mono transportation mode. Since we are facing a global pandemic and the freight transportation system is transversal, both to national and global economies, it is necessary to have case studies that show both the demand and supply shocks analysis, as its depth in the different regions of the world. Based on a four-transportation mode perspective, this study provides information and analysis of the COVID-19 effects on the demand and supply shocks on the freight transportation system in Mexico. It proposes how Logistechs can improve the efficiency and dependability of transportation networks, making them more resilient during supply chain disruptions such as the COVID-19 pandemic. Finally, this work presents public policy recommendations to mitigate the damages caused by the COVID-19 pandemic on transportation systems operating in emerging markets context.

**Keywords:** COVID-19; Transportation; Logistics; Risk; Supply chains; Emerging markets, Logistechs.

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# Análisis espacial de la especialización municipal de la producción de fresa en México, 2003-2020

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## Resumen

El objetivo de esta investigación es analizar la distribución espacial de la especialización productiva de la fresa en los municipios de México para el periodo 2003-2020. Se utilizaron datos del Servicio de Información Agroalimentaria y Pesquera (SIAP) a nivel municipal, y se calcularon índices de especialización a partir del valor de la producción de fresa, así como la estimación de estadísticos de autocorrelación espacial (I de Moran global y local). Entre los resultados se encuentran los siguientes: el 25% de los municipios productores presentaron un grado de especialización mayor al promedio nacional, incluso diez de ellos mostraron un coeficiente mayor a 20; los municipios que históricamente han cultivado la fresa han mantenido su nivel de especialización, aunque han surgido nuevos municipios con una tendencia creciente en la especialización; por último, se identificó que existe dependencia espacial positiva débil a nivel global entre la especialización de los municipios, y sólo en seis de ellos se observó una alta dependencia a nivel local, los cuales tienden a conformar clústeres espaciales significativos y se ubican en el estado de Michoacán. La conclusión principal es que los municipios con mayor especialización muestran un patrón geográfico y se concentran en tres entidades: Michoacán, Baja California y Guanajuato.

**Palabras clave:** Producción de fresa, especialización, economía regional, clústeres espaciales, I de Moran.

## Spatial Analysis of the Municipal Specialization of Strawberry Production in México, 2003-2020

### Abstract

The aim of this article is to analyze the spatial distribution of the productive specialization of the strawberry in México's municipalities for the period 2003-2020. With the use of data from the Agricultural and Fisheries Information Service (SIAP) at municipal level, this article calculated specialization index base on the value of strawberry production, and spatial autocorrelation statistics (global and local Moran's I) were estimated. The results are as follows: 25% of the producing municipalities presented a degree of specialization higher than the national average, even ten of them showed a coefficient greater than 20; the municipalities that have historically cultivated strawberries have maintained their level of specialization, although new municipalities

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have emerged with a growing trend in specialization; finally, it was identified that there was a weak positive spatial dependence at the global level between the specialization of the municipalities, and only in six of them was a high dependence at local level observed, which tend to form significant spatial clusters and are located in the state of Michoacán. The main conclusion is that the municipalities with the greatest specialization showed a geographical pattern and are concentrated in three states: Michoacán, Baja California and Guanajuato.

**Keywords:** strawberry production, specialization, regional economy, spatial clusters, Moran's I

# **Estrategias de la mezcla de mercadotecnia para la comercialización de artesanías mexicanas aplicado por las MYPES de Nuevo Laredo, Tamaulipas**

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## **Resumen**

El objetivo de esta investigación es presentar los factores de la mezcla de la mercadotecnia que determinan la internacionalización de las micro y pequeñas empresas de la ciudad fronteriza de Nuevo Laredo, Tamaulipas que comercializan productos artesanales. El método utilizado en el artículo es de tipo descriptivo y documental mediante fuentes bibliográficas. Entre algunos de los hallazgos encontrados, es que las MYPES ubicadas en esta región geográfica suelen instalarse primordialmente con el objetivo de exportar y en pocos casos de instalarse en la ciudad de Laredo, Texas, esto con el fin de buscar tener mayor acercamiento con sus clientes estadounidenses. Asimismo, se destaca la diversificación de actividades de comercio internacional de estos empresarios con el fin de aprovechar sus conocimientos y la infraestructura logística que constituye una ventaja con la oportunidad para la distribución y comercialización de productos artesanales mexicanos a otros estados de ese país. Además, se identificó la oportunidad de negocios en relación al marketing nostálgico de la frontera de México y los Estados Unidos de América.

**Palabras clave:** MYPES, artesanales, internacionalización y mezcla de mercadotecnia.

## **Marketing Mix Strategies for the Commercialization of Mexican Artisanal Products Applied by Micro and Small Businesses of Nuevo Laredo, Tamaulipas**

### **Abstract**

The objective of this research is to present the of the marketing mix factors that determine the internationalization of micro and small companies in the border city of Nuevo Laredo, Tamaulipas that sell artisanal products. The method used in the article is descriptive and documentary through bibliographic sources. Among some of the findings found, is that the micro and small business located in this geographical region tend to settle primarily with the objective of

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exporting and in a few cases to settle in the city of Laredo, Texas, this in order to seek to have a closer relationship with their clients. Also, the diversification of international trade activities of these entrepreneurs is also highlighted in order to take advantage of their knowledge and the logistics infrastructure that constitutes an advantage with the opportunity for the distribution and commercialization of Mexican artisanal products to other states of that country. In addition, the business opportunity was identified in relation to the nostalgic marketing of the border between Mexico and the United States of America.

**Keywords:** Micro and small business, handicrafts, internationalization and marketing mix.

# Hábitos digitales y uso de internet en jóvenes de entre edades de 18 a 40 en la ciudad de Nuevo Laredo

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## Resumen

Desde la aparición del hombre, el mundo ha estado en constante evolución en todos los aspectos de su vida diaria, estos cambios cada vez más, se presentan de manera frecuente y con intervalos de tiempo más cortos. Estos cambios que se presentan, han venido a modificar entre otras muchas cosas, los patrones de conducta, de compras e incluso los hábitos de consumo de internet. El último gran cambio al que las personas fueron sometidas fue la Pandemia del COVID-19, que hace no mucho paralizó el mundo, restructuró e incrementó hábitos del uso del internet para necesidades prioritarias y básicas.

La presente investigación, pretende evaluar los cambios que se han presentado con respecto a los hábitos de consumo de internet en la ciudad de Nuevo Laredo Tamaulipas y debido a estos cambios, las empresas han tenido que diversificar las estrategias de comunicación que emplean para hacer llegar su mensaje al mercado objetivo; al menos en México (2021) el 75.6% de la población son internautas activos y pasan en promedio, más de 8 horas al día conectados. De la misma forma, se hace un análisis de cómo las empresas han tenido que adaptarse y diversificar los productos y servicios que ofrecen a su mercado meta, basándose en las necesidades actuales que presentan los consumidores.

Para desarrollar la presente investigación, la metodología aplicada fue de carácter cuantitativo, en una muestra basada en jóvenes de 18 a 39 años, representando la parte económico-laboral de la ciudad, con la expectativa de generar estrategias de comercialización que sea aplicadas a mediano y largo plazo para la construcción mercadológica y hábitos de consumo de la ciudad. La finalidad de la construcción de esta investigación es la de reflexionar y comprender los cambios en los hábitos de consumo de internet. La investigación es abordada desde un punto de vista comparativo, para sintetizar las similitudes o diferencias que pueden existir con respecto al tema investigado.

Para el autor Philip Kotler (1996), expresa que: “El comportamiento del consumidor es el punto de partida para comprender el modelo de estímulo-respuesta. Los estímulos ambientales y mercadotécnicos entran en la conciencia y características del comprador, y el proceso de toma de decisión conduce a ciertas elecciones de compra” por lo tanto, conocer las razones, tiempo que se invierte en redes sociales, búsqueda de medios de distracción electrónicos o en medios comunes para adquirir productos o servicios: cuando, cómo, dónde y con qué frecuencia lo hacen, es de suma relevancia para los proyectos económicos y administrativos que puedan ser de interés, basado en los hábitos que puedan resultar de la investigación.

El propósito de aleccionar esta investigación (que busca ser un comparativo anual y de análisis de la evolución de los hábitos digitales), es indagar el fundamento que atenuará la implementación de nuevos negocios y publicidad en la ciudad, con el fin de inversión y crecimiento local que mejore la calidad de vida; presencia de nuevas marcas y actividades comerciales, además de nuevos retos mercadológicos. Siendo estos datos como partida a los hábitos de compra y usos digitales de la población.

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**Palabras clave:** Negocios, Inversión, Crecimiento, Empresas, Comercialización, Hábitos de consumo, Digital, Mercadotecnia.

## **Digital Habits and Internet Use in Young People between the Ages of 18 and 40 Years Old in the City of Nuevo Laredo**

### **Abstract**

Since the appearance of man, the world has been in constant evolution in all aspects of his daily life, and these changes are occurring more and more frequently and with shorter time intervals. These changes have come to modify, among many other things, behavioral patterns, shopping and even Internet consumption habits. The last great change to which people were subjected was the COVID-19 Pandemic, which not long ago paralyzed the world, restructured and increased internet usage habits for basic and priority needs.

This research aims to evaluate the changes that have occurred with respect to Internet consumption habits in the city of Nuevo Laredo Tamaulipas and due to these changes, companies have had to diversify the communication strategies they use to get their message to the target market; at least in Mexico (2021) 75.6% of the population are active Internet users and spend on average more than 8 hours a day online. In the same way, an analysis is made of how companies have had to adapt and diversify the products and services they offer to their target market, based on the current needs of consumers.

To develop this research, the methodology applied was quantitative, in a sample based on young people from 18 to 39 years old, representing the economic-labor part of the city, with the expectation of generating marketing strategies to be applied in the medium and long term for the marketing construction and consumption habits of the city. The purpose of the construction of this research is to reflect and understand the changes in the internet consumption habits. The research is approached from a comparative point of view, in order to synthesize the similarities or differences that may exist with respect to the researched topic.

According to Philip Kotler (1996), "Consumer behavior is the starting point for understanding the stimulus-response model. Environmental and marketing stimuli enter the buyer's consciousness and characteristics, and the decision making process leads to certain purchase choices" therefore, knowing the reasons, time spent in social networks, search of electronic distraction media or in common means to acquire products or services: when, how, where and how often they do it, is of utmost relevance for economic and administrative projects that may be of interest, based on the habits that may result from the research.

The purpose of this research (which seeks to be an annual comparative and analysis of the evolution of digital habits), is to investigate the foundation that will mitigate the implementation of new businesses and advertising in the city, in order to investment and local growth that improves the quality of life; presence of new brands and commercial activities, in addition to new marketing challenges. Being this data as a starting point to the buying habits and digital uses of the population.

**Key words:** Business, Investment, Growth, Companies, Commercialization, Consumer habits, Digital, Marketing.



# Factores sociodemográficos asociados al consumo de bebidas azucaradas en los hogares mexicanos, 2002 y 2020

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## Resumen

El objetivo de esta investigación es analizar el consumo de bebidas azucaradas en los hogares mexicanos, así como identificar su relación con las características sociodemográficas del hogar a través de un modelo logit binomial. Se usaron los microdatos de la Encuesta Nacional de Ingreso y Gasto de los Hogares (ENIGH) para los años 2002 y 2020. Los resultados descriptivos indican que los estratos de ingresos bajos mostraron una tendencia creciente en el consumo de bebidas azucaradas, mientras que los estratos de ingresos altos redujeron dicho consumo. Asimismo, las estimaciones del modelo logit muestran que las variables que influyen de manera positiva a la probabilidad de consumir bebidas azucaradas son: el número de niños en el hogar, los perceptores de ingreso ocupados, el ingreso monetario, el jefe de hogar hombre y la ubicación geográfica del hogar en las zonas urbanas. Por otra parte, la probabilidad de consumo tiende a reducirse cuando aumenta la edad del jefe de hogar y su escolaridad es de nivel universitario, así como la presencia del número de personas con 65 años y más.

**Palabras clave:** bebidas azucaradas, consumo, hogar, México, modelo Logit

## Sociodemographic Factors Associated with the Consumption of Sugar Sweetened Beverages in Mexican Households, 2002 and 2020

### Abstract

The objective of this paper is to analyze the consumption of sugar sweetened beverages in Mexican households, as well as to identify its relationship with the sociodemographic characteristics of the household through a binomial logit model. Microdata of the National Survey of Mexican Household Income and Expenditure for the years 2002 and 2020 were used. The descriptive results indicate that the low-income strata showed an increasing trend in the consumption of sugar sweetened beverages, while the high-income strata decreased in such consumption. Likewise, the estimations of the logit model show that the variables that more positively impact the probability of consuming of sugar sweetened beverages are: the number of children in the home, employment income recipient, monetary income, the household head's male, and household urban site. On the other hand, the probability of consumption tends to

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decrease when the household head's age increases and his education is at university level, and the presence of numbers above 65 years old.

**Keywords:** sugar sweetened beverages, consumption, household, México, logit model.

# Choque cultural de la marca Cheetos

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Para nuestra propuesta seleccionamos Cheetos, seleccionamos esta empresa porque es muy conocida tanto en Estados Unidos como en México. Fue fundado en California por un migrante mexicano llamado Richard Montañez, obtuvo sus ideas trabajando en la fábrica Frito cuando era más joven. Hoy en día es una marca pionera, estando a la vanguardia y asegurando la calidad de sus productos. El crecimiento exponencial que ha tenido con el paso del tiempo es admirable, siempre siendo fieles a sus procesos e ingredientes que lo distingue de su competencia. El crecimiento de la marca Cheetos en ambas culturas además de garantizar éxito y la adaptación de dichas culturas por estos productos nos hizo realizar una investigación para conocer el factor de éxito que ha llevado a esta marca a ser global. Cheetos ha sido una empresa próspera durante más de 70 años en este momento, y la razón detrás de ese éxito es que escuchan a sus consumidores y expertos. Por lo general, Cheetos ha tenido una imagen favorable a la vista del público. Por último y no menos importante analizar cómo la empresa supo posicionarse en ambas culturas, analizando la población y brindando productos diferentes, mostrando que la diversificación es un factor de éxito sabiendo explotarlo correctamente. Se realizó una investigación en ambas culturas, para analizar el ofrecimiento de productos que se le da a las mismas. Investigamos los ingredientes, procesos, todo lo que conlleva a la empresa. Mostrando las diferencias entre culturas, pero además de que estas diferencias lo han llevado al éxito. Esto con el fin de mostrar el alcance que tiene la marca Cheetos en ambas culturas y la fuerte presencia que tiene en el mercado. Cheetos tiene una fuerte presencia tanto en Estados Unidos como en México. Los Cheetos se pueden encontrar prácticamente en cualquier lugar de los Estados Unidos, desde tiendas de conveniencia hasta grandes supermercados. Los Cheetos, venden comúnmente en las pequeñas tiendas de la esquina o en los vendedores ambulantes en México. Cheetos ha podido establecerse como el refrigerio favorito en ambas naciones debido a la disparidad de disponibilidad. Además, cada nación tiene sus propios sabores distintivos, lo que brinda a los clientes aún más alternativas cuando se trata de seleccionar sus delicias favoritas. La marca Cheetos has sabido adaptarse a las diferentes culturas, mostrando que esto no es un impedimento para ser líder en el mercado. Además de mostrar que su producto va más allá de la elaboración del mismo, sino mostrando que es una experiencia de convivencia y unión de familias. Esto es uno de los factores que lo llevo al éxito. Por último pero no menos importante, que los procesos que lleva a cabo son sostenibles. Se ha encontrado que una buena marca va

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más allá que la venta de un producto es un conjunto de factores que nos llevarán a caminos de éxito. Concluimos que la diversidad y disponibilidad como la que brinda la marca Cheetos es la que distingue y hace la diferencia de otras marcas.

# Starbucks

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En este trabajo, presentamos nuestra investigación sobre la historia y las características de Starbucks, una de las cadenas de cafeterías más reconocidas del mundo. Este proyecto fue realizado en colaboración con dos compañeras de universidad extranjera de Estados Unidos, y nos enfocamos en analizar la filosofía de la empresa, la oferta de productos y la experiencia del cliente tanto en inglés como en español. La colaboración con estudiantes de la universidad de Estados Unidos es una oportunidad valiosa para enriquecer nuestras relaciones educacionales y mejorar nuestras habilidades de investigación y comunicación. Trabajar en equipo con personas de diferentes orígenes culturales y lingüísticos nos ayuda a entender mejor las diferencias y similitudes entre los diferentes sistemas educativos, y nos permite ampliar nuestra visión del mundo.

En este sentido, abordamos el tema desde un enfoque intercultural, considerando las diferencias y similitudes entre los consumidores en ambos idiomas. Para llevar a cabo nuestra investigación, revisamos diversas fuentes de información, como artículos, libros y entrevistas con expertos en la industria.

A lo largo de este trabajo, exploramos la evolución de Starbucks desde sus inicios como una pequeña tienda de café en Seattle hasta su expansión global, así como su compromiso con la sostenibilidad y el bienestar social. Asimismo, presentamos un análisis detallado de su oferta de productos y servicios, destacando aquellos que han sido especialmente populares entre los consumidores.

En resumen, este trabajo ofrece una visión completa y detallada de la historia y las características de Starbucks, y cómo la empresa ha logrado posicionarse como un referente en la industria de las cafeterías en todo el mundo.

Esta colaboración con estudiantes de una universidad de Estados Unidos es una oportunidad única para mejorar nuestras habilidades de investigación y comunicación, y para enriquecer nuestras relaciones educacionales. Al trabajar juntos, podemos aprender unos de otros y desarrollar nuevas habilidades y perspectivas que nos ayuden en nuestra formación y desarrollo académico.

Además, compartimos un poco de nuestra vida con las compañeras de Estados Unidos, de cómo es un entorno cultural, y el nuestro, dándonos cuenta que es muy diferente, nos hablaron de cómo es su escuela, como es vivir en su casa y convivir con sus familias, cuáles son los hábitos que comparten en su Nación y nosotros les compartimos un poco de nuestra cultura.

Sobretodo abordamos el tema de cómo la empresa Starbucks se a desarrollado mucho en forma de tomar café, y como la reacción de la gente a sido positiva y como nos impacta en el entorno cultural, como por ejemplo en México las personas se han adaptado a esos sabores excéntricos y dulces, y Estados Unidos como han estado acostumbrados a probar bebidas con todo tipos de ingredientes.

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Aprendimos y reflexionamos mucho sobre las maneras de convivir entre las familias, amigos, las empresas distintas, practicamos un poco nuestro inglés y esperamos que ellas hayan aprendido de nosotras de nuestra cultura e idioma.

## 7-Eleven

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En este proyecto se analizaron las diferencias en las tiendas tanto en lo laboral, servicios, cultura etc. Pues comenzando con eleven que es una cadena de tiendas de conveniencia que se encuentra en todo el mundo. Sin embargo, hay algunas diferencias notables entre las tiendas 7 Eleven en México y en los Estados Unidos. En este artículo, exploraremos algunas de las diferencias más significativas. Una de las mayores diferencias entre 7 Eleven en México y Estados Unidos es la variedad de productos y servicios ofrecidos. En México, las tiendas 7 Eleven ofrecen una amplia variedad de productos, desde alimentos y bebidas hasta productos para el hogar y cuidado personal. Además, muchas tiendas en México ofrecen servicios como envío de paquetes y pago de facturas. En los Estados Unidos, la mayoría de las tiendas 7 Eleven se centran en la venta de alimentos y bebidas, como bocadillos, bebidas, dulces y comida rápida. Aunque algunas tiendas 7 Eleven en los Estados Unidos ofrecen servicios adicionales, como la recarga de teléfonos móviles y la venta de tarjetas de regalo, la variedad de productos y servicios es generalmente menor que en las tiendas en México. Otra diferencia importante entre las tiendas 7 Eleven en México y los Estados Unidos es el tamaño de las tiendas. En México, las tiendas suelen ser bastante grandes y ofrecen una amplia variedad de productos y servicios. En cambio, las tiendas en los Estados Unidos son generalmente más pequeñas y se centran en la venta de alimentos y bebidas. En México, las tiendas están abiertas las 24 horas del día, los 7 días de la semana. Esto significa que los clientes pueden comprar lo que necesiten en cualquier momento del día o de la noche. En los Estados Unidos, sin embargo, no todas las tiendas están abiertas las 24 horas del día. Muchas tiendas tienen horarios de apertura y cierre específicos, lo que puede limitar la conveniencia para algunos clientes. Los precios de los productos en las tiendas son más altos en los Estados Unidos que en México.

Esto se debe en parte a las diferencias en los impuestos y aranceles que se aplican a los productos vendidos en cada país. Además, el costo de vida en los Estados Unidos es generalmente más alto que en México, lo que puede afectar el precio de los productos en las tiendas 7 Eleven. Las tiendas en México y los Estados Unidos también tienen diferencias en cuanto a su ubicación. En México, las tiendas se pueden encontrar en muchas áreas urbanas y suburbanas, y también en las carreteras y autopistas principales. En los Estados Unidos, las tiendas 7 Eleven se concentran principalmente en las áreas urbanas y suburbanas. Como conclusión, Aunque ambas cadenas de tiendas tienen una marca y operaciones globales similares, existen algunas diferencias significativas entre México y Estados Unidos. En términos de productos, 7-Eleven en México tiende a tener un enfoque más localizado, ofreciendo productos y marcas que son populares y familiares para los consumidores mexicanos.

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# The Importance of Internal Organizational Communication and its Impact on Organizational Climate

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Communication is part of the nature of human beings, all people need to relate and interact with other people and within companies is no exception. It has become essential to keep employees informed, and to promote the development of human relations to optimize interpersonal relationships at different levels in the organization's structure.

It is important that within a company there is an expression of all hierarchical levels to disseminate the policies and principles to its employees, however, many companies still do not have a high level of communication among them; there is no open and fluid communication that helps to find viable alternatives that allow an adequate interrelation and a close connection between the communication both inside and outside the organization.

Communication is essential for the fulfillment of many of the objectives and values of the organization. This is one of how the best development of each of the collaborators involved is obtained and thus be able to face the challenges and needs that their daily work demands, for this reason it is a vital issue for the constant development of the different organizations.

The organizational climate is the environment where the human and physical environment is developed, where daily work also takes place. On the other hand, the quality of the climate clearly influences employee satisfaction and therefore affects productivity. The effectiveness of the organizational climate is deeply related to the management of the directors, the behavior of the workers, the way of working and relating and the particularities of the activity of each one of the collaborators, which favors a good organizational climate.

The topic to be addressed in this research is to determine the relationship between internal organizational communication and organizational climate in the fiber optical plant and to know what impact it has on employees within the company.

The approach to this problem emerged when analyzing the different ways of internal communication and the types of communications and campaigns that exist within the company and how they positively or negatively influence the way of working and acting of the employees that conform a fiber optic plant.

Currently, communication and organizational climate are beginning to form part of the driving force of an organization. The importance of both as a management axis for organizations is beginning to be recognized by management roles to achieve greater productivity and competitiveness.

It was found that the roots of a good work climate depend on the parameters of managerial quality, workplace enjoyment, work-life balance, career, and social benefits.

The best way for internal communication to take place is to give the necessary importance to the elements involved and are practically essential for all members of the organization to know the mission, vision, successes, values, and philosophy of the organization as well as the direction or course it is taking.

With this, it is possible to transmit certain job satisfaction and motivation that are necessary for the decision making of the middle and upper management, as well as to constitute an important source of energy for all the collaborators.

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# Pattern, Prevalence, and Consequence of Civic Engagement: A Study of Hispanic Career Professionals in Webb County

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## Abstract

This study explores patterns, prevalence, and consequences of civic engagement among Hispanic career professionals to gauge their sense of shared public and community life. The results of a mailed survey of Texas A&M International University's Graduate School Alumni are described and analyzed that suggest a strong inclination of the sample to seek ways to connect to their communities and to be fully engaged in the interest of public service. The building blocks of their civic engagement profile are sketched before discussing the implication of the findings for professional and graduate education in preparing individuals for civic and public responsibility.

**Keywords:** engagement; professional; responsibility; community; public service; education

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# Political Regimes, Trade Openness, and National Cultures: A Comparative Analysis of Democratic and Autocratic Regimes

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## Abstract

This paper is a comparative analysis of the influence of political regimes and national cultures on trade openness. We further extend the model from trade openness to two other variables that had been tested previously in the international trade literature. The variables are economic growth and international peace. Whereas empirical support for the former is confirmed, support for the latter is mixed. As we examine the moderating effects of national cultures– uncertainty avoidance on (i) the relationship between political regimes and trade openness, and (ii) power distance on the relationship between trade openness and international peace, we attempt to re-examine the mixed empirical status of the trade openness-peace relationship and how national cultures moderate these relationships in the context of segregated and unsegregated political regimes. This study is linked to three theories relevant to trade. Using data of 22 countries of autocratic and democratic regimes across the world between 2013 and 2020, we found evidence that as national culture– uncertainty avoidance, decreases, the relationship between political regimes and trade openness becomes stronger regardless of the regime. However, power distance has a more deleterious effect on the trade openness–international peace relationship in both regimes. While the mixed status of the trade openness and international peace relationship measured by Global peace index (GPI) persists for both regimes, our robustness test did not return strong evidence to support the hypothesis that trade openness increases international peacefulness even after unpacking the GPI and proxied independently with its three basic components: safety and security, militarization, and ongoing conflict. However, further investigation revealed the relationship is non-linear, dynamic, non-static, in line with trade expectations theory.

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# The Debt Ceiling Crises, Political Uncertainty, Interest Group Competition

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## Abstract

All too often, modern-day U.S. Congress struggles with lifting our statutory debt limit in a timely manner, as the raising of such a limit often becomes a pawn in negotiation, not just of the debt ceiling, but also of appropriations. We examine two important related research questions. One such objective is to examine how Google Trends Economic Policy Uncertainty takes a toll upon three-month U.S. Treasury Bill Yield Spread in the debt ceiling crises of 2011, 2013, and 2015. In our second objective, we examine if interest group competition and conflict, leads to a decrease in the Treasury Yield Spread, while increasing excess borrowing costs. We do so, by employing an auto-regressive distributed lag model, upon a novel collection of financial and political data that spans from 2010 to 2016 at a daily frequency. In the end, we find that political events, such as the debt ceiling crises, have a very real cost to markets as it relates to increased uncertainty, delays due to opposition, and increased borrowing costs.

## I. Introduction

*“We have been in this situation before, and I worry about a (debt ceiling) accident.....” (Former Treasury Secretary Jack Lew, 2015).<sup>2</sup>*

Political events, such as the debt ceiling crisis of 2011 and the debt ceiling crisis of 2021, come with great economic and financial costs. The great financial crisis of 2007 to 2009 forced the government of the United States, like many other advanced economies, to rescue and re-capitalize their financial institutions (Gori, 2019). The financial crisis was followed by the highly contentious debt ceiling crises of 2011 and 2013, where the U.S. Treasury implemented extraordinary measures. The economic policy uncertainty, that many investors experienced, led investors to embed a default premium upon the U.S. Treasury bill yield.

Due to the mechanics of the U.S. Treasury debt market, especially the Treasury bill markets, we know from related financial literature that when the atmosphere surrounding a debt ceiling crisis is tied to appropriations, it becomes salient, conflictual, and the Treasury bill market shows signs of stress (Schick, 2008; Ozdagali & Peek, 2013). Moreover, the yield on the four-week Treasury bill surpasses the yield on the thirteen week and twenty-six-week U.S. Treasury bill. Investors begin to embed a default premium for the additional risk they are undertaking. By this point, as investors embed a default premium, it is a signal that they are uncertain about the U.S. Treasury’s ability to pay interest and principal payment upon maturity (Cashin, Klee, & Syron, 2017).

One group of authors finds that political uncertainty can have a negative impact upon stock market asset prices. The authors further discover that the cost of an asset may include three risk premiums, including, those due to political, capital and impact risks (Pastor & Veronesi, 2012).

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<sup>2</sup> Treasury Secretary Lew speaks in an interview with CNBC on October 19, 2015.

As asset prices decrease in the face of higher policy uncertainty, the yields for bonds may rise. Moreover, we find that during gubernatorial elections, investors in municipal bond markets undergo great uncertainty (Gao & Qi, 2012). They find that the yield on municipal bonds increases in the face of higher policy uncertainty. Investors are wary of any potentially new policies that may follow in the wake of a newly elected governor.

Given the great amount of investment at stake, not to mention the reputation of the U.S. Treasury bill and the full faith and credit of the U.S. government, it is surprising that there are relatively few studies related to the impact of the debt ceiling crisis upon economic policy uncertainty and U.S. Treasury short term debt. This is especially true of the more contemporary debt ceiling impasses, inclusive of 2015. Therefore, we attempt to fill this important need by offering our first research objective.

In the first research objective, we examine whether economic policy uncertainty increases, as measured using Google Trends (Bontempi, Golinelli, & Squadrani, 2016), to demonstrate a negative influence upon the U.S. Treasury three-month yield spread.

Next, when contemporary appropriations are accompanied by a required debt ceiling decision, timeliness in the congressional process of collective bargaining is of high importance in arriving at a resolution. Competition among interest groups who have influence upon Congress, often resolves into conflict before arriving at consensus (Holyoke, 2009; 2019).

This can at times lead to congressional/legislative gridlock (Binder, 2015). Yet little work has been performed upon the appropriations bills tied to debt ceiling crises (Lorenz, 2020). However, the implications are clear - opposition by powerful groups and allies at the incorrect time may be costly. It can bring Congress to a state of gridlock and stalemate. Both entail great costs, as they relate to the U.S. Treasury debt markets, default premiums and excess borrowing owed by the U.S. Treasury.

In our second research objective, we investigate if this competition and conflict in the form of interest group opposition, leads to a decrease in the U.S. Treasury bill yield spread, as we see in previous debt ceiling crises. This opposition will further raise total excess borrowing costs to the U.S. Treasury and taxpayers (U.S. Government Accountability Office, 2015).

Our analysis is one of the first to examine the political, economic, and financial determinants that play key roles in our understanding of each prolonged debt ceiling crises in our sample period. We can identify the costs incurred during what many thought to be the less contentious debt ceiling crisis of 2015 using a benchmark security that did not suffer from a spillover effect. Second, we can decompose the total excess borrowing costs owed by the U.S. Treasury, as they relate to elevated uncertainty and interest group competition turned conflict.

The rest of this paper is organized into the following sections: Section 2 reviews relevant literature, Section 3 presents our empirical results and implications for policymakers, and Section 4 entails the conclusion.

## **II. Literature Review**

### ***2.1. Economic Policy Uncertainty***

We maintain that as the next congressional appropriations debate and debt ceiling crisis lengthens and approaches a breach date, economic policy uncertainty (Hereafter, EPU) will increase, as will short term U.S. Treasury bill yields. This will depress the yield spread of the U.S. Treasury bill and increase the excess borrowing costs.

We define economic policy uncertainty as an economic risk related to unfinished, incomplete future government policies, including for the United States, U.S. congressional legislation, and agency regulation (Al-Thaqeb and Algharabali, 2019). An increase in this form of unpredictable risk, leads to a higher probability that investors, businesses, and individuals will delay spending. It is important to note that ambiguity and conflict, are often owed to poor-quality information in the hands of the decision maker (Bontempi et al., 2016). Investors seek and gather better quality information, via news or the internet.

We discover a negative risk premium of asset costs in the stock market, due in great part to elevated EPU (Pastor & Veronesi, 2013). The cost of asset decomposes into three risk premiums: capital, impact, and political shocks. This builds a foundation, where an investor may require a risk premium to compensate for the political uncertainty as the state of the economy varies (Pastor & Veronesi, 2013). As asset prices decrease in the face of higher policy uncertainty, the yields on bonds will increase. The yield on municipal bonds increases when investors face higher policy uncertainty (Gao & Qi, 2012).

Next, while measuring investor reactions to Congressional Roll Call votes, we find a strong impact of congressional gridlock on legislative uncertainty (Meng, 2020). An increase in legislative gridlock, leads to greater unpredictability in Congressional voting and greater legislative uncertainty. The same increase in legislative uncertainty, further gives rise to higher bond yields, increased corporate financing costs, and fewer analyst recommendations. Finally, the impact of Congressional gridlock upon legislative uncertainty, is stronger than that of economic policy uncertainty, political polarization, and presidential ideology (Meng, 2020, p.16).

Counter to the above supporting argument, not all exogenous shocks impact financial systems equally. While the magnitudes may differ, the time required to return to equilibrium may vary as well. For example, an increase in economic policy uncertainty may be much stronger in impact upon general economic factors, such as employment, than an equivalent decrease in EPU upon that economic activity (Foerster, 2014). Other examples of economic policy uncertainty that lead to asymmetric effects include the international trade and insurance markets (Al-Thaqeb & Algharabali, 2019).

There is a great need to counter policy uncertainty with timely information to keep pace with the current state of the economy. This includes the current level of economic policy uncertainty. To do so in this study, we make use of an early indicator of EPU, Google Trends. This leads us to this testable hypothesis:

**Hypothesis 4.1 (4.1):** In midst of a salient debt ceiling, economic policy uncertainty - Google Trends negatively influences the three-month U.S. Treasury yield spread.

## ***2.2 Interest Group Competition and Conflict***

In our second research objective we examine the relationship between interest group competition and any influence the interest groups may have upon the U.S. Congress, as it confronts a debt ceiling crisis. We argue, as the number (or funding) of interest groups in opposition increases to an appropriation-debt ceiling related bill, this lengthens the debate before arriving at a consensus (Schick, 2008; Holyoke, 2019). This will serve as a potential setback in negotiations. In turn, as exhaustion of extraordinary measures grows close, this leads to an increase in investor uncertainty. An increase in uncertainty, will negatively U.S. Treasury bill yield spreads (Cashin et al., 2017). This is not to say that there will not be groups in support of a bill.

First, we address interest groups, their congressional allies, and competition between sides. During contentious times, such as appropriations - and when action is required upon the debt ceiling, interest groups and their lobbyists are competing. The level of competition between groups and allies, not to mention resources, can swiftly change to "outright conflict," where these actions act to delay the work of the U.S. Congress (Holyoke, 2009, 2019). In this scenario, as Congressional members are risk averse, the lobbyists will have a negative influence upon allied and non-allied congress members alike. This negative influence that surrounds the policy may quickly transform into costly legislative gridlock (Binder, 2015).

Interest group lobbyists are highly adept at creating, maintaining, and terminating Gridlock in Congress (Victor, 2019). Interest Groups lobbyists may be pulled into conflicts and salient debates of Congressional members, that normally would not be on their agenda (Fagan, 2021).

Next, one author hypothesized that a committee chair must ascertain how much opposition or support a bill will garner among other legislators. Lobbying upon the bill acts as a signal to the chair in terms of the proposal's legislative potential (Lorenz, 2020; Phinney, 2017). The more

resistance to a proposal from other members and groups, the more risk averse the members of the committee will be (Holyoke, 2019).

Finally, it is well known that policy is biased toward the status quo for several reasons. These reasons include the relative scarcity of a lawmaker's attention, the time required to invest in the success of a new proposal, and the difficulty in deriving bipartisan support (McKay, 2012).<sup>3</sup>

In contrast, there exist aspects in common for those supporting a policy change. Committee chairs and members, and members at large in the U.S. Congress, can surmise the legislative viability of a proposal. These interest groups, however, must present an argument, resources, diversity of interests, and allies that are far more superior to that of the opposition. Therefore, we maintain that as support grows for a proposal, there exist at least two reactions. Support may lower policy uncertainty, increasing the level of the yield spread. An increase in support for a congressional measure may directly influence the yield spread in a positive manner.

We find that complex public policies, including spending bills, may affect several distinct interest groups in a different manner, including those groups with different viewpoints (Mahoney & Baumgartner, 2015; Garlick, 2016). Consequently, many a "strange bedfellow" end up in opposition or support of a policy (Phinney, 2017). In addition to resources, many advocacy groups tend to align themselves with one party or a long coalition, efficiently using public embarrassment and the threat of replacement as a tactic (Garlick, 2016).

Next, interest groups that are highly supportive and successful in their strategy are also able to perform functions better than other members (Garlick, 2016). We cannot underestimate the power of highly efficient interest groups in the division of labor that is needed to achieve successful support and education of allied members (Baumgartner & Mahoney, 2015). The 1986 Tax Reform Act serves as a prolific example, including the work of Mr. Ralph Nader. The Congressional allies and interest groups in support of this measure were able to overcome incredible odds, in addition to what we would term, "negative lobbying." We propose the following hypothesis:

**Hypothesis 2 (H4.2):** As Total of Interest Groups in Opposition increase in number or in funding, this will lead to a decrease in the U.S. Treasury three-month yield spread. The opposite will hold for Total Interest Groups in Support.

We make a brief note in relation to excess borrowing costs owed to the U.S. Treasury and U.S. taxpayer. We further assert that investors will grow more uncertain about the U.S. Treasury's ability to continue to make payments on outstanding Treasury Bills. As the projected breach date grows near, investors will begin to charge a "default" risk premium on short-term Treasury bills. This will decrease the yield spread, while the yield on the Treasury Bills increases. As these bills mature in the final weeks of each crisis, re-issued bills will offer higher yields. The U.S. Treasury will incur excess borrowing costs. The re-issued bills will remain outstanding, until each bill matures, adding substantial excess interest costs.

If there exists a change where the support by interest groups grows for the current legislation at hand, the debate will tend to arrive at a consensus in a faster or more consistent manner. Investors will react favorably. For example, in 2015 the Treasury Bill yields begin to decrease, as the yield spread increases. If members of Congress are able to reach collective consensus on budget/appropriations, this will lower excess borrowing costs owed to the U.S. Treasury. This was especially the case, given supportive concessions made to improve funding various agencies and programs in 2015 (Nipanni & Parnes, 2017).

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<sup>3</sup> It requires 3.5 lobbyists working in favor of a new proposal to counteract the work of one lobbyist in opposition to the same proposal. On average, only three percent of all bills introduced into Congress become law. A proposal that continues to survive, speaks well to the strength of this (McKay, 2012).

### III. Data and Methodology

#### 3.1. Data Sample Attributes and Collection

We employed a comprehensive sample that is a combination of financial, economic, and political variables data that undergoes transformation to daily frequency. The full sample encompassed 768 daily observations, where we obtained U.S. Treasury bill data from several sources in order to calculate each three-month U.S. Treasury Bill bid-ask spread, yield and yield spread.

The time required to resolve each contentious and costly debt limit debate dictates the event period for each of the three occurrences of the recent debt ceiling crisis that are studied. Following historical precedent, the resolution of each crisis normally includes appropriations related legislation together with a component dedicated to the suspension or lifting of the statutory debt ceiling (Schick, 2008). Each event period requires a pre-event and post-event period of approximately 90 days using the U.S. Treasury calendar. The entirety of the sample, when all three periods are combined, ranges from December 1, 2010, to January 29, 2016.

The pre-event period normally begins when the first letter or communication is made public by the U.S. Secretary of Treasury. The purpose of this letter is to urge the U.S. Congress, to act in an expeditious manner, so as not to delay raising the statutory debt limit to meet the needs of any appropriated obligations so as to not risk default. To maintain consistency, we began the event period with the first letter sent to the U.S. Congress by the Secretary of the U.S. Treasury Department, stating that the department has begun a Debt Issuance Suspension Period (DISP) that relies upon the use of many extraordinary measures to keep the government funded. We end each event period with the resolution by way of Congressional legislation, as Congress passes a measure to increase or suspension the statutory debt limit.<sup>4</sup>

We transformed quarterly lobbying expenditures into a daily average and then combined this with each group type (organization type) daily total from campaign contributions. By introducing this daily figure, and transforming its frequency, this introduced several structural breaks for each of our political variables.

Our data collection took place across three stages. The Center for Responsive Politics as well as the U.S. Senate Office of Public Record offers tools and data for lobbying records in bulk. First, we collected three forms of political variables. These include lobbying, campaign contributions, and public positions by firms and organizations, in opposition to, or support of, the appropriations legislation. Moreover, we gleaned public positions of interest groups in opposition or support from U.S. Senate lobbying records, Maplight.org, and interest group scores (Lorenz, Furnas, & Crosson, 2020). All interest groups who lobbied on each bill also gave campaign contributions.

Lastly, we combine all data, including financial data, such as, the U.S. Treasury from the U.S. Federal Reserve, using the Constant Maturity Series that is based on actual market observations. We collected data on the overnight index swap rate (three-month contracts) from Bloomberg L.P. from 2010 to 2016. We further gathered daily observational data from the Center for Research in Security Prices and the New York Federal Reserve Bank.

#### 3.2. Equations

We use Equation 1 and 2, to examine each hypothesis.

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<sup>4</sup> The event window related to the three debt ceiling crises include: May 5, 2011, to August 2, 2011, May 17, 2013, to October 16, 2013. April 16, 2015, to November 2, 2015. Government funding was expected to last until August 2, 2011, October 17, 2013, and November 3, 2015, respectively (Austin, 2015).

### Equation 1. Dynamic Ordinary Least Squares (DOLS) – ARDL

$$\begin{aligned} \text{Log}(\text{TreasuryYieldSpread}_t) = & \alpha_{1i} \text{Log}(\text{TreasuryYieldSpread}_{t-i}) + \alpha_{2i} \log(\text{GoogleTrends} - \text{EPU})_{t-i} + \\ & \alpha_{3i} \text{TotalGroupinSupport}_{t-i} + \alpha_{4i} \text{TotalGroupsOpposition}_{t-i} + \alpha_{5i} \text{ScaledNetTotGroupFunding}_{t-i} + \phi_{ct} \\ & + \varepsilon_t \end{aligned}$$

### Equation 2: Error Correction Model - ARDL

$$\begin{aligned} \text{Log}(\Delta \text{TreasuryYieldSpread}_t) = & \alpha_{0+} \sum_{j=1}^p \alpha_{1j} \text{Log}(\Delta \text{TreasuryYieldSpread}_{t-j}) + \sum_{j=1}^q \alpha_{2j} \\ \text{Log}(\Delta \text{GoogleTrends} - \text{EPU})_{t-j} + & \sum_{j=1}^q \alpha_{3j} (\Delta \text{TotalGroupsOppose})_{t-j} + \sum_{j=1}^q \alpha_{4j} (\Delta \text{TotalGroupsSupport})_{t-j} + \\ & \sum_{j=1}^q \alpha_{5j} (\Delta \text{ScaledNetTotGroupFunding})_{t-j} + \\ \lambda_1 (\text{TreasuryYieldSpread})_{t-j} + & \lambda_2 (\text{EconomicPolicyUncertainty-GT})_{t-j} + \lambda_3 (\text{TotalGroupsSupport})_{t-j} + \\ \lambda_4 (\text{TotalGroupsOppose})_{t-j} + & \lambda_5 (\text{ScaledNetTotGroupFunding})_{t-j} + \lambda_6 \text{ECT}_{t-j} + \phi_{ct-j} + \varepsilon_t \end{aligned}$$

### 3.3. Variables

We employed the following variables to examine the role and effect of interest group competition and economic uncertainty upon the Treasury Yield Spread, as the nation endured a debt ceiling crisis. Before defining our variables, we employ the following mathematical notation in Equations 1 and 2 from the preceding section 3.2. We used the function  $\text{Log}(x)$ , where  $\text{Log}(x) = \text{Log}(x)$  or  $\text{Log}_e(x)$ . In other words, we employed the implicit natural logarithm of variable  $x$ , using the base of  $e$ . Moreover, we made use of another important function using the following notation, “ $\Delta$ ”. This notation represents the first difference operator or  $\text{Log}(Y_t) - \text{Log}(Y_{t-1})$ . The  $\varepsilon_t$  signifies the error term which form residual terms. In the end, the error terms, i.e., the residuals in the ARDL model, should be normally distributed with little to no autocorrelation, and homoscedastic, i.e., white noise.

For Equation 1 and Equation 2, the  $\alpha_{ni}$  coefficients are a combination of contemporaneous and lagged variables, where the number of lags are yet to be chosen. Importantly, in Equation 2, the  $\alpha_{ni}$  coefficients represents short-run estimates, while the coefficients preceded by  $\lambda_n$  represent our long-run estimates. While the  $\alpha_0$  coefficient indicates the constant of each equation (1) and equation (2).  $\lambda_6$  in equation (2) precedes the error correction term, or the non-zero negative adjustment term, that speaks to the time required for the dependent variable, and the system to return to a state of equilibrium.

We formed the dependent variable, the U.S. Treasury Yield Spread, three-month ( $\text{TreasuryBillYieldSpread}_{t,j}$ ) (+/-) by taking the difference in the yield of a three-month contract (the three-month Constant Maturity Yield) from the overnight index swap rate (three-month contract). If the debt ceiling crisis influences the spread in a negative manner, the spread will decrease, as investors embed a default premium.

To control for important determinants of the U.S. Treasury Debt Market, we included a vector of exogenous variables,  $\phi_{ct}$ . We use primary dealer Treasury Bill transactions ( $\text{Transactions}_{t,j}$ ) (+), to account for factors such as supply and level of activity between secondary and primary markets (Liu, Shao, & Yeager, 2009). Next, we make use of the bid-ask spread, ( $\text{Bid-AskSpread}_{t,j}$ ) (-) to account changes in liquidity (Fleming, 2001; Cashin, et al., 2017). Importantly, we derive the Bid-Ask Spread by first converting all bid and ask yield data into a price format. While following U.S. Treasury convention, the bank discount formula that we employed for each bid or ask price equals  $100 * (1 - (\text{bid/ask yield} * \text{days left to maturity}) / 360)$  (U.S. Treasury, 2022).

Lastly, to control for multiple structural breaks, we included our dummy variables that take on a value of -1, 0, or 1, to control for multiple structural breaks (Bai & Perron, 2003). We further interacted the dummy variables with our key independent variables, as well.

The variable Google Trends EPU ( $\text{GoogleTrends} - \text{EPU}_{t,j}$ ) (-) represents economic policy uncertainty and/or policy uncertainty. We used the more popular search queries for a given debt ceiling crisis. For example, we sought popular queries using terms, “United States Debt Limit



Crisis of 2011/2013” or “Debt Limit”. Google normalizes its search volume data daily. According to Google.com, the Search Volume Index data is scaled from 0 to 100 and is based upon a topic proportional to all searches on all topics. Hence, on any given day, the search volume for a query falls between 0 and 100. A 0 represents little interest or not enough interest in the search term, while a 100 indicates the highest relative popularity (Bontempi et al., 2016).

Our final variable group examined for the effect of interest group competition and conflict upon the dependent variable, the Treasury Yield Spread. We expected the Total Groups in Opposition or Support and Scaled Net Total Group Funding variable to capture two aspects of the level of competition and conflict. These included the first set of variables, Total Groups in Opposition (*TotalGroups-Opposition<sub>i,t,j</sub>*)(-) and Total Groups in Support (*TotalGroups-Support<sub>i,t,j</sub>*)(+). The second group/set also illustrated either interest group activity, in opposition or support, in the form of Total interest group funding, as a net measure. Therefore, we subtracted Total Funding of Groups in Opposition (*TotalFunding-GroupsinOpposition<sub>t,j</sub>*) (-) from Total Funding of Groups in Support (*TotalFunding-GroupsSupport<sub>t,j</sub>*) (-) to form the final variable, Scaled Net Total Group Funding (*NetTotGroupFunding<sub>t,j</sub>*) (- /+) variable.<sup>5</sup>

To examine the robustness of our findings, we replaced Google Trend’s uncertainty measure with two other uncertainty measures. These include Twitter Economic Uncertainty index (*TwitterEPU<sub>t,j</sub>*) (-), based upon brief text messages of the Twitter social network (Baker, Bloom, Davis, & Renault, 2021). This index seeks Tweets that contain terms related to “Economic” and “Uncertainty.” Second, we included a news-based uncertainty measure, using daily periodicity. This categorical index focuses upon fiscal policy, i.e., the Debt Ceiling Index (*DebtCeilingIndex<sub>t,j</sub>*) (-) (Baker, Bloom, & Davis, 2016).

### 3.4. Overview of Methods

To understand the effects of a debt ceiling crises on the U.S. Treasury market, we employed event studies, autoregressive distributed lag models - ARDL, and error correction models. It is important to elaborate upon our decision-making process briefly, as we made distinct and unique decisions to do so.<sup>6</sup>

Before testing for stationarity of each variable, we began our descriptive statistical analysis located in Table 1 (p.14). We then performed a key examination of the relationships between each pair of variables, pairwise correlation found in Table 2 (p.15) As part of our pre-estimation stage, we graphed and visualized each variable, to consider, any trend, drift, or cycle that may appear, in addition to testing for any structural breaks that may occur. For example, each of the political variables had a structural break.

In the next step, to ensure each variable is stationary, we employed the augmented Dickey Fuller test in Table 3 (p.17) (Dickey & Fuller, 1979). We then examined each variable, and each equation, for the optimal number of lags using the Stata VARSOC command. Our focus was primarily upon Aikake’s information criterion (AIC), and the Schwarz Information Criterion (SIC) (Akaike, 1979; Schwarz, 1978).<sup>7</sup> It is important to strike a balance between allowing enough lags for each variable’s data generation process, while minimizing the value of information criteria values per variable (Lutkepohl, 2005).

One advantage of the autoregressive distributed lag (ARDL) model is that it allows for a combination of variables of mixed order of integration. We included a mix of variables in levels form, I(0), and variables that have been first differenced, I(1) in the ARDL model. Yet a variable of the integrated order of 2, or second differenced, I(2), is not acceptable for use with the ARDL models. Moreover, ARDL models are also well-known for their ability to work with small samples

<sup>5</sup> To avoid arriving at results that contained extremely small coefficients for Scaled Net Total Group Funding (in Opposition or Support), we scaled our funding variable by dividing Net Total Group Funding by 1,000.

<sup>6</sup> Normally Table 7, reflects the results of DOLS. This is normally performed first. Further, Table 4, represents one of the last procedures that is undertaken. It corresponds to the Bounds test.

<sup>7</sup> We omit the results of our optimal lag choice using multiple information criterion, for brevity.

(Kripfganz & Schneider, 2018). The first stage ARDL entails using the intertemporal dynamic Ordinary Least Squares' estimation, i.e., DOLS (Stock & Watson, 1993).

We entered the appropriate number of optimal lags before using Equation 1. We have included these results from Equation 1 in Table 7 (p.23). As a part of the results and output from Equation (1), Stata produced an  $(n \times 1)$  matrix of maximum number of optimal lags that should be used for each variable in Equation (2), the second stage of the ARDL model.

We began the second stage by evaluating a non-restricted form of the Error Correction Model (ECM), again using OLS estimation of Equation (2). Upon performing the regression of the Error Correction Model, we then performed the Bounds test (i.e., the "ec test" "post-estimation command). Stata's program for ARDL provides the upper and lower bounds of the Bounds test, that we then compare with our F-statistic. If the F-statistic surpasses the upper bound of the asymptotic critical value, we are able only then to determine if a long run equilibrium relationship exists, i.e., cointegration (Kripfganz & Schneider, 2018; Pesaran, Shin, & Smith., 2001). The results of our ARDL Bounds test are included in Table 4 (p.18). If cointegration is indicated, we then separate and interpret the results into long-run estimates that are found in Table 5 (p.19). We incorporated the rest of these results, including short-run estimates of the ECM ARDL model and the adjustment coefficients in Table 6 (p.20). In the end, of utmost importance, we performed several measures our post-estimation diagnostics. These are in Table 8 (p.24).

To calculate excess borrowing costs, we employed Ordinary Least Squares estimated regressions. For example, for our uncertainty proxy, we employ the independent variable Google Trends - EPU. We then employed the OLS regression where the dependent variable equals change in U.S. Treasury Yield Spread. The second step included calculating the cost of each 4-week, 13-week, 26-week auctions that coincides with each event period. We did so by multiplying each unique auction by the change in spread (dependent on the previous OLS regression). Lastly, we summed the excess borrowing costs by U.S. Treasury bill auction, and maturity (U.S. GAO, 2015). We further performed the same process for interest group competition, i.e., Total Groups in Opposition, or Scaled Net Group Funding. The results of excess borrowing costs are found on (p. 25).

### ***3.5. Choice of Estimators***

The Autoregressive Distributive Lag model is advantageous, as it allows for the use of small to medium sample sizes, in addition to making it possible to examine variables of mixed order of integration including  $I(1)$  and  $I(0)$  variables. The ARDL model first makes use of the OLS estimation when using Dynamic Ordinary Least Squares (Stock & Watson, 1993). The use of DOLS allows one to work with time series data. We chose only to difference these variables if they prove to be non-stationary in level form in an attempt to retain long run estimates (Table 7, p. 22). This type of dynamic model produces asymptotically efficient coefficients, as the model accounts for serial correlation and endogeneity properly with minimal bias. In the second stage, the Error Correction Model allows us to arrive at the Bounds test where we may determine if cointegrated relationships exist. The Error Correction model further employs Ordinary Least Squares estimation (Menegaki, 2019). Equally important, the ARDL model further allows for in-sample prediction, where we derived the amount of time required for the Treasury Yield Spread to return to equilibrium following the debt ceiling crises. Our examination serves as initial evidence only, and for this reason we do not perform a Vector Error Correction Model.

### ***3.6. Robustness Measures***

To ensure robustness results, we verified the quality of our results, first by using GoogleTrends as our measure of Economic Policy Uncertainty, and then replaced this variable with two other uncertainty measures to ensure that our regression coefficients are similar, including direction and magnitude. Moreover, we employed the Johansen Cointegration Rank test, using a Maximum Likelihood Estimation approach to verify the number of cointegrating vectors for each crisis.

Lastly, we made use of orthogonalized impulse response functions, to confirm the timing and magnitude of our findings.

## IV. Empirical Results

### 4.1. Descriptive Statistics

The descriptive statistics located in Table 1, demonstrated substantial volatility in the movement of the U.S. Treasury Yield Spread across each event period. The average yield spread was approximately 0.083 with its standard deviation at 0.042, or almost 50% of the average yield spread. The yield of our three-month U.S. Treasury bill peaked right before resolution in 2011, 2013, and further in 2015.

Our measure for economic policy uncertainty, Google Trends-EPU, was highly reactive to events. Although the average across all three events measured, represented the volume of the search intensity for the specific term on any given day during the event. Interestingly, the standard deviation of Google Trends double the value of the mean. With that said, it is common to find zero as the search volume on a given day. The Overnight Swap rate performed as expected, suffering little spillover effect. Interestingly, Total Groups in Support, using the maximum statistic, outnumbered Total Groups in Opposition. Moreover, we note that the mean of our variable Total Groups in Opposition exceeded mean of the variable Total Groups in Support. This speaks to the strength of lobbying in opposition.

**Table 1.** Descriptive Statistics

Variables	Observed	Mean	Standard Deviation	Minimum	Maximum
U.S. Treasury Yield Spread	744	0.0825	0.041	-0.038	0.223
Google Trends Policy Uncertainty	508	8.38	16.35	0.00	100
Categorical Index Debt Ceiling	474	41.68	24.68	3.00	168
Twitter Uncertainty Index	481	122.85	112.76	5.90	775.66
Scaled Net Total Funding by Group Type – Support, Opposition	765	-\$45,147	\$81,607	-\$253,425	\$201,435
Dummy Variable (Quarterly)	461	-0.57	0.730	-1.000	1.000
Bid – Ask Spread Three Month U.S. Treasury Bill	744	0	0.000	0.000	0.020
U.S. Treasury Bill Transactions (in millions of U.S. Dollars)	765	\$73,055	\$14,048	\$47,119	\$129,735
U.S. Treasury Bill three-month Yield	744	0.060	0.060	0.000	0.350
Overnight Swap Index Rate three-month contract	765	0.140	0.060	0.070	0.390
Total Groups in Support	762	50.86	61.08	0	198
Total Groups in Opposition	762	57.91	51.16	0	148
U.S. Treasury Bill 4 Weeks Face Value Auction (000's)	145	\$35,170,000	\$10,100,000	\$4,730,000	\$54,700,000
U.S. Treasury Bill 13 Weeks Face Value Auction (000's)	145	\$27,630,000	\$3,843,000	\$16,800,000	\$34,600,000
U.S. Treasury Bill 26 Weeks Face Value Auction (000's)	145	\$25,020,000	\$2,444,000	\$17,000,000	\$29,300,000
U.S. Treasury Bill 52 Weeks Face Value Auction (000's)	35	\$22,490,000	\$3,864,000	\$9,770,000	\$24,900,000

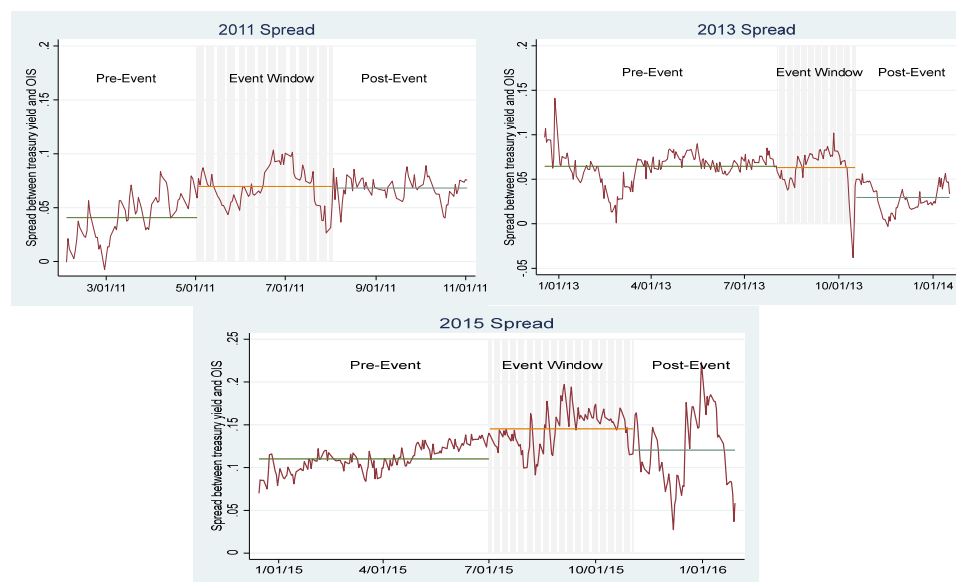
Table 2 allowed to account for missing values, and potentially uncover relationships/associations of interest. Table 2 is representative of our pairwise correlations, while using a comprehensive sample spanning from 2010 to 2016. Our first finding is non-trivial. Table 2 illustrated several variables, that were quite telling. The variables Net Group Funding and Total Groups in Support remain correlated with the dependent variable, the U.S. Three - Month Treasury Yield Spread, at a level of 0.42 and 0.72, respectively. Each of the aforementioned correlations were significant at 5% or better. The Google Trends - EPU and the Twitter Economic Uncertainty (EU) (Baker, et al., 2021) maintained a high level of pairwise correlation with the Debt Ceiling Index variable (Baker, et al., 2016). Finally, we found a high correlation between Net Group Funding and Total Groups in Support, at a 0.74, again significant at 5% or better.

**Table 2. Pairwise Correlation – Variables of Interest - Debt Ceiling Crisis Events**

Variables	Treasury Yield Spread	Google Trends EPU	Debt Ceiling EPU	Twitter EPU	Net Group Funding	Dummy (d1)	Bid Ask Spread	T-Bill Transact	Total Groups Opposed	Total Groups-Support
Treasury Yield Spread	1.00									
Google Trends EPU	0.14*	1.00								
Debt Ceiling EPU	-0.02	0.50*	1.00							
Twitter EPU	0.18*	0.22*	0.43*	1.00						
Net Group Funding	0.42*	-0.14*	-0.28*	-0.21*	1.00					
Dummy (d1)	-0.36*	0.34*	-0.07	-0.19*	-0.52*	1.00				
Bid-Ask Spread	0.07	-0.01	0.06	0.12*	-0.02	-0.22*	1.00			
T-bill Transacts	-0.37*	0.20*	0.35*	0.06	-0.22*	0.09	0.01	1.00		
Total Groups Support	0.72*	0.08	-0.28*	-0.04	0.74*	-0.56*	0.02	-0.23*	1.00	
Total Groups Opposed	0.11*	0.45*	0.25*	0.19*	-0.45*	0.68*	0.01	-0.06	0.00	1.00

Levels of significance for p values: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Figure 1. The Impact of Debt Ceiling Occurrences upon three-month Treasury Yield Spreads**



In Figure 1, the three-month U.S. Treasury bill yield spread underwent steep decreases on each occurrence of the debt ceiling crises, as the delay continued in Congress and the breach date neared. This led to sharp declines in the yield spread during each of the event periods. At times, the substantial decrease in the Yield Spread continued well into the post-event period, before returning to equilibrium.

When performing our stationarity and pre-estimation tests, our objective was to arrive at a stable model with normal residuals and little to no serial correlation or heteroskedasticity. Otherwise, we defeat our purpose. After performing our descriptive statistics and pairwise correlation, we employed unit root/structural break tests upon each of our variables.

Table 3 illustrates the Augment Dickey Fuller tests that performed upon all nine variables. We did so, first at levels, and then first differenced. We implemented this test using one lag. The only variables proved non-stationary, at level, were related to our interest group competition variables. Upon first differencing the aforementioned, all variables were stationary across each of the three debt ceiling crises.

The non-stationary variables are the Total Groups in Opposition and the variable Scaled Net Total Group Funding. This is owed in part to including the average lobbying at a daily periodicity, and then combining average daily lobbying with our daily time series of campaign contributions. Hence, we introduced structural breaks at each quarter's end. This corresponded to the Federal quarterly lobbying filing date. Each interest group that lobbied also gave contributions.

Structural breaks may well alter the interpretations of a variables' state, when determining order of integration, I(0), I(1) and I(2) (Leybourne, Mills, & Newbold, 1998). We then performed the following tests that considers the unit root with structural breaks, including:

**Table 3. Stationary Tests - Augmented Dickey Fuller Test**

Debt Crisis Year	2011		2013		2015	
Variable at level*	T-Statistic	P Value	T-Statistic	P-value	T-Statistic	P-value
U.S. Treasury Bill Yield Spread	-3.87	0.0023	-3.19	0.02	-4.28	0.00
Google Trends - EPU	-4.16	0.00	-4.44	0.00	-4.87	0.00
Total Groups in Opposition	-1.19	0.68	-0.13	0.95	-1.93	0.32
Total Groups in Support	-2.94	0.04	-4.58	0.00	-2.30	0.01
Scaled Net Total Group Funding	-1.78	0.39	-2.02	0.28	-9.88	0.00
Transactions	-3.46	0.01	-3.67	0.00	-4.84	0.00
Log (Bid-Ask New Spread)	-12.01	0.00	-11.88	0.00	-9.89	0.00
Twitter EPU	-5.00	0.00	-7.68	0.00	-3.58	0.01
Debt Ceiling Index EPU	-5.69	0.00	-6.90	0.00	NA	NA
Variables in First Difference*						
U.S. Treasury Bill Yield Spread	-11.86	0.00	-14.02	0.00	-14.72	0.00
Google Trends - EPU	-11.56	0.00	-14.98	0.00	-8.26	0.00
Total Groups in Opposition	-9.78	0.00	-12.14	0.00	-11.94	0.00
Total Group in Support	-12.68	0.00	-11.00	0.00	-11.75	0.00
Scaled Net Total Group Funding	-15.00	0.00	-19.65	0.00	-18.50	0.00
Transactions	-9.54	0.00	-11.45	0.00	-11.86	0.00
U.S. Treasury bills Bid- Ask New Spread	-14.51	0.00	-20.66	0.00	-18.76	0.00
Twitter EPU	-10.95	0.00	-20.07	0.00	-10.93	0.00
Debt Ceiling Index EPU	-17.69	0.00	-17.69	0.00	NA	NA

Notes: The following stationarity tests are but only one portion of the pre-estimation procedures that we performed.

Structural breaks may well alter the interpretations of a variables' state, when determining order of integration, I(0), I(1) and I(2)(Leybourne, Mills, & Newbold, 1998). We then performed the following tests that considers the unit root with structural breaks, including Zivot-Andrew's test. The Zivot-Andrews Unit Root test takes only one structural break into account (Zivot & Andrews, 1992). This afforded us, at the very least, an initial understanding of any unknown breaks. We employed dummy variables, and interacted dummy variable, it became evident that there exists a balance in explanatory power. If we used too many dummy variables, we began to lose explanatory power of our model. This is especially true in the presence of structural breaks (Banerjee, Arcabic, & Lee, 2017).

Table 4 illustrates our tests for co-integration at the 5 and 10% levels of significance for each Debt Ceiling Crisis event. In accordance with the Bounds table and resulting bands of asymptotic critical values provided by Pesaran, Shin, and Smith (2001, p. 300), we identified at least one co-integrating relationship, for one of the three debt ceiling occurrences. We make use of the Stata ARDL package (Kripfganz and Schneider, 2018). As it relates to overall co-integration, it is a beginning step. According to our bounds test, 2011 proved inconclusive. The F-statistic of 2.562 for our 2011 ARDL model, lies between the lower bound of I(0), or 2.50, and the upper level bound, I(1) or 3.72. This corresponds with a 10% significance level. For 2013, our F-test value indicates cointegration.

**Table 4.** Critical Bounds of the F-statistic for 2011, 2013, and 2015 Debt Ceiling Crisis events

Debt Ceiling Crisis Year	2011	2013	2015
ARDL (p, q) optimal lags in selected order	(2 0 0 1 2)	(1 0 0 0 2)	(2 4 0 0 4)
Cointegration Results:	Inconclusive	Co-integrated	Inconclusive
F-test of joint significance	2.562	5.537	3.564
Significance level of Bounds Test employed	10%	5%	10%
Critical Values bounds of the F-statistic (Pesaran, et al., 2001) band	90%	95%	90%
Asymptotic Critical Values (lower - upper bounds)	I(0)2.50 I(1)3.72	I(0) 2.95 I(1)4.31	I(0) 2.43 I(1)3.66

Notes: For the Bounds test, we employed the default of unrestricted intercept, and no trend. (Pesaran et al., 2001)

The 2013 F-test statistic surpassed the upper bound I(1), or 4.31, with a value of 5.537, at 5% significance. In 2015, the F-test statistic, once again is inconclusive. We arrived at an F-test value of 3.564 that is just shy of the upper bound, I(1), or 3.66, at a 10% significance level. As we did perform several iterations, it points(ed) to the need to verify our results using other tests for co-integration. By employing robust standard errors, i.e., Newey-West heteroskedasticity and autocorrelation consistent estimators, we derived between one to three significant long run variable estimates per event.

In the end, we reject the null hypothesis of no cointegration or  $H_0: \lambda_0 = \lambda_1 = \lambda_2 = \lambda_n = 0$  for one of three event periods, 2013 debt ceiling crisis, as we employed Equation (2), the Unrestricted Conditional Error Correction Model. The other two debt ceiling crises, 2011 and 2015, remain inconclusive. We were still able to glean substantial information from the results of the ARDL model.

Table 5 serves as one of the key focal points of our ARDL co-integration work, where our focus remains upon long term relationships between the independent and dependent variables. We found that the natural logarithm of Economic Policy Uncertainty, Google Trends in level form, impacted the U.S. Treasury Yield Spread. This coincides with our first hypothesis, H1. For the 2011 debt ceiling crisis, the policy uncertainty measure, Google Trends - EPU, took a dramatic toll upon the U.S. Treasury Yield Spread. A 1% increase in the Google Trends - Economic Policy Index led to a 3.8% decrease upon the dependent variable, the Treasury Yield Spread. The

heightened uncertainty and long delay, tended to exacerbate excess borrowing costs as investors became nervous about the U.S. Treasuries capacity to make interest payments in a timely manner.

**Table 5. Error Correction Model**

Long Run Estimates	2011	2013	2015
Estimation method	OLS	OLS	OLS
Dependent variable: Ln (U.S. Treasury Yield Spread):			
Ln (Economic Policy Uncertainty - Google Trends ) (Level)	-0.038**	-0.096	-0.015
Total Groups in Opposition (First Difference)	0.022	0.108	0.026
Total Groups in Support (Level)	-0.268	-5.233	-0.010
Scaled Net Total Group Funding (First difference)	0.218	3.960	0.007
	0.086**	-0.003	0.037*
	0.043	0.228	0.020
	-0.003*	-0.032*	-0.007**
	0.002	0.018	0.004

Please note: We applied Newey-West robust errors in parentheses to improve consistency of estimates and to reduce autocorrelation and heteroscedasticity. Levels of significance for p-values are: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

To our surprise, 2013 and 2015 did not illustrate any significant relationship while employing Equation (2) of the error correction model. In the long run, this may be true, as a substantial reaction by Google Trends begins normally within two to four weeks preceding the breach date. Hence, it may be a short-term reaction. There is long run evidence to suggest accepting the first hypothesis, yet it is not complete.

Next, Total Groups in Support was highly significant across two of the three events, 2011 and 2015. For example, in 2011, a 1% increase in the number of supporting interest groups, led to an 8.6% increase in the U.S. Treasury Yield Spread, using a log-level interpretation. In 2015, we found a similar effect upon the U.S. Treasury Yield Spread.

To our surprise, we did not find evidence of cointegration nor a significant relationship in our error correction model regression for Total Groups in Opposition. However, to reiterate, opposition take two forms in this study. Scaled Net Total Group Funding, is another formidable signal of opposition or support. A negative coefficient indicated that funding of groups in opposition is larger than the funding for groups in support. This is further supported by the underlying data. Scaled Net Total Group Funding is found to be of long-term significance.

In 2011, again employing a log-level interpretation, for a 1% increase in Negative (Scaled) Net Total Group Funding led to a 0.30 % decrease in the Treasury Yield Spread. In 2013, the effect was more pronounced leading to a 3.2% decrease. The 2015 crisis was still costly, to echo the work of Cashin, Klee, and Syron (2017). However, there was substantially more support for the appropriations and debt ceiling measure in 2015 (H.R.1314-Bipartisan Budget Act of 2015). Again, from Table 5, a 1% increase in Scaled Net Total Group Funding, led to a 0.70% decrease in the 2015 Treasury Yield Spread. At the very least, this strong relationship allows us to accept Hypothesis 2, at least as initial evidence.

In our next section, we review our findings located in Table 6, located on page 20, of the Error Correction Model that further entails Equation (2). These include the short-term estimates, the adjustment factor, and a vector of exogenous control variables.

The negative speed of adjustment coefficient, i.e., the Error Correction Term, measured how much time is required for the dependent variable, the natural logarithm of the U.S. Treasury Yield Spread, to return to its original state of equilibrium. In Table 6, the negative speed of adjustment coefficient is found to be -0.226 for the 2011 debt ceiling crisis. In other words, a 22.6% correction takes place in one day, and returns towards equilibrium, where equilibrium represents 1.00 or unity. This implies that that U.S. Treasury three-month Yield Spread required four to five days or 4.42 days to return to long run equilibrium. While the debt ceiling crisis took place from May to early August of 2011, we believe this is an accurate approximation.

**Table 6. Short-Term Estimates of the ARDL- Error Correction Model**

Variables/ Event Year	2011	2013	2015
Dependent Variable: Ln (U.S. Treasury Yield Spread - Three Month)			
Estimation Method	OLS	OLS	OLS
Ln (U.S. Treasury Yield Spread)	-0.203		0.189
(One lag) (First Difference)	0.218		0.119
Ln (Google Trends - EPU)			0.041**
(First Difference)			0.020
Ln (Google Trends - EPU)			0.049***
(First Difference) (One lag)			0.017
Ln (Google Trends - EPU)			0.028*
(First Difference) (Two lags)			0.015
Ln (Google Trends - EPU)			0.043***
(First Difference) (Three lags)			0.012
Total Groups in Opposition			
(Second Difference)			
Total Groups in Support	0.057		
(First Difference)	0.045		
Scaled Net Total Group Funding	0.002**	0.001**	0.007***
(First difference)	0.001	0.004	0.003
Scaled Net Total Group Funding	0.002***	0.005**	0.004**
(First difference) (One lag)	0.001	0.002	0.002
Scaled Net Total Group Funding			0.002*
(First difference) (Two lags)			0.001
Scaled Net Total Group Funding			0.002***
(First difference) (Three lags)			0.001
Adjustment Term			
Ln (U.S. Treasury Yield Spread)	-0.226***	-0.367**	-0.285***
(One lag)	.092	0.086	0.081
Exogenous (Control) Variables			
Dummy Variable (Quarterly)	0.057	-1.031	0.161***
(Level)	0.055	0.604	0.051
Dummy * Ln(Google Trends - EPU)		0.382**	-0.040*
(Level)		0.604	0.021
Dummy * Total Groups in		-1.99	-0.082
Opposition			
(Level)(First difference)		1.61	0.102
Dummy * Scaled Net Total Group	-0.002	-0.005	-0.003*
Funding (Level)	0.002	0.006	0.001
Ln (Bid Ask Spread - U.S.	0.013	0.445***	-0.016
Treasury Bill) (Level)	0.060	0.058	0.012
Ln (U.S. Treasury Bill Transactions)	-0.055	-0.210	0.064
(Level)	0.148	0.383	0.062
Constant	-0.150	4.094	-1.302
	1.505	4.443	0.639
Observations	65	70	86
R-squared	0.319	0.776	0.442

We applied Newey West Standard errors in parentheses, to improve consistency of estimates, reducing autocorrelation and heteroscedasticity. Levels of significance for p values are: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Following August 2, 2011, the S&P Rating Agency downgraded the U.S. Treasury bill on August 5, 2011. The 2013 debt impasse involved a large adjustment factor of negative 0.367. This indicated a significant, yet faster return to normalcy for the yield spread, of 2-3 days, or 2.72 days. Lastly, our 2015 debt-ceiling crisis illustrated a convergence toward equilibrium, at 3.51 days exactly.

For the ECM, each of these adjustment factor coefficients is negative, significant, and corresponds to the natural logarithm of the Treasury Yield Spread, lagged by one day. This autoregressive feature of the ARDL model illustrated that, in 2011, a 1% change in the lagged



yield spread reduced the current period's yield spread by 22.6% (a log-log interpretation). Total Groups in Opposition and the variable Scaled Net Total Group Funding are integrated to the first order. This was in part owed to combining average daily lobbying with our daily time series of campaign contributions. Hence, we introduced structural breaks at each quarter end.

The OLS estimated regression results that relate to our control variables in Equation 2, Table 6 (p.20) are in line with theory. We feel the fit of each regression of the error correction model could have been improved. Our R-squared statistics for 2011, 2013 and 2015 were 0.319, 0.776, 0.442, respectively.

Now, we begin to introduce our Equation (1) estimated using DOLS found Table 7. Importantly, the results of these regressions also represented long run estimates that complement, our existing findings, as we first differenced only two variables in the first equation. There are three key findings from Table 7, on page 23. First, we find that just as in the 2011 event, Google Trends policy uncertainty proved significant. A 1% increase to the Google Trends - EPU measure, led to a contemporaneous decrease of 3.82% in the Treasury Yield Spread in 2011. In 2015, even after four lags, or four days, a 1% decrease in Google Trends-EPU led to a 5.5% decrease in the Treasury Yield Spread. This serves, together with evidence from other tables, sufficient evidence to allow us to accept Hypothesis 1.

Among our political variables in Table 7, Equation 1, we did not arrive at significant coefficients upon the variables for Total Groups in Opposition, or Support. However, as discussed previously, we used two forms of variables to indicate the level of interest group competition, including total groups in opposition or support, and the Scaled Net Total Group Funding. The variable Scaled Net Group Funding comprises campaign contributions and lobbying.

Again, it proved to be of high significance across all three events, at varying lag lengths. In 2011, for a 1% change in the second lag of Scaled Net Total Group, at two lags, this led to a decrease of 0.20% in the Treasury Yield Spread, our dependent variable. The same 1% change in Group Funding, in 2013 led to a 0.70 percent decrease. Finally, in 2015, the impact of a 1% increase in Scaled Net Total Group Funding - Groups in Opposition is highly persistent at one lag and four lags. At one lag, the change in the group funding variable led to a .20 % decrease, and a .30% decrease, respectively, in the dependent variable, the Treasury Yield Spread.

Surprisingly, we found a lack of significance in the variable Total Group Opposition, across all three debt ceilings. However, in this paper, opposition to the legislation, at hand, exists in several forms, as previously discussed. Interestingly, as reported earlier, there existed more an overall level of support from groups, in 2015, due to concessions. In the final Table 7, we found that for A 1% increase in Total Groups in Support, will lead to a 4.6% increase in the yield spread, significant at the 10% level. This represented less overall opposition, and reduced borrowing costs or savings in interest payments by the U.S. Treasury.

Lastly, we turn our attention to post-estimation diagnostics located in Table 8. We cannot reject the null hypothesis of heteroscedasticity in our model for 2011 and 2013. Yet, for each regression, we consistently applied the Newey West Heteroscedastic and auto correlated consistent (HAC) standard errors (Newey & West, 1987).

It was only through the rigorous use of post-estimation diagnostics, that we were able to obtain overall stable models, and normal residuals with minimal heteroscedasticity and auto-correlation. We tested for the autocorrelation and auto-regressive conditional heteroscedasticity, as we implemented Engle's (1982) ARCH LM test. We were able to reject the null hypothesis of existing autocorrelation in all crises. In 2013, we are able reject the hypothesis of autocorrelation and heteroskedasticity, with a Chi score of 0.528, and a probability of 0.467. With that said, heteroskedasticity was unavoidable yet remained minimal. In both 2013 and 2015 the probability of the Breusch-Pagan/Cook-Weisberg test, i.e., constant variance fell below 0.10 in significance (Breusch & Pagan, 1979). For stability we employed Cumulative Sum test of Residuals (CUSUM) that remained well within the 95% confidence band. Our median Variance Inflation Factor was consistently below or near a value of ten, and minimal multicollinearity.

**Table 7. Three Debt Ceiling Crises - Dynamic Ordinary Least Squares (DOLS)**

Debt Ceiling Crisis Year	2011	2013	2015
Estimation Method	OLS	OLS	OLS
Ln(U.S. Treasury Yield Spread)	0.571***	0.797***	0.944***
(One lag)	0.151	0.166	0.120
Ln(U.S. Treasury Yield Spread)	0.202		-0.239**
(Two lag)	0.156		0.124
Ln(Economic Policy Uncertainty -	-0.038*	.	0.021
Google Trends) (Level)	0.022		0.014
Ln(Economic Policy Uncertainty -		-0.527	0.005
Google Trends) (One lag)		0.071	0.012
Ln(Economic Policy Uncertainty -			-0.012
Google Trends) (Two lag)			0.012
Ln(Economic Policy Uncertainty -			0.016
Google Trends) (Three lags)			0.013
Ln(Economic Policy Uncertainty -			-0.055***
Google Trends) (Four lags)			0.014
Total Groups in Opposition	-0.267	-0.303	-0.008
(Level)(First difference)	0.238	2.204	0.008
Total Groups in Support	0.028	0.216	0.046*
(Level)	0.034	0.152	0.026
Total Groups in Support	0.057		
(One lag)	0.034		
Scaled Net Total Group Funding	-0.001	-0.004	-0.000
(Level)(First difference)	0.001	0.005	0.002
Scaled Net Total Group Funding	-0.000	-0.003	-0.002*
(One lag)	0.001	0.005	0.002
Scaled Net Total Group Funding	-0.002**	-0.007**	-0.002
(Two lags)	0.001	0.004	0.002
Scaled Net Total Group Funding			-0.001
(Three lags)			0.002
Scaled Net Total Group Funding			-0.003**
(Four lags)			0.001
Dummy Variable (Quarterly)	0.057	-1.45	0.144***
(orthogonalized)	0.050	1.08	0.051
Dummy * Ln (Economic Policy		0.555**	-0.030
Uncertainty -)			
Google Trends (level)		0.284	0.024
Dummy * Total Groups in		2.850	-0.120
Opposition			
(Level)(First difference)		2.234	0.135
Dummy * Scaled Net Total Group	-0.002	-0.002	-0.003*
Funding			
(Level)	0.002	0.011	0.002
Ln(U.S. Treasury Bid Ask Spread -	0.018	0.394***	-0.008
Three Month )			
(Level)	0.233	0.382	0.011
Ln(U.S. Treasury Bill Transactions)	-0.242	0.383	0.082
(Level)	0.163	0.764	0.067
Constant	-0.332	-4.776	-1.51
	1.734	6.465	0.718
Observations	65	61	74
R-squared	0.755	0.541	0.72

We applied Newey-West robust errors to improve consistency of estimates, while reducing auto correlation and heteroscedasticity. Levels of significance for p values are: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 8. Post-estimation Diagnostics**

Post-estimation Diagnostics	2011	2013	2015
Durbin Watson d-statistic	(14, 65) 1.87	(14, 70) 1.62	(9,86) 1.98
ARCH-LM (Chi2)	0.143	0.528	0.047
Probability of Chi	0.705	0.467	0.828
Breusch-Pagan/Cook-Weisberg test for heteroscedasticity	1.63	9.37	7.46
Continued: H0: Constant variance (HET test)	0.202	0.002	0.006
OV test – Ramsey Reset - Omitted Variable Test	F(3, 48) = 0.67	F(3, 53) = 55.84	F(3, 74) = 2.87
Probability greater than F	0.572	0.000	0.044
Variance Inflation Factor (mean)	5.12	15.42	10.65
Residuals are Normal	Normal	Normal	Normal
Use of AIC or BIC to perform DOLS/ECM	AIC	AIC	AIC

#### ***4.2. Excess Borrowing Costs owed to the U.S. Treasury and Taxpayers***

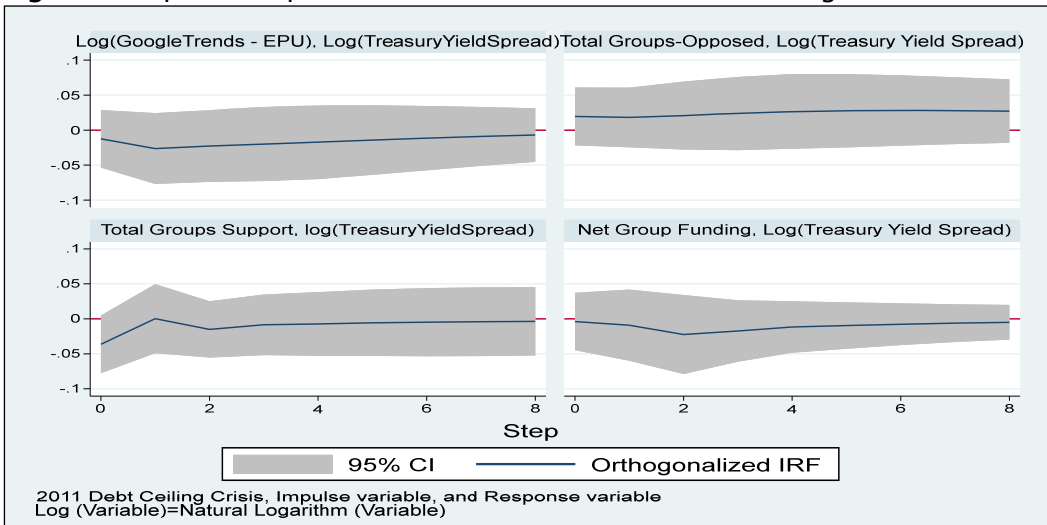
We use an OLS estimator to calculate excess borrowing costs due to the elevated yield and default risk premium on short term Treasury Bills. We discussed our method in detail on p.12. Importantly, the following excess borrowings costs are owed to increase in the level of uncertainty owed to the extensive delay in raising the debt ceiling. The costs incurred for 2011, 2013 and 2015 are \$11,700,000, \$15,000,000, and \$13,500,000, respectively. The respective costs owed to interest group opposition (Scaled Net Total Group Funding in Opposition) are \$3,676,674, \$1,300,000, and \$7,900,000. These costs remained outstanding for some time, as a number of bills mature around the breach date and were re-issued at an excess default risk premium.

#### ***4.3. Measures of Robustness***

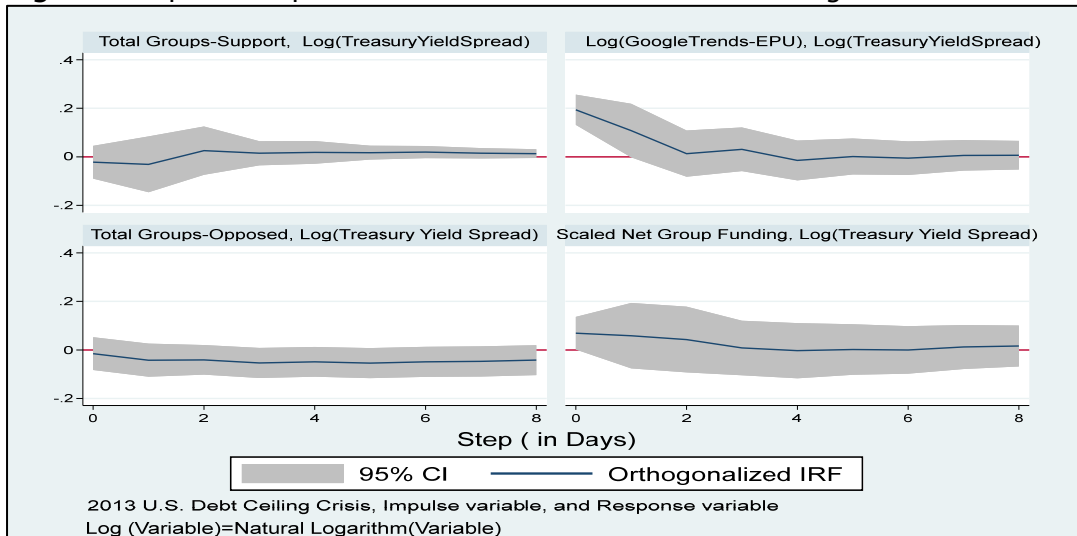
We substituted Google Trend’s economic policy uncertainty(EPU) measure with two other uncertainty measures to ensure the reliability of this variable. These included the Twitter Economic Uncertainty index (TwitterEPUt-j) (-), based upon brief text messages of the Twitter social network (Baker, Bloom, Davis, & Renault, 2021). This index seeks Tweets that contain terms related to “Economic” and “Uncertainty.” Second, we included a news-based uncertainty measure, using daily periodicity. This categorical index focuses upon fiscal policy, i.e., the Debt Ceiling Index (DebtCeilingIndext-j) (-) (Baker, Bloom, & Davis, 2016). The latter group of authors notes how the Twitter measure still substantially reflects people’s reaction to news. We arrived at significant independent variables; however, Google Trends consistently created a better fit, i.e., as it relates to the R-squared statistic over all three events. Google Trends-EPU performed well, acting as an early indicator.

Second, one cannot perform a Johansen Co-integration Rank test directly if the variables are of mixed order of integration (Johansen, 1988; Shreshta & Bhatta, 2019). Our intention was to verify the total number of cointegrating relationships for each event, while using the Johansen co-integration rank test. As an example, in 2015, the trace statistic falls below the 5% critical values of 15.41 with a trace statistic of 13.54, where it is significant at both 1 and 5% levels. The 2015 trace and eigenvalues correspond to a rank of three (vectors). The Johansen Rank test illustrates, two/three cointegrating relationships for each event of 2011 and 2013 (Johansen, 1988).

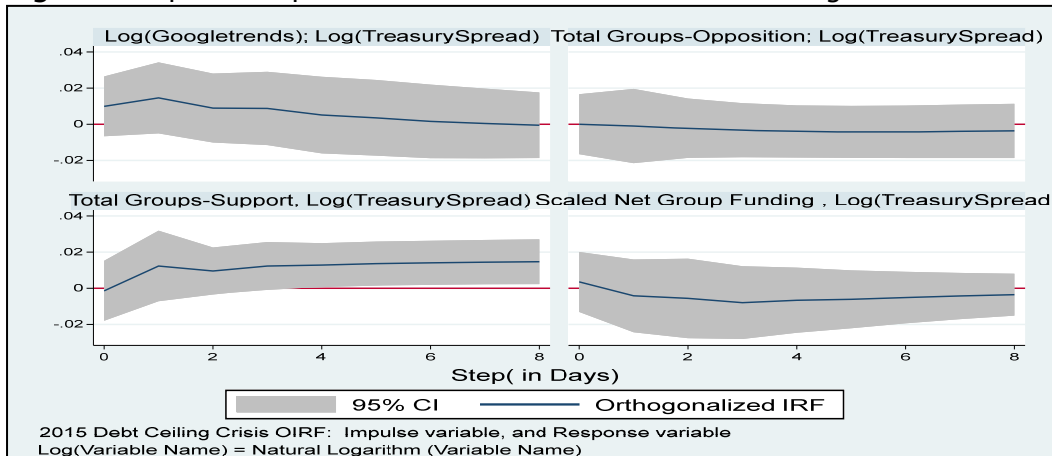
**Figure 2. Impulse Response Functions for the 2011 Debt Ceiling Crisis**



**Figure 3. Impulse Response Functions for the 2013 Debt Ceiling Crisis**



**Figure 4. Impulse Response Functions for the 2015 Debt Ceiling Crisis**



We introduced each variable into the underlying vector auto-regression, while employing a decreasing order of exogeneity. Across all three groups of OIRF's we found Total Groups in Support and Scaled Net Total Group Funding in Opposition (or Support) illustrated substantial responses. Google Trends - EPU reacted as we had hypothesized. Overall, the variable Total Groups Opposition is the sole variable that remains relatively stagnant. The response of each variable reacted in a theoretically and empirically consistent fashion with our hypothesized results. The Orthogonalized Impulse Response Functions for 2011 to 2015 confirm the initial evidence of Hypothesis 1 and Hypothesis 2.

Lastly, our economic policy uncertainty variable, Google Trends - EPU, illustrated substantial influence upon the Treasury Yield Spread in 2013. For a one standard deviation (positive innovation) to the Natural Logarithm of Google Trends, led to 20% decrease in the U.S. Treasury Yield Spread, over the course of four days. The one exception was the variable Total Groups in Opposition, as it remained relatively mute across all three episodes.

## V. Conclusion

Our first research question affords us a better understanding of the impact of the events that are related to the 2011, 2013, and 2015 debt ceilings, upon the U.S. Treasury three-month excess yields, and the yield spread of the three-month U.S. Treasury bill. We control for changes in liquidity and supply of U.S. Treasury bills, as we examine the underlying dynamics of this market.

Our first objective allows us to fill a gap in the literature by assessing costs and saving owed to an increase in the U.S. Treasury Yield Spread during the highest points of uncertainty and opposition (which led to delay) in each of the debt ceiling crises. While employing the Google Trends as a proxy measure across each event, we were able quantify the costs of policy uncertainty premium that form a portion of the excess borrowing costs. We make use of the coefficients from our policy uncertainty measure - Google Trends - EPU, using our first stage model for calculating this portion of excess costs owed to a delay in raising the debt ceiling, i.e., Equation (1). Several authors have noted that it is impossible to quantify the cost of political events, as they will often settle before any damage is done (Liu, et al., 2009).

Moreover, we are able to quantify the impact of interest group opposition and support upon the U.S. Treasury Yield Spread, during a time that calls for fiscal stewardship, and a swift resolution. Costs of interest group competition, and outright conflict, are quite common in contemporary appropriations legislation.

Our final contribution to the field emanates from testing hypotheses using Auto-Regressive Distributed Lag model that examines co-integration. We quantified the amount of time required for the three-month U.S. Treasury bill market to return to equilibrium, through calculation of the error correction term of the ARDL model. The time required for convergence upon equilibrium for the Treasury Yield Spread for each crisis ranged from 2 to 5 days. We are able to compare results with Impulse Response Functions, while confirming the time required for our dependent variable to return to equilibrium.

Limitations include the political data collection of differing periodicity that created structural breaks. Future directions of research include use of mixed frequency data sampling methods to overcome challenges of varying frequencies. Moreover, it would be ideal to include the diversity count of each side in opposition or support, as well as the influence of the U.S. president and administration. While alternatives have been proposed, the current process for raising or suspending the Statutory Debt Limit remains in dire need of change. This must be dealt with sooner, rather than later.

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# The Increasing Impact of Spain on the Equity Markets of Brazil, Chile, and Mexico

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## Abstract

The article examines stock index price responses in Brazil, Chile, and Mexico to those in the US, Spain, and four European countries during three sub-periods surrounding the neoliberal reforms of the 1990s: 1988 to 1994, 1995 to 1998, and 1999 to 2004, using VAR modeling. It finds that equity markets became more interconnected as countries opened to international trade and capital flows, and that there was an increasing impact of Spain on Latin American equity markets. Stronger economic linkages (more trade and foreign direct investment) between Spain and these countries, especially in Brazil, seem to explain increased equity markets interconnectedness.

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# Investor Sentiment and Cash Conversion Cycle: The Mediating Role of Macroeconomic, Finance and Real Activity Uncertainties

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## Abstract

We explore the impact of investor sentiment on the cash conversion cycle (CCC) and examine how macroeconomic, financial, and real activity uncertainties mediate this relationship. Our study focuses on US publicly traded firms and reveals that negative investor sentiment is associated with a lower probability of positive CCC. We further find that this negative relationship is driven by pessimistic sentiment, indicating that investors' negative outlook heavily influences firms' CCC. Additionally, we show that macroeconomic uncertainty partially mediates the relationship between sentiment and CCC. Specifically, positive sentiment is associated with lower uncertainty, but in the presence of high macroeconomic uncertainty, managers adopt an aggressive approach to CCC. The cost stickiness theory unravels the distinct responses of firms with positive and negative CCCs to sentiment. Overall, our study provides valuable insights into the factors that influence firms' CCC and highlights the need for firms to take into account investor sentiment and appropriately address uncertainties in their management of CCC.

**Keywords:** Investor sentiment; Cash conversion cycle; Uncertainty

## I. Introduction

Over the years, the significance of the cash conversion cycle (CCC) has grown in the financial markets. Wang (2019) points out that the cash conversion cycle (CCC) captures a fundamental feature of a firm's operation and is a widely used metric and fundamental tool to gauge the effectiveness of management and the intrinsic need for external financing (Richards and Laughlin 1980). The cash conversion cycle (CCC) is defined as the time span between the outlay of cash for purchases and the receipt of cash inflow from sales (Sathyamoorthi and Wally-Dima 2008). The CCC is derived from days sales inventory (DSI), days sales outstanding (DSO), and days payable outstanding (DPO) (Gitman 1974). It represents the number of days that a firm's cash is tied up within the operation of the business (Wang 2019).

What are the factors that explain the cash conversion cycle of firms? Besides several factors examined in the previous literature, such as economic policy uncertainty, investor sentiment may be one of the critical factors that impact firms' CCC. A growing behavioral finance literature has focused on investor sentiment and its impact on many aspects of the financial markets. For example, studies have documented the strong influence of investor sentiment on stock prices and returns (Baker and Wurgler 2007; Chue, Gul, and Mian 2019; Chung, Hung, and Yeh 2012;

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Joseph, Babajide Wintoki, and Zhang 2011; Schmeling 2009; Wang, Su, and Duxbury 2021), earnings forecast (Hurwitz 2018; Wu et al. 2018), and nonprofit donations (Amin and Harris 2022). Accordingly, one may intuitively expect that the presence of optimistic or pessimistic sentiment can also significantly impact firms' decisions on CCC. However, extant literature does not appear to include such empirical investigation on this interesting hypothesis. Our paper seeks to fill this gap by examining whether investor sentiment explains CCC decisions.

Using the widely adopted Baker and Wurgler (2006) sentiment index, we analyze a panel of U.S. firms over the 1998 to 2021 period. We find that sentiment is negatively related to the odds ratio of firms having a positive CCC. We further provide evidence that this negative association is mainly driven by the negative (pessimistic) sentiment. All the above findings can be explained by the "sticky" cost theory presented by Anderson et al. (2003). We assume that there is a characteristic behavioral difference in operating expenses between positive and negative CCC firms, which helps us to explain the reason why positive CCC firms respond differently from negative CCC firms to investor sentiment. We show that this is indeed the case. Interestingly, our separate analyses of DSI, DSO, and DPO reveal that negative investor sentiment decreases the likelihood of a positive outcome for each of these metrics, while positive investor sentiment increases the likelihood of a positive value for these three components. Lastly, we investigate whether investor sentiment is a mediator for the link between uncertainty and CCC, as prior literature has shown economic uncertainty is closely related to firms' operations. We find in our mediation study that the impact of macro, financial, and real activity uncertainties mediate the impact of sentiment on CCC, implying that economic uncertainty is one channel through which investor sentiment influences CCC.

This study contributes to the extant streams of literature three-folded. First, our work contributes to the cash conversion cycle literature by investigating the factors that cause the firms' behavioral differences in the face of a positive or negative cash conversion cycle. Our study unveils the importance of investor irrationality on firms' strategic decisions in inventory, receivable, and payment management. Secondly, while the vast majority of the literature has focused on the definition of sentiment and the predictability of sentiment on stock performance (Palomino, Renneboog, and Zhang 2009; Baker and Wurgler 2007; Chung, Hung, and Yeh 2012; Gong et al. 2022), our results offer new insight into the role of investor sentiment play in firms' decision-making. Finally, our paper is related to the market implications of uncertainty.

The remainder of the paper proceeds as follows. Section 2 discusses the theoretical background. Section 3 outlines the data, sample formation, and empirical strategy. In Section 4, we present our empirical results. Lastly, Section 5 concludes the paper with some final remarks.

## **II. Theoretical background**

According to the cost stickiness theory (Anderson, Banker, and Janakiraman 2003), costs do not adjust immediately and proportionally to variations in activity levels, creating stickiness in cost behavior. This theory can provide a theoretical framework for examining the influence of investor sentiment on the cash conversion cycle (CCC). When investor sentiment is negative, firms may experience lower revenue and reduced business activity, which can increase the stickiness of their costs, including working capital. Consequently, their CCC may lengthen, and more cash may be locked in the working capital cycle. Conversely, when investor sentiment is positive, firms may benefit from higher revenue and increased business activity, which can decrease the cost stickiness and shorten their CCC. Thus, the cost stickiness theory can elucidate the relationship between investor sentiment and CCC and offer insights into how firms can adapt to changes in sentiment to optimize their working capital management.

## ***Research of cash conversion cycle***

Net operating cycle management is worthy of empirical investigation because it is closely tied to company performance. Yilmaza and Acar (2019) point out that trade credits to customers can directly affect sales revenue. They also show that determining optimal inventory level is equally important to cost management and delaying payment for accounts payables may provide a finance source for some companies.

As prior studies have raised the importance of the cash conversion cycle, our focus on CCC is two-folded. First, CCC is a useful and comprehensive measure of how efficiently firms manage their working capital (Gill, Biger, and Mathur 2010). Prior literature suggests that working capital management is a main task of day-to-day management accounting practice and is highly relevant to the success of the company (Malmi and Ikäheimo 2003; Jose, Lancaster, and Stevens 1996; Knauer and Wöhrmann 2013). To that end, there is a consensus that CCC is linked to operations, particularly firms' profitability (Gill, Biger, and Mathur 2010; Baños-Caballero, García-Teruel, and Martínez-Solano 2014; Boisjoly, Conine, and McDonald 2020; Enqvist, Graham, and Nikkinen 2014). Second, extant research examines the effect of CCC on firms' operations; little academic effort has been devoted to exploring factors that significantly impact CCC. Therefore, our paper serves as an excellent addition to the recent emphasis on CCC.

## ***Investor sentiment***

Investor sentiment is an elusive concept that appears to have occupied the minds of academics and market participants recently (Smales 2017). Barberis et al. (1998) define sentiment as the propensity to speculate. In an extensively referenced study, Baker and Wurgler (2006) point out that certain stocks are difficult or costly to arbitrage and may be prone to speculative shocks. They define investor sentiment as investors' beliefs about future cash flows and firm performances that are not supported by rational expectations. Ever since Long et al. (1990) presented that noise traders' beliefs create a risk that results in prices diverging significantly from fundamental values, researchers have attempted to empirically estimate the unobservable investor sentiment (Song and Yu 2022; Song et al. 2023; Baker and Wurgler 2007). Among the existing sentiment measures, the closed-end fund discount, analyzed by Zweig (1973), is perhaps the oldest. Baker & Wurgler (2006) combined it with five other measures and formed an investor sentiment index. This index has become the most widely used measure of investor sentiment in various applications, such as explaining the cross-section of stock returns (Zhou 2018). Indeed, recent studies utilize several measures for investor sentiment (Zhou 2018; Smales 2017; H. Chen, Chong, and Duan 2010) and have developed various models to understand how sentiment may impact the market, such as stock returns, trading behavior, and accounting related issues (Pan 2020; Ali and Gurun 2009; Fang et al. 2021; Fong and Toh 2014; Joseph, Babajide Wintoki, and Zhang 2011; Ryu, Kim, and Yang 2017). If investor sentiment is significant in explaining financial market behavior, then to what extent might this also be true for CCC?

## **III. Data and summary statistics**

### ***Data***

We obtain firm characteristics data (e.g., *Leverage*, *ROA*, etc.) from Compustat Industrial Annual files from the period 1988 to 2021. Our sample is comprised of US-listed firms, excluding financial firms (SIC 6000-6999) and utility firms (SIC 4900-4999). We also require firms to have complete observations to be included in our sample. The filtering process leaves us with a sample ranging between 130,147-149,945 firm-quarter observations. We obtain investor sentiment data from Baker and Wurgler (2006) and macroeconomic, finance, and real activity uncertainty data from Jurado, Ludvigson and Ng (2015). We report a detailed description of variables in Table A1.

## Summary statistics

Table 1 provides summary statistics of variables used in our main tests. The average cash conversion cycle is -0.588, indicating that firms, in general, aggressively manage their inventories, accounts receivables, and accounts payables. All other firm-level variables are in line with those typically reported in the literature.

**Table 1:** Summary statistics.

	N	Mean	SD	p25	Median	p75
CCC	149723	-.572	65.231	-6.144	1.448	10.441
DSO	147579	1.141	26.515	-2.601	1.162	6.726
DIO	130147	2.471	22.07	-1.981	.447	6.424
DPO	149945	3.169	36.754	-2.884	1.12	6.358
HCCC	149723	.565	.496	0	1	1
HSent	149723	.434	.496	0	0	1
Macro-h1	149723	.634	.097	.574	.612	.656
Macro-h3	149723	.766	.091	.704	.744	.791
Macro-h12	149723	.898	.048	.863	.888	.91
Fin-h1	149723	.900	.168	.766	.877	1.055
Fin-h3	149723	.941	.133	.832	.927	1.063
Fin-h12	149723	.984	.048	.945	.977	1.031
Real-h1	149723	.615	.1	.568	.592	.609
Real-h3	149723	.725	.084	.685	.709	.726
Real-h12	149723	.863	.038	.844	.855	.865
Lev	149723	.283	.404	.032	.199	.378
Size	149723	5.221	2.459	3.393	5.107	6.95
HHI	149723	.245	.19	.112	.189	.311
ROA	149723	-.171	.72	-.111	.021	.07
Sales	149723	.103	.357	-.039	.072	.213
Growth						
Asset	149723	.100	.374	-.058	.05	.191
Growth						
Tangibility	149723	.266	.234	.080	.192	.391
CAPX	149723	.056	.065	.016	.035	.07
log(SGA(t)/S	135398	.752	.246	.673	.728	.797
GA(t-1))						
log(REV(t)/	148281	.781	.358	.671	.732	.812
REV(t-1))						
RD	149723	.322	.467	0	0	1

Note: This table reports the summary statistics of key variables for the main sample from 1988 to 2021. A detailed description of all variables is presented in Table A1.

Possible multicollinearity is present when there is a linear relationship between independent variables. To ensure that our model does not suffer from multicollinearity problems, we apply the variance inflation factors (VIF) test (Hair et al. 1998). In unreported analysis, the mean value of VIF is 2.29. This is significantly less than the threshold of 10, which is generally accepted in the extant literature (van de Vrande 2013).

## IV. Empirical specifications and results

We begin our analysis by employing a Logistic regression model to estimate the impact of investor sentiment on the likelihood of having a positive CCC. Specifically, we analyze:

$$\ln\left(\frac{\Pr(HCCC_i = 1)}{1 - \Pr(HCCC_i = 1)}\right) = \alpha + \beta \text{Sentiment} + \lambda_1 \text{Leverage} + \lambda_2 \text{Log(AT)} + \lambda_3 \text{HHI} + \lambda_4 \text{ROA} + \lambda_5 \text{Sales Growth} + \lambda_6 \text{Asset Growth} + \lambda_7 \text{Tangibility} + \lambda_8 \text{CAPX} + \delta_{it} + \varepsilon_{it} \quad (1)$$

where *HCCC* is an indicator of having a positive *CCC*. The *Sentiment* is our variable of interest, as discussed above. We use *Log(AT)*, the logarithm of total assets, to control for firm size. The *HHI* controls market concentration. We include *Leverage* (defined as the sum of the long-term debt and the debt in current liabilities divided by total assets), *Tangibility* (firm's property, plant, and equipment (PPENT) scaled by total assets), and *CAPX* (capital expenditure) to account for the firm's credit constraints. The *ROA* (net income scaled by total assets) is to control for the firm's past performance. For firm growth opportunities, we include *Sales Growth* and *Asset Growth*. All related variables are winsorized at 1 and 99 percentiles to mitigate the effect of the outliers. We include firm-fixed effects to isolate time-invariant characteristics within firms and year-fixed effects to account for secular trends throughout the years.

It is worth noting that in the logistic regressions with fixed effects, groups without variation in the dependent variable do not make them to the likelihood function. This means that if the dependent variable is zero, the coefficient cannot be estimated due to the lack of variation. In other words, when the group indicator is perfectly correlated with the dependent variable, the group is excluded from the sample. In our study, if a firm has not had a positive cash conversion cycle and, therefore, the dependent variable is zero throughout the sample period, we are unable to estimate the coefficient because of the lack of variation.

**Table 2:** Investor attention and CCC.

VARIABLES	(1)	(2)	(3)	(4)
	CCC(1/0) Full	CCC(1/0) Full	CCC(1/0) Sentiment<0	CCC(1/0) Sentiment>0
Sentiment	0.653*** (0.023)	0.741*** (0.029)	0.007*** (0.003)	1.036 (0.085)
Lev		1.110*** (0.026)	1.071** (0.034)	1.199*** (0.050)
Log(AT)		1.010 (0.010)	1.016 (0.014)	0.982 (0.017)
HHI		0.690*** (0.048)	0.712*** (0.069)	0.774** (0.096)
ROA		1.225*** (0.018)	1.199*** (0.025)	1.268*** (0.034)
Sales Growth		2.525*** (0.052)	2.350*** (0.068)	2.875*** (0.098)
Asset Growth		2.121*** (0.044)	2.160*** (0.066)	2.147*** (0.070)
Tangibility		0.582*** (0.038)	0.596*** (0.056)	0.568*** (0.064)
CAPX		0.726** (0.097)	0.780 (0.155)	0.592** (0.122)
Observations	149,723	149,723	80,355	60,183
Number of Firms	12,953	12,953	9,700	8,674

Note: This table reports the baseline results of the impact of sentiment on CCC. Columns 1 and 2 represent the full sample. Columns 3 and 4 describe regression estimations when the sample is divided into negative and positive sentiments, respectively. Robust standard errors are presented in parentheses. The symbols \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 2 reports our baseline results. We can see that every unit increase in *Sentiment* is associated with a 34.7% decrease in the odds of having a positive CCC. The effect is stronger when firm characteristics are controlled for. When we analyze the impact of positive and negative sentiment separately, we find that the regression estimation of the negative sentiment group (Columns (3)) is positive and significant, while that of the positive sentiment is statistically insignificant (Column (4)). This suggests that the reduction in CCC is mainly driven by negative sentiment. Our findings imply that when investor speculates negative sentiment, firms tend to react more aggressively toward their operating cycle by reducing the cash conversion cycle.

To further explore possible explanations for firms' behavioral differences reported in Table 2, we follow several researchers (Gunny 2010; Anderson, Banker, and Janakiraman 2003; C. X. Chen, Lu, and Sougiannis 2012) and assess whether the "cost stickiness" theory presented by Anderson et al. (2003) applies to our case. Anderson et al. (2003) find that selling, general, and administrative (SG&A) costs decrease less as volume drops than when volume rises. This "sticky" asymmetric cost behavior reflects the fact that as sales increase, the rate of the cost increase is higher than the rate of cost decrease as sales decrease by an equivalent amount. Given that positive and negative CCC firms differ in their operating strategies, we may expect the behavior of their operating expenses to also differ. Particularly, we should expect differences in how their cost responds to changes in sales in the presence of positive or negative CCC. This would offer more insights into how positive and negative CCC firms differentially responds to the effect of investor sentiment. Accordingly, we estimate the following fixed effect regression model:

$$\log(SGA_{it}/SGA_{it-1}) = \alpha + \lambda_1 \log(Revenue_{it}/Revenue_{it-1}) + \lambda_2 RD * \log(Revenue_{it}/Revenue_{it-1}) + \lambda_2 RD * \log(Revenue_{it}/Revenue_{it-1}) * CCD_{it} + FE_{it} + \varepsilon_{it} \quad (2)$$

where *RD* is an indicator for if there was a decrease in revenue, *CCD* equals 1 if there is a decrease in CCC and 0 otherwise, and *FE* is the fixed effect for firm *i* at time *t*. We present our results in Table 3. Indeed, there are characteristic differences between positive and negative CCC shown in Table 3 Panel A. The t-tests of all dimensions are statistically significant at a 1% level. Table 3 Panel B reports regression estimations. As is seen from this Panel B Column 1, SG&A costs increase by 0.407% per 1% increase in sales revenues. The combined coefficient of  $\lambda_1$  and  $\lambda_2$  is 0.254, indicating that SG&A costs decreased by only 0.254% per 1% decrease in sales revenue.<sup>2</sup> The results in Column 2 suggest that negative CCC firms incur less cost deduction. Altogether, such behavioral differences confirm our conjecture that firms' operating strategy explains well in the case of the link between investor sentiment and CCC.

**Table 3:** Explanations for firms' behavioral differences.  
Panel A: T-Test of the mean difference.

	Positive CCC	Negative CCC	Diff	SE	t-statistics
CCC	23.115	-31.310	-54.425	0.326	-166.862***
DSO	8.213	-7.626	-15.840	0.136	-116.419***
DIO	8.208	-5.661	-13.869	0.102	-136.370***
DPO	-2.438	10.973	13.411	0.198	67.655***
Lev	0.261	0.312	0.051	0.002	23.311***
Size	5.325	5.087	-0.237	0.013	-18.373***
HHI	0.248	0.241	-0.006	0.001	-6.514***
ROA	-0.098	-0.267	-0.169	0.004	-43.268***
Sales Growth	0.169	0.017	-0.152	0.002	-83.026***
Asset Growth	0.169	0.010	-0.159	0.002	-83.581***
Tangibility	0.256	0.280	0.024	0.001	19.619***
CAPX	0.056	0.057	0.001	0.000	2.601**
log(SGA(t)/SGA(t-1))	0.773	0.724	-0.049	0.001	-36.566***
log(REV(t)/REV(t-1))	0.821	0.731	-0.090	0.002	-49.022***
RD	0.212	0.464	0.252	0.002	104.561***

<sup>2</sup>  $\lambda_1 + \lambda_2 = 0.407 + (-0.153) = 0.254$

**Table 3:** Explanations for firms' behavioral differences (*continued*)  
Panel B: Response of SG&A to sales change.

	(1)	(2)	(3)	(4)
	log(SGA(t)/ SGA(t-1))	log(SGA(t)/ SGA(t-1))	log(SGA(t)/ SGA(t-1))	log(SGA(t)/ SGA(t-1))
	Full	Full	Sent<0	Sent>0
log(REV(t)/REV(t-1))	0.407** (0.002)	0.407** (0.002)	0.349** (0.004)	0.459** (0.004)
RD*log(REV(t)/REV(t-1))	-0.153** (0.005)	-0.163** (0.006)	-0.130** (0.008)	-0.158** (0.011)
CCCD*RD*log(REV(t)/REV(t-1))		0.015** (0.006)	0.036** (0.008)	-0.021** (0.010)
Observations	138,908	138,908	78,712	60,196
R-squared	0.290	0.290	0.238	0.336
Number of Firms	14,836	14,836	12,753	12,188

Note: This table reports Explanations for firms' behavioral differences. Panel A shows characteristic differences between positive and negative CCC. Panel B describes regression estimations of the how SG&A responds to changes in sales. Robust standard errors are presented in parentheses. The symbols \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

A follow-up question to ask: is the association between investor sentiment and CCC driven particularly by one component of CCC? Next, we estimate Eq. (1) using days sales inventory (DSI), days sales outstanding (DSO), and days payable outstanding (DPO) as our dependent variables, respectively. We report our results in Table 4. As is seen from Columns (1) through (9), we find that negative investor sentiment is associated with a decrease in the odds of having a positive value in each component of CCC. This implies that DSI, DSO, and DPO all together contribute to a combined effect of sentiment on CCC.

**Table 4:** Estimations of three CCC components.

VARIABLES	(1) (2) (3)			(4) (5) (6)			(7) (8) (9)		
	Days Receivables	Outstanding		Days Inventories	Outstanding		Days Payables	Outstanding	
	Full	Sent<0	Sent>0	Full	Sent<0	Sent>0	Full	Sent<0	Sent>0
Sentiment	0.997 (0.043)	0.008** (0.004)	1.569** (0.144)	0.779** (0.035)	0.001** (0.000)	1.202* (0.113)	1.348** (0.055)	0.029** (0.013)	2.489** (0.222)
Lev	0.983 (0.025)	0.961 (0.034)	1.004 (0.048)	0.955 (0.028)	0.975 (0.039)	0.935 (0.049)	0.892** (0.021)	0.946* (0.031)	0.797** (0.034)
Size	1.028** (0.011)	1.046** (0.016)	0.986 (0.020)	1.210** (0.014)	1.214** (0.020)	1.199** (0.025)	1.094** (0.011)	1.114** (0.016)	1.080** (0.019)
HHI	0.962 (0.072)	1.037 (0.107)	0.870 (0.119)	0.841** (0.065)	1.005 (0.107)	0.699** (0.098)	0.936 (0.066)	1.094 (0.107)	0.781* (0.099)
ROA	0.954** (0.016)	0.943** (0.022)	0.972 (0.030)	1.039* (0.020)	0.996 (0.027)	1.111** (0.039)	0.668** (0.010)	0.669** (0.014)	0.632** (0.017)
Sales Growth	8.430** (0.235)	7.430** (0.284)	10.448** (0.493)	3.628** (0.096)	3.449** (0.129)	3.904** (0.170)	2.988** (0.066)	2.787** (0.085)	3.375** (0.124)
Asset Growth	6.943** (0.200)	7.128** (0.296)	7.398** (0.346)	4.170** (0.114)	4.505** (0.186)	4.402** (0.193)	4.272** (0.102)	4.441** (0.156)	4.397** (0.167)
Tangibility	0.682** (0.050)	0.701** (0.073)	0.614** (0.080)	0.666** (0.053)	0.644** (0.073)	0.614** (0.084)	1.025 (0.069)	0.996 (0.097)	0.955 (0.111)
CAPX	1.037 (0.159)	1.062 (0.238)	1.072 (0.260)	27.470** (4.624)	29.045** (7.400)	37.566** (9.971)	5.857** (0.826)	5.902** (1.231)	6.313** (1.384)
Observations	147,579	79,038	58,712	130,147	68,251	51,969	149,945	80,947	60,569
Number of Firms	12,509	9,444	8,348	10,386	7,817	7,090	12,992	9,862	8,757

Note: This table reports regression estimations of Eq. (1) using days sales inventory (DSI), days sales outstanding (DSO), and days payable outstanding (DPO) as our dependent variables. Robust standard errors are presented in parentheses. The symbols \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

Just as Birru and Young (2022) point out, the presence of uncertainty opens the door for the effects of sentiment to take hold. We next investigate whether uncertainty mediates the link between sentiment and CCC. In other words, we aim to find out if uncertainty is a channel through which sentiment influences cash conversion cycles. Essentially, the underlying assumption is that if high sentiment is inversely related to uncertainty and lower uncertainty, in turn, reduces CCC, then the overall indirect effect of sentiment on CCC is positive.

We present our mediation model in Figure 1 and report the Sobel's tests for mediation analysis in Table 5. This test quantifies the indirect effect of *HSent* on *HCCC* through a third variable (mediator), *Uncertainty*. The analysis is performed individually for varying levels of uncertainty, including macroeconomic, financial, and real activity uncertainty. As can be seen from Table 5, we find statistically significant evidence of a partial negative mediation of all three measures of uncertainty. These results imply that the direct effect of *HSent* on *HCCC* is still statistically existent when all levels of uncertainty are used as the mediating variables. Furthermore, we observe that firms with positive CCC tend to reduce their CCC days in the presence of high uncertainties. These findings support our proposition of potential mediating impacts and demonstrate that uncertainties play a mediating role in the association between investor sentiment and CCC. The mediation analysis also includes RIT (Indirect effect /Total effect) and RID (Indirect effect /Direct effect). For instance, in Panel A, column (1), RIT is 0.418 while RID is 0.718. This implies that approximately 41.8% of the effect of *HSent* on *HCCC* is mediated by Macro-h1. The RID value indicates that the mediated effect is roughly 0.718 times the size of the direct effect of *HSent* on *HCCC*. The other effects are interpreted in a similar manner.

Figure 1: Mediation model.

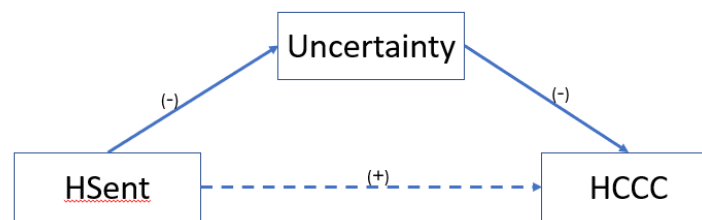


Table 5: Mediation analysis using uncertainties.

Path	Coefficient	Path	Coefficient	Path	Coefficient
Panel A: Macro Uncertainty.					
STEP 1 - Macro-h1:HSent (X → M)	$\beta = -0.035$ $P = 0.000$	STEP 1 - Macro-h3:HSent (X → M)	$\beta = -0.033$ $P = 0.000$	STEP 1 - Macro-h12:HSent (X → M)	$\beta = -0.015$ $P = 0.000$
STEP 2 - HCCC:Macro-h1 (M → Y)	$\beta = -0.195$ $P = 0.000$	STEP 2 - HCCC:Macro-h3 (M → Y)	$\beta = -0.209$ $P = 0.000$	STEP 2 - HCCC:Macro-h12 (M → Y)	$\beta = -0.372$ $P = 0.000$
STEP 3 - HCCC:HSent (X → Y)	$\beta = 0.009$ $P = 0.000$	STEP 3 - HCCC:HSent (X → Y)	$\beta = 0.009$ $P = 0.000$	STEP 3 - HCCC:HSent (X → Y)	$\beta = 0.011$ $P = 0.000$
RIT	0.418 = (0.007/0.016)	RIT	0.427 = (0.007/0.016)	RIT	0.349 = (0.006/0.016)
RID	0.718 = (0.007/0.009)	RID	0.745 = (0.007/0.009)	RID	0.536 = (0.006/0.011)
Mediation Covariates	Partial Yes	Mediation Covariates	Partial Yes	Mediation Covariates	Partial Yes



**Table 5: Mediation analysis using uncertainties. (continued)****Panel B: Finance Uncertainty.**

STEP 1 - Fin-h1:HSent ( $X \rightarrow M$ )	$\beta = -0.033$ $P = 0.000$	STEP 1 - Fin- h3:HSent ( $X \rightarrow M$ )	$\beta = -0.023$ $P = 0.000$	STEP 1 - Fin- h12:HSent ( $X \rightarrow M$ )	$\beta = -0.004$ $P = 0.000$
STEP 2 - HCCC:Fin-h1 ( $M \rightarrow Y$ )	$\beta = -0.139$ $P = 0.000$	STEP 2 - HCCC:Fin-h3 ( $M \rightarrow Y$ )	$\beta = -0.175$ $P = 0.000$	STEP 2 - HCCC:Fin- h12 ( $M \rightarrow Y$ )	$\beta = -0.482$ $P = 0.000$
STEP 3 - HCCC:HSent ( $X \rightarrow Y$ )	$\beta = 0.012$ $P = 0.000$	STEP 3 - HCCC:HSent ( $X \rightarrow Y$ )	$\beta = 0.012$ $P = 0.000$	STEP 3 - HCCC:HSent ( $X \rightarrow Y$ )	$\beta = 0.015$ $P = 0.000$
RIT	0.278 = (0.005/0.016)	RIT	0.247 = (0.004/0.016)	RIT	0.104 = (0.002/0.016)
RID	0.385 = (0.005/0.012)	RID	0.328 = (0.004/0.012)	RID	0.116 = (0.002/0.015)
Mediation Covariates	Partial Yes	Mediation Covariates	Partial Yes	Mediation Covariates	Partial Yes

**Panel C: Real Activity Uncertainty.**

STEP 1 - Real-h1:HSent ( $X \rightarrow M$ )	$\beta = -0.032$ $P = 0.000$	STEP 1 - Real- h3:HSent ( $X \rightarrow M$ )	$\beta = -0.028$ $P = 0.000$	STEP 1 - Real- h12:HSent ( $X \rightarrow M$ )	$\beta = -0.015$ $P = 0.000$
STEP 2 - HCCC:Real-h1 ( $M \rightarrow Y$ )	$\beta = -0.137$ $P = 0.000$	STEP 2 - HCCC:Real- h3 ( $M \rightarrow Y$ )	$\beta = -0.165$ $P = 0.000$	STEP 2 - HCCC:Real- h12 ( $M \rightarrow Y$ )	$\beta = -0.361$ $P = 0.000$
STEP 3 - HCCC:HSent ( $X \rightarrow Y$ )	$\beta = 0.012$ $P = 0.000$	STEP 3 - HCCC:HSent ( $X \rightarrow Y$ )	$\beta = 0.012$ $P = 0.000$	STEP 3 - HCCC:HSent ( $X \rightarrow Y$ )	$\beta = 0.011$ $P = 0.000$
RIT	0.270 = (0.004/0.016)	RIT	0.288 = (0.005/0.016)	RIT	0.327 = (0.005/0.016)
RID	0.370 = (0.004/0.012)	RID	0.404 = (0.005/0.012)	RID	0.485 = (0.005/0.011)
Mediation Covariates	Partial Yes	Mediation Covariates	Partial Yes	Mediation Covariates	Partial Yes

Note: This table reports the analysis of the indirect effect of *HSent* on *HCCC* through a mediator, *Uncertainty*. The analysis is conducted based on different levels of macro, financial and real activities uncertainty. The *RIT* is defined as Indirect effect/Total effect and *RID* is Indirect effect/Direct effect.

## V. Conclusions

Although the role of investor sentiment on firms' cash conversion cycle management has received increasing attention in the literature, the potential mediating effect of uncertainties remains largely unexplored. To fill this gap, we investigate the impact of investor optimism or pessimism on the cash conversion cycle while considering the role of uncertainties. Specifically, we examine the distinct behavioral differences in operating expenses that differentiate firms into positive and negative CCC categories using a sample of publicly traded US firms. Drawing on the cost stickiness theory, we propose an explanation for the observed differences in cash conversion management strategy as a response to investor attitudes.

We demonstrate that a higher level of investor sentiment, particularly on the pessimistic side, decreases the probability of having an extended CCC. Further examination using mediation analysis indicates that macroeconomic uncertainty partially accounts for the influence of investor sentiment on CCC. Overall, our study sheds light on the impact of investor behavior on a company's cash conversion strategies, emphasizing the importance of companies responding appropriately to investor sentiment and uncertainties in managing CCC.

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## Appendix

Table A1.

Variable names	Definition and source
Asset Growth	Year-on-year changes in total assets. Source: Compustat
CAPX	The ratio of capital expenditures to total assets. Source: Compustat
CCC	Cash conversion cycle, defined as $(DSO+DIO-DPO)*365$ . Source: Compustat
DIO	Days inventory outstanding, defined as $Average\ Inventories/COGS$ , where Average Inventories is $(Inventories\ at\ t - Inventories\ at\ t-1)/2$ . Source: Compustat
DPO	Days payable outstanding, defined as $Average\ Accounts\ Payables/COGS$ , where Average Accounts Payables is $(Accounts\ Payables\ at\ t - Accounts\ Payables\ at\ t-1)/2$ . Source: Compustat
DSO	Days sales outstanding, defined as $Average\ Accounts\ Receivables/Sales$ , where Average Accounts Receivables is $(Accounts\ Receivables\ at\ t - Accounts\ Receivables\ at\ t-1)/2$ . Source: Compustat
Fin-h1, Fin-h3, and Fin-h12	One dimension of uncertainty measures created by Jurado, Ludvigson, and Ng (2015), the finance uncertainty. The h1, h2, and h12 represent one-, three-, and 12-month horizons, respectively. Source: <a href="https://www.sydneyludvigson.com/macro-and-financial-uncertainty-indexes">https://www.sydneyludvigson.com/macro-and-financial-uncertainty-indexes</a>
HCCC	An indicator for high CCC, equals 1 if $CCC > 0$ and 0 otherwise. Source: Compustat
HHI	Herfindahl-Hirschman index, a measure of market concentration based on sales. Source: Compustat
HSent	An indicator for high sentiment, equals 1 if $sentiment > 0$ and 0 otherwise. Source: <a href="https://pages.stern.nyu.edu/~jwurgler/">https://pages.stern.nyu.edu/~jwurgler/</a>
Lev	Financial leverage, measured as the ratio of debt in current liabilities plus long-term debt to total assets. Source: Compustat
$\log(COGS(t)/COGS(t-1))$	The natural logarithm of the ratio of cost of goods sold and its lag to total assets. Source: Compustat
$\log(Revenue(t)/Revenue(t-1))$	The natural logarithm of the ratio of revenue and its lag to total assets. Source: Compustat
$\log(SG\&A(t)/SG\&A(t-1))$	The natural logarithm of the ratio of selling, general and administrative expense and its lag to total assets. Source: Compustat
Macro-h1, Macro-h3, and Macro-h12	One dimension of uncertainty measures created by Jurado, Ludvigson, and Ng (2015), the macroeconomic uncertainty. The h1, h2, and h12 represent one-, three-, and 12-month horizons, respectively. Source: <a href="https://www.sydneyludvigson.com/macro-and-financial-uncertainty-indexes">https://www.sydneyludvigson.com/macro-and-financial-uncertainty-indexes</a>
Real-h1, Real-h3, and Real-h12	One dimension of uncertainty measures created by Jurado, Ludvigson, and Ng (2015), the real activity uncertainty. The h1, h2, and h12 represent one-, three-, and 12-month horizons, respectively. Source: <a href="https://www.sydneyludvigson.com/macro-and-financial-uncertainty-indexes">https://www.sydneyludvigson.com/macro-and-financial-uncertainty-indexes</a>
ROA	The ratio of net income to total assets. Source: Compustat
Sales Growth	Year-on-year changes in sales. Source: Compustat
Sentiment	Investor sentiment created by Baker and Wurgler (2006) based on the first principal component of FIVE sentiment proxies. Source: <a href="https://pages.stern.nyu.edu/~jwurgler/">https://pages.stern.nyu.edu/~jwurgler/</a>
Size	The natural logarithm of total assets. Source: Compustat
Tangibility	The ratio of property, plant and equipment to total assets. Source: Compustat

# Analyzing the Effect of Eliminating Tariffs Imposed During the US-China Trade War on US Inflation

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## Abstract

### Introduction

Since July 2018, the Trump administration increasingly imposed tariffs on a large number of imports from China, which have been retained by the Biden administration to date. As of late 2019, the US had implemented tariffs on approximately \$350 billion worth of imports from China. In response, China had retaliated by imposing tariffs on \$100 billion US exports. A fairly large number of studies have found that the U.S. tariffs imposed in response to the trade war have been passed on exclusively to U.S. importers and consumers [1]. Studies have also shown that the tariff burden has had a negative impact on domestic consumption, investment, and employment. Due to the high inflation and increasing prices, the Biden administration has announced that it is considering lifting its existing tariffs on Chinese imports as a measure to alleviate inflationary pressures [2].

### Objective

The purpose of our paper is to determine how the reduction in tariffs on US imports from China, in specific sectors between the two countries, will affect the price and welfare of these two countries. The study will specifically examine the tariff effects on both the price of goods and on the factors most relevant for the households, which could impact the household welfare.

### Methodology

The study aims to use the Partial-equilibrium trade policy simulation model (PE Model) using the WTO research methodology to explore the economic impact (mainly price and welfare) in selected industries. The tool we specifically use is the Global Simulation Analysis of Industry-Level Trade Policy (GSIM). We use the Microsoft Excel Solver to obtain the new prices and welfare effects.

### Data Source

The study will use the WITS (World Integrated Trade Solution) database. The WITS software provides access to international merchandise trade, tariff and non-tariff measures (NTM) data. The research will use UN-COMTRADE as data source when using the WITS.

**Key Words:** USA China trade, tariffs, inflation, international trade, GSIM, PE Model

[1] Amiti, M., S. J. Redding, and D. E. Weinstein. 2019. "The impact of the 2018 tariffs on prices and welfare." *Journal of Economic Perspectives*, 33: 187–210.

[2] <https://taxfoundation.org/us-china-tariffs-trade-war/>

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# A Logistechs Living Lab at the US-MX Border

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## Abstract

Logistechs is transforming the logistics industry by improving efficiency, reducing costs, and increasing productivity. Covarrubias (2021)<sup>1</sup> defines Logistechs as the exponential technologies that support the transport of goods, improve their handling, and expedite their customs clearances. This work emphasizes the need for land ports of entry to transition from their current state of administrative stopping points to collaborative, binational innovative spaces that will make processes more fluid for cross-border freight flows. The Texas A&M International University (TAMIU) Logistechs Living Lab is presented as a solution to address these challenges (Covarrubias & Cedillo-Campos, 2023).<sup>2</sup>

The TAMIU Logistechs Living Lab is a research facility focused on improving the efficiency and competitiveness of cross-border trade and transportation. This living lab offers providers, utilizers, users, enablers, and researchers a platform to collaborate and develop sustainable solutions to real-world logistics problems. The Living Lab provides a testing environment for logistics technologies and fosters collaboration among industry, academia, and government to improve the efficiency and security of supply chains. With the increasing demand for smart borders, automation by sectors, and the need to prepare for disruption, Logistechs will continue to be a critical part of the logistics industry, and the TAMIU Logistechs Living Lab will continue to drive this innovation.

**Keywords:** Logistechs, Living Lab, Exponential Technologies, Logistics, International Trade, Innovation, US-MX Border

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<sup>2</sup> Covarrubias, D., and Cedillo-Campos, M. (2023). "A Living Lab at the Southern Border." *Wilson Quarterly* (Winter). Retrieved from <https://www.wilsonquarterly.com/quarterly/strategic-competition/a-living-lab-at-the-southern-border>

# Salud mental y bienestar en una institución de educación superior en México posterior a la pandemia de COVID-19

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## Resumen

El impacto de la pandemia de COVID-19 en la salud mental de niños y jóvenes es incalculable y podría durar muchos años, la cotidianidad se ha visto alterada y la pandemia ha introducido cambios de vida y estrés extraordinarios. El objetivo de la presente investigación es analizar el impacto en la salud mental y el bienestar de estudiantes de la Universidad UPAEP en México a partir de la escala GAD-7. Los resultados muestran que un alto número de estudiantes presenta síntomas de ansiedad. El análisis reporta que, un 85.82% manifiesta sentirse nerviosa(o)s o ansiosa(o)s al extremo, un 79.53% manifiesta no ser capaz de parar o controlar sus emociones, un 88.97% manifiesta preocuparse demasiado sobre diferentes cosas, un 79.53% manifiesta tener dificultad para relajarse, un 76.38% manifiesta estar tan intranquilo que les resulta difícil estar quietos, un 77.17% manifiesta sentirse fácilmente disgustada(o) o irritable, un 62.99% manifiesta sentirse asustada(o) como si algo horrible pudiera pasar.

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# Un acercamiento práctico al potencial de uso de Chat Bing en la educación

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## Resumen

Esta ponencia aborda el potencial de uso de Chat Bing como herramienta tecnológica educativa en estudiantes de la Facultad de Comercio, Administración y Ciencias Sociales Nuevo Laredo de la Universidad Autónoma de Tamaulipas en el periodo 2023-1. Se destaca la importancia de investigar esta tecnología por el impacto significativo que puede tener en los procesos de enseñanza-aprendizaje, ya que ha demostrado ser útil en el procesamiento del lenguaje natural para comprender el contexto y proporcionar respuestas precisas a las preguntas de los alumnos a manera de conversación automatizada. Se presenta una revisión de la literatura existente y se caracteriza la inteligencia artificial y los chatbot en la educación. Asimismo, se presentan resultados preliminares de un estudio piloto realizado con el objetivo de cuantificar el potencial de uso de Chat Bing en la educación. La metodología empleada en el estudio es de corte cuantitativo descriptivo. Se utiliza una encuesta que incluye preguntas cerradas en una escala de Likert de cinco puntos. Se reflexiona sobre los resultados obtenidos y se discuten los desafíos y limitaciones que pueden surgir al utilizar Chat Bing en la educación. Se resumen las conclusiones del estudio; asimismo, se ofrecen recomendaciones para futuras investigaciones y para la implementación efectiva de Chat Bing como herramienta de apoyo al aprendizaje en la educación media superior.

**Palabras clave:** Chat Bing, Inteligencia Artificial, Educación

## A Practical Approach to the Potential Use of Chat Bing in Education

### Abstract

This presentation addresses the potential use of Chat Bing as an educational technological tool for students of the Faculty of Commerce, Administration and Social Sciences Nuevo Laredo at the Universidad Autónoma de Tamaulipas during the 2023-1 period. It highlights the importance of researching this technology due to the significant impact it can have on the teaching-learning processes, as it has demonstrated usefulness in natural language processing to understand context and provide precise answers to student questions through automated conversation. A review of the existing literature is presented, characterizing artificial intelligence and chatbots in education. Additionally, preliminary results of a pilot study are presented, aimed at quantifying

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the potential use of Chat Bing in education. The methodology used in the study is descriptive quantitative, using a survey that includes closed questions on a five-point Likert scale. The obtained results are reflected upon, and the challenges and limitations that may arise when using Chat Bing in education are discussed. The study's conclusions are summarized, and recommendations are offered for future research and effective implementation of Chat Bing as a supportive learning tool in higher secondary education.

# Descripción del método Adizes – Gestión de capital humano: nuevos escenarios para el reclutamiento y selección de personal

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## Resumen

El objetivo de esta investigación es el de descubrir nuevos escenarios para llevar a cabo los procesos de *reclutamiento y selección de personal*, partiendo de la base de que estos dos procesos son bastante relevantes para el éxito de una empresa, ya que aquí es donde se decide quienes son los mejores candidatos para ingresar a la organización, y ayudar a esta a lograr un mejor crecimiento, así como un cambio y desarrollo organizacional sustentable.

Nos enfocaremos a explicar un nuevo método, que sirve como herramienta primordial para desarrollar estos procesos, llamado: “**Método ADIZES**”, desarrollado por el Dr. Ishak Adizes (Instituto Adizes), e implementado por la Universidad de California (UCLA, 2000).

La técnica que nos enseña este método está basada en el descubrimiento de las habilidades, características, actitudes, aptitudes, conocimientos y destrezas que poseen los candidatos a ocupar un puesto en una organización, y que le permitan al Gerente de *reclutamiento y selección de personal* de las empresas, a tomar mejores decisiones para determinar quiénes son los mejores candidatos para ocupar un puesto dentro de la organización.

En una investigación realizada por los autores (2020), con un grupo de empleadores de la ciudad de Monterrey y su área metropolitana para conocer las herramientas que utilizan en los procesos de *reclutamiento y selección de personal*, publicada en la revista indexada Vinculategica EFAN, ISSN, 2448-5101, del año 3. Número. 4, y de acuerdo con los resultados obtenidos, llegamos a la conclusión de que en su mayoría utilizan solo técnicas ya conocidas, tales como: solicitud de empleo, currículum, entrevistas y examen médico.

Con esta investigación pretendemos aportar una nueva técnica para llevar a cabo, con mayor grado de éxito, los procesos de reclutamiento y selección de personal.

**Palabras clave:** Productor, Administrador, Emprendedor, Integrador.

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# Human Capital Management – New Scenarios for the Recruitment and Selection of Personnel: Description of The Adizes Method

## Abstract

The objective of this research is to discover new scenarios to carry out the processes of recruitment and selection of personnel, starting from the basis that these two processes are quite relevant to the success of a company, since this is where it is decided who the best candidates to join the organization are, and help it achieve better growth, as well as sustainable organizational change and development.

We will focus on explaining a new method, which serves as a primordial tool to develop these processes, called the "ADIZES Method," developed by Ishak Adizes, Ph.D., (Adizes Institute) and the University of California (UCLA, 2000). The technique taught by this method is based on the skills, characteristics, attitudes, aptitudes, and knowledge that candidates have to occupy a position in an organization.

In an investigation carried out (2020) between the employers of the city of Monterrey and its metropolitan area, to know the tools that they use in the processes of recruitment and selection of personnel, (<http://www.facpya.uanl.mx/vinculategica/edant.aspx>), according to the results obtained, we conclude that most use only known techniques, such as: job application, curriculum and interviews.

With this research we intend to provide a new technique to carry out, with a greater degree of success, the processes of recruitment and selection of personnel.

**Keywords:** Manufacturer, Manager, Entrepreneur, Integrator.

## I. Introducción

Esta investigación se realiza con el objetivo de hacer una aportación que sea de utilidad para los empleadores, al llevar a cabo los procesos de *reclutamiento y selección de personal*, ofreciendo una nueva técnica que les proporcione mejores resultados al desarrollar estos procesos.

Para ello nos basamos en una nueva técnica llamada: "*Método ADIZES*", desarrollada por el Dr. Ishak Adizes (Instituto Adizes), e implementada por un grupo de maestros pertenecientes a la Universidad de California, con los que tuvimos la oportunidad de participar en un diplomado sobre Desarrollo Organizacional.

El *Método ADIZES* se basa, principalmente, en descubrir las características que prevalecen en los candidatos (perfil) con la finalidad de empatar con las características que se requiere que tenga la persona que vaya a ocupar el puesto vacante, ya que cada puesto que forma la estructura organizacional requiere de una persona con características previamente definidas en la especificación del puesto, es decir, no es suficiente con determinar la carrera profesional que tengan los candidatos (afín a las necesidades del puesto vacante), ni su experiencia previa en un puesto similar, sino que es necesario descubrir las características particulares que tengan los candidatos, con la finalidad de elegir al candidato que mejor cubra el perfil diseñado para el puesto.

Las características que prevalecen en las personas, en su diaria actuación, son las de ser: Productor, Administrador, Emprendedor o Integrador. Aún y cuando pudieran existir algunas combinaciones, normalmente solo una de ellas prevalece sobre las demás, por lo que habría que descubrir y analizar cuál es la característica más prevaleciente en cada uno de los candidatos, con la finalidad de elegir a aquella persona que tenga la característica que el puesto vacante requiere.

Para la elaboración del marco teórico nos basamos en las referencias bibliográficas de la Administración de Recursos Humanos, principalmente de: Chruden & Sherman (2010), Shaun Tyson & Alfred York (2014), Bateman & Scott (2009), Chiavenato (2015).

El enfoque que le damos a esta investigación es del tipo cualitativo con un alcance descriptivo, explicativo y correlacional, ya que se describen todos y cada uno de los conceptos, características y propiedades, se explican detalladamente en qué consisten cada una de estas características, sobre un tema poco estudiado o con un nuevo método, así como la relación que existe entre la variable dependiente e independientes, es decir, entre el puesto vacante, el candidato a ocuparlo y las características que debe cumplir el candidato elegido.

Al final de esta investigación describimos nuestras conclusiones, así como las recomendaciones que nos permitimos hacer a los empleadores, con el objetivo de implementar este método que, estamos seguros les traerá enormes beneficios en su desarrollo organizacional.

## II. Marco teórico

El *reclutamiento de personal* es la fase que antecede a la selección; prepara el menor número de candidatos que parezcan ser capaces de desempeñar las tareas requeridas para el puesto vacante (descripción del puesto), y que cumplan con el perfil (especificación del puesto), previamente diseñado (Shaun Tyson & Alfred York, 2014, p. 108).

Un *reclutamiento de personal* eficiente se puede definir como: “el conocimiento de los recursos que se desean, los recursos que están disponibles y donde y como se pueden encontrar” (Shaun Tyson & Alfred York, 2014, p. 108).

Para (Arias Galicia, F. y Heredia Espinoza, V. 2012), el *reclutamiento de personal* se puede describir como: “el conocimiento de los recursos que se desean, los recursos que están disponibles, y dónde y cómo se pueden encontrar”.

Las principales tareas del *reclutamiento de personal*, son las siguientes:

- a) Determinación de las vacantes.
- b) Consideración de las fuentes de reclutamiento.
- c) Preparación de la información a publicar.
- d) Procesamiento y evaluación de las solicitudes.
- e) Notificación a los solicitantes.

El término: *selección de personal* se utiliza para referirse a la adquisición de las nuevas personas que son susceptibles de integrarse a la organización, es decir, a la selección de los candidatos reclutados que cubran mejor el perfil que requiere el puesto vacante. Para llevar a cabo estas funciones es necesario que las personas encargadas de la selección determinen los métodos a utilizar para poder identificar el grado de potencialidad de los candidatos, tales como: entrevistas, exámenes psicológicos, pruebas de aptitud, de personalidad, etc. Las pruebas deben de estar diseñadas para evaluar el potencial del candidato para poder medirlas con los requerimientos del puesto, tales como: conocimientos, habilidades y actitudes (Tyson & York (2014).

Consideramos que el éxito final de una organización depende, en buena medida, de la calidad de sus empleados, por lo que podemos afirmar que la función de la *selección de personal* es uno de los procesos de toma de decisiones más importantes del que se deben encargar los empleadores ([adizes.com.mx/btp-mexico](http://adizes.com.mx/btp-mexico)).

La tarea es examinar las habilidades, capacidades y características de las personas que hemos reclutado y sobre las que no se tiene, todavía, un conocimiento personal, y seleccionar a aquellas que tengan el potencial adecuado para ocupar un puesto vacante dentro de la organización (Arias Galicia, F. y Heredia Espinoza, V. 2012).

### III. Desarrollo

Las posibilidades de éxito de una empresa empiezan con el *reclutamiento y selección del personal*; es decir, lo que se busca es contratar (o promover) a la persona adecuada para el puesto adecuado; que cumpla con los requisitos que el puesto vacante requiere.

El método **ADIZES** nos dice que todas las personas que forman la estructura organizacional de una empresa tienen ciertas características que prevalecen sobre las demás, al momento de tomar decisiones. El estilo de actuación diaria, en la toma de decisiones, de un empleado está influenciado por estas características.

De acuerdo con el **Método Adizes**, empezaremos por definir en qué consiste el:

#### **PAEI**

Donde (de acuerdo con este método):

**P** es productor  
**A** es administrador  
**E** es emprendedor (innovador)  
**I** es integrador

Este Método nos indica que todos tenemos alguna de estas características que sobresale de las demás, en nuestra diaria actuación y toma de decisiones. Desde luego que podrían existir algunas combinaciones de estas características, las cuales mencionaremos más adelante.

¿Por qué es importante descubrir las características de cada uno de los empleados? Porque cada puesto que existe en el organigrama requiere de una persona con ciertas características previamente definidas en la especificación del puesto.

Empecemos con la definición de la primera de ellas, que es la siguiente:

#### *Productor*

Y nos preguntamos: ¿Cómo podemos detectar a las personas, cuya característica principal es la de ser *productor*?

Normalmente las personas que tienen esta característica (que sobresale de las demás), son las primeras que llegan a la empresa y las últimas que se van. Siempre andan ocupados, para arriba y para abajo, haciendo cosas, desarrollando sus funciones, operativas, administrativas y/o de supervisión. No les gusta estar sentados ni encerrados en una oficina; no les gustan las juntas y se resisten al cambio.

Las personas que tienen estas características, cuando reciben instrucciones de hacer algo nuevo y diferente, inmediatamente van y lo hacen, sin previo análisis, planeación u organización, y en algunas ocasiones, sin analizar los efectos que acarreará su actuación.

ESTILO PERSONAL: a) productor de resultados; b) ver que se hagan las cosas; c) permanentemente ocupado; d) trabaja duro; e) no tiene tiempo suficiente; f) toma decisiones por impulso.

Habrán puestos en la organización que requieren personas con estas características; (más adelante veremos algunos ejemplos).

#### *Administrador*

¿Cómo podemos detectar a las personas, cuya característica principal es la de ser *administrador*?

Las personas que tienen estas características, prevalecientes sobre las demás, son aquellos que son sumamente ordenados; entras a su oficina y encuentras todo en orden; su escritorio limpio de papeles, todo en su lugar o en el archivero; inclusive lo podemos detectar hasta en su forma de ser o de vestir; sumamente ordenado para todo.

Las personas que tienen estas características, que sobresalen de las demás, cuando reciben instrucciones de hacer algo nuevo y diferente, o cuando aprendieron en algún curso o diplomado un nuevo método o sistema de trabajo, lo primero que hacen es efectuar un diagnóstico, hacer un análisis, llevar a cabo un sistema de planeación y un método de organización.

Antes de hacer las cosas, y al contrario del *productor*, elaboran un programa de flujo de las actividades a realizar, analizan a las personas que intervendrán, planea un curso de capacitación, elabora pasos, políticas y procedimientos, y analiza presupuestos y mide las consecuencias de su actuación.

ESTILO PERSONAL: a) organizado; b) precavido; c) conservador; d) sigue normas ya existentes  
Existen puestos en la organización que requieren de personas con estas características.

### *Emprendedor (Innovador, creativo)*

¿Cómo podemos detectar a las personas, cuya característica principal es la de ser *emprendedor*?

Las personas que tienen estas características, palpables en su diaria actuación, son aquellas que siempre están buscando una nueva manera de hacer las cosas; ¿qué cosas? Todas las operaciones, procesos y procedimientos, principalmente aquéllos que se realizan en el área que está bajo su responsabilidad. Estas personas nunca están satisfechas con lo que se hace en su departamento; siempre están buscando la manera de hacerlas mejor, con más calidad y eficiencia, con menores costos y con mejores resultados o beneficios, tanto para su departamento, así como para la organización en la que laboran.

A este tipo de personas las podemos identificar principalmente los lunes; después de que tuvieron todo el fin de semana para leer, investigar, asistir a un curso, diplomado, o bien, platicar con algunas otras personas, principalmente con más experiencia que ellos. Llegan los lunes a la empresa con varias ideas nuevas en la cabeza, con gran inquietud por implementarlas.

Este tipo de personas siempre están buscando romper paradigmas y difícilmente caen en su etapa de confort; son los creativos, los innovadores; personas que normalmente encontramos en las organizaciones y que son necesarios en las empresas, a fin de descubrir y desarrollar ventajas competitivas.

ESTILO PERSONAL: a) innovador; b) carismático; c) creativo

También existen puestos en la estructura organizacional de la empresa que requieren de personas con estas características.

### *Integrador*

¿Cómo podemos detectar a las personas, cuya característica principal es la de ser *integrador*?

Las personas que tienen esta característica, que sobre sale de las demás, son aquellas que no les gusta trabajar en forma aislada, ni que sus subordinados lo hagan; siempre están buscando la forma de trabajar en equipo; en forma constante y permanente siempre están diseñando estrategias para integrar al personal, no solo de su propio departamento, sino que también buscan una integración interdepartamental.

Cuando reciben instrucciones de hacer algo nuevo y diferente, lo primero que hacen es reunir al personal, a fin de que se sientan integrados al equipo y motivarlos a que participen en el cambio organizacional, previamente planeado.

A este tipo de personas les encantan las reuniones (formales e informales), las juntas de trabajo, las juntas y reuniones interdepartamentales, las reuniones con sus subordinados, con sus superiores, con personal interno de la empresa y/o con gente externa a la empresa.

Este tipo de personas siempre piensan en el grado de satisfacción de la gente, en su motivación y en el ambiente de trabajo; les agrada que el personal se sienta a gusto en la empresa, con la finalidad de buscar un mayor grado de productividad en la misma.

ESTILO PERSONAL: a) integra gente; b) consigue acuerdos; c) sensible; d) comprensivo.

## **IV. Análisis de resultados**

Ahora bien; ¿para qué nos sirve conocer las características principales que tienen los candidatos a integrarse a la empresa, o para tomar decisiones sobre promociones, cambios o ascensos?

Nos sirve para analizarlos y empatarlos con los requisitos que requiere tener el ocupante de un puesto, dentro de la estructura organizacional, y así poder tomar mejores decisiones sobre quien o quienes son los mejor preparados para ocupar cada puesto que se estipula en el organigrama.

No debemos de olvidar que cada uno de los puestos que forman el organigrama de una empresa, requieren de una persona que reúna ciertas características, independientemente de su preparación académica, sus experiencias profesionales en otras empresas, sus capacidades y sus habilidades.

### **Ejemplos prácticos**

Veamos algunos ejemplos, para entender mejor este nuevo método, que es de bastante utilidad para tomar decisiones al contratar, promover, cambiar o ascender al personal de la empresa.

Si tenemos una vacante en la empresa, digamos **Gerente de Ventas**, la especificación (perfil del candidato) con que cuenta la empresa, normalmente nos habla de: Carrera profesional (previamente definida y dependiendo del puesto vacante), experiencia en el puesto, edad, sexo, capacidad de análisis, capacidad de síntesis, motivador, reflexivo, líder, don de mando, etc. Pero NO nos dice cuál es la característica principal que debe de prevalecer en la persona que va a ocupar este puesto.

#### **Primer ejemplo**

Para elegir a un **Gerente de Ventas**, y de acuerdo con el **Método Adizes**, nos debemos de hacer la siguiente pregunta:

¿Cuál es la característica que debe de prevalecer en el candidato a ocupar este puesto?  
La característica es la de ser: **Productor**. ¿Por qué?

La razón es que un **Gerente de Ventas** debe de hacer las cosas (cuando reciba instrucciones), en forma rápida, de inmediato, pensando en que normalmente tenemos competencia y no debemos darles oportunidad para que nos arrebaten un cliente, un canal de distribución o un segmento de mercado.

No debemos de olvidar que tanto el Gerente de Ventas como sus vendedores, tienen una carga de trabajo de 8 horas diarias. Lo que no hiciste hoy no lo vas a poder hacer mañana, porque mañana tienes otra carga de trabajo, tal vez en otra zona o segmento de mercado, es decir, los clientes que no viste hoy, mañana no los vas a poder ver porque tienes otros clientes que visitar, ya que normalmente los clientes reciben al vendedor en horas hábiles, o sea, en horario de oficina.

Ejemplo: si el objetivo es vender 100 (miles o millones, en pesos o de productos) en el mes, esto quiere decir que tienes que vender, en promedio, 25 por semana, o sea 5 por día; puesto que la carga de trabajo está diseñada para 8 horas, los clientes que no visitaste hoy, mañana no los vas a poder visitar, como explicamos con anterioridad.

Por lo anteriormente descrito, para el puesto de Gerente de Ventas necesitamos a una persona cuya principal característica es la ser **productor**, es decir una persona activa, con enfoque a resultados, que implemente las estrategias diseñadas por el área de Mercadotecnia en forma inmediata, ya sea nuevos productos, nuevos usos para el mismo producto, visitar nuevos clientes (antes que la competencia), nuevas políticas de precios, de descuentos, formas de entrega, facturación, etc. Y que sus vendedores hagan lo mismo.



## Segundo ejemplo

Si tenemos una vacante para el puesto de **Gerente de Finanzas**:

¿Cuál es la característica principal que debe de prevalecer en el candidato?

La característica principal es la de ser **Administrador**.

¿Por qué esta característica? Porque para los socios (accionistas) normalmente su recurso más importante es su patrimonio, es decir, ponen su dinero a trabajar en manos ajenas por lo que deben elegir a un buen **administrador** de este. No debemos de olvidar que el objetivo más importante para el administrador financiero es incrementar el valor de las acciones de la compañía, y esto se logra con la reinversión de las utilidades, a fin de que el valor de la empresa crezca y el valor de las acciones se incremente.

Por otra parte, algunas de las decisiones que tiene que tomar el administrador financiero, se basan en: normas de Contabilidad (previamente establecidas); formatos para la elaboración de estados financieros; normas de auditoría; leyes, normas y procedimientos. Es decir, la muchas de las decisiones se basan en leyes y normas ya establecidas, las cuales deben de seguir ciertos lineamientos.

El Administrador Financiero también tiene que tomar decisiones de inversiones, de flujo de efectivo, de compra de activos, de gastos, pago de proveedores, de apalancamiento financiero, etc. Lo que requiere de una persona sumamente analítica, que no tome decisiones precipitadas, sino que domine los procesos de planeación, organización, dirección y control, a fin de tomar decisiones acertadas, oportunas y productivas para la organización.

## Tercer ejemplo

Para tomar la decisión de elegir a un **Gerente de Mercadotecnia**:

¿Cuál es la característica principal que debe de prevalecer en el candidato? (independientemente de los requisitos establecidos en la especificación del puesto que tenga diseñado la empresa).

La característica es la de ser **emprendedor (innovador)**.

La razón es que un **Gerente de Mercadotecnia** debe de ser *creativo, innovador*, una persona que siempre esté buscando como hacer mejor las cosas, pensando siempre en nuevas ideas, nuevos productos, servicios, investigaciones de mercado, publicidad, promociones, ofertas, servicio al cliente, etc.

Si partimos de la base de que en el área de Mercadotecnia es donde se toman las decisiones sobre qué productos fabricar, cantidades a fabricar, segmentos de mercado donde se van a vender los productos, precios de venta, descuentos, piezas por caja, tamaños de los productos, colores, logotipos, tipos de clientes, programas publicitarios, promocionales, investigar a los competidores, etc. Podemos llegar a la conclusión de que para este puesto se requiere de una persona cuya característica principal que sobresalga en el candidato, es la de ser **emprendedor (innovador/creativo)**.

## Cuarto ejemplo

Si queremos contratar a un **Gerente de Recursos Humanos**:

¿Cuál es la característica principal que debe de prevalecer en el candidato, y que sobresalga de las demás?

La característica principal es la de ser **Integrador**.

La razón principal de que en un Gerente de Recursos Humanos prevalezca la característica de ser **Integrador**, es que esta persona tendrá relaciones con todo el personal, desde trabajadores operativos, administrativos, gerentes, directores, sindicato y accionistas, en el sector interno; mientras que, en el sector externo, tendrá que relacionarse con ejecutivos de cámaras, asociaciones patronales, autoridades del IMSS, secretaría del trabajo, junta local de conciliación y arbitraje, etc. Con los cuales tendrá que mantener una relación de comunicación, negociación e integración.

Cabe recordar que el objetivo principal del **Gerente de Recursos Humanos** es el de proporcionar un clima organizacional (ambiente de trabajo) que proporcione alto grado de satisfacción a todo el personal de la empresa, que forman la estructura organizacional, por lo que, para alcanzar los objetivos organizacionales es necesario que exista en la empresa alto grado de integración departamental e interdepartamental ((Arias Galicia, F. y Heredia Espinoza, V. 2012).

### ***Técnicas y herramientas para evaluar las características de los candidatos***

Ahora bien; ustedes se preguntarán: ¿Cómo podemos detectar las características de las personas que acuden a la empresa para ocupar un puesto en la organización?

Para tal efecto, existen varias técnicas y herramientas que nos pueden ser de utilidad para detectar las características que más prevalecen en los candidatos a ocupar un puesto en la organización, a saber:

- a) **Currículum vitae** - Este documento nos proporciona un panorama sobre las áreas en que se ha desarrollado el candidato, así como las áreas de preferencia del mismo, sus experiencias profesionales, el tiempo laborado en cada puesto y en cada organización.
- b) **Examen psicométrico** - Este examen nos proporciona un panorama más claro sobre las actitudes, aptitudes y forma de actuación (al tomar decisiones), así como un amplio panorama sobre su grado de conducta. Cabe aclarar que este tipo de exámenes deben ser aplicados por un experto en el tema, a fin de que exista una interpretación clara y profesional del candidato. Si no tenemos en la empresa a un experto en el tema, vale la pena contratar a un despacho externo que se dedique a ello. Recordemos que, para alcanzar los objetivos del puesto, es necesario tener a la persona adecuada en el puesto adecuado, es decir, vale la pena la inversión que se haga en la aplicación de este examen (Arias Galicia, F. y Heredia Espinoza, V. 2012).
- c) **Entrevistas** - Las personas que tengan la responsabilidad de llevar a cabo las entrevistas, deben de tener los conocimientos y la suficiente habilidad para realizarlas, de tal manera que obtengan del entrevistado la información que les interesa para tomar la decisión, y no la información que al candidato le convenga mencionar. La primera entrevista es realizada por el encargado del departamento de reclutamiento y selección de personal, y la segunda y definitiva por el responsable del área o departamento en que se encuentre la vacante. De lo que se trata es de identificar el tipo de características que más prevalecen en los candidatos, a fin de tomar la mejor decisión. Existen varios tipos de entrevistas:

**Estructurada** - Para realizar este tipo de entrevistas, el entrevistador ya tiene previamente elaborado un cuestionario que contiene las preguntas que le va a hacer al candidato; por supuesto que la finalidad es obtener solo la información que al entrevistador le interesa conocer, y no se saldrá del guion o plan establecido ni permitirá que el entrevistado lo haga. Este tipo de entrevista se recomienda para puestos de producción, de Ingeniería o de Control de la Calidad.

**Semiestructurada** - En este tipo de entrevista, se elabora un guion sobre las preguntas que se le van a hacer al candidato y se le van agregando algunas nuevas que vayan surgiendo en el transcurso de esta, sin olvidar que la información que le interesa al entrevistador es aquella que identifique al candidato con las características que prevalezcan en él, a fin de compararlas con las que el puesto vacante requiere.

**Abierta** - En este tipo de entrevista, el entrevistador permite al entrevistado que se desenvuelva libremente, es decir, lo deja expresarse con toda libertad sobre sus conocimientos, experiencias, logros obtenidos en trabajos anteriores, etc. Obviamente el entrevistador está atento a lo que está escuchando, a fin de ubicar las características más sobresalientes en el candidato. Existen puestos en la organización que requieren de este tipo de entrevista, por ejemplo, al contratar a un Gerente de relaciones públicas o de ventas.

**Dirigida** - Este tipo de entrevista se utiliza cuando el entrevistador es quien dirige la entrevista y no el entrevistado, es decir, el entrevistador hace las preguntas y el entrevistado contesta solo lo que le están preguntando. El entrevistador no permite salirse del plan de entrevista ni que el entrevistado comente lo que a él le convenga. Por supuesto, sin olvidar que el objetivo de la entrevista es descubrir las características más sobresalientes del candidato. Este tipo de entrevista se recomienda para aplicarse en puestos del área financiera, de Ingeniería o Manufactura (Chruden & Sherman, 2010).

No debemos de olvidar que cada puesto vacante que existe en la organización requiere de un tipo de entrevista que vaya de acuerdo con los requerimientos de este.

- d) **Juegos gerenciales** Esta técnica resulta muy útil para tomar la decisión de contratar personal, sobre todo a nivel gerencial. Se trata de aplicar a los candidatos finalistas ejercicios de casos reales de empresas, a fin de que los resuelvan, con el objetivo de analizar sus decisiones y descubrir las características que prevalecen en ellos.

**Por ejemplo:** si tenemos un puesto vacante de **Gerente de Ventas**, un caso podría ser que les presentemos una gráfica de las ventas de la empresa, donde las ventas han disminuido en los últimos meses; se trata de que cada uno de los finalistas tome una decisión sobre lo que haría para mejorarlas, en caso de ser contratado.

Lo más probable es que las respuestas de estos sean un tanto diferentes; quizás alguno de ellos diría lo siguiente:

Bueno, habría que **innovar** nuevos productos, tal vez nuevos empaques, otros tamaños, cambiar los colores, investigar otros segmentos de mercado, buscar nuevos clientes, etc. Con estas respuestas podemos deducir que la característica que prevalece en el candidato es el de ser **Emprendedor (Innovador)**.

Otra respuesta, de otro candidato podría ser: es necesario analizar las políticas de ventas, los procedimientos, las cargas de trabajo de los vendedores, los precios de venta, los descuentos, los tiempos de entrega, las rutas de los vendedores, el perfil de los vendedores, los tipos de clientes actuales y potenciales, etc. Con la finalidad de **administrar** mejor los recursos con los que contamos. Con lo anterior nos da una idea muy clara de que la característica que prevalece en él es la de **Administrador**.

Otro candidato podría responder de la siguiente manera: Hay que hacer juntas periódicas con los vendedores, con los clientes, con el personal de las demás áreas que nos dan servicio, como: producción, almacenes, logística, control de inventarios, mercadotecnia, servicio al cliente, etc. A fin de mantener alto grado de **integración**. Con estas respuestas nos damos una idea clara de que la característica que más prevalece en el candidato es la de ser **Integrador**.

La respuesta de otro candidato podría ser: ¿cuál es la hora de entrada de los vendedores? Yo los citaré mañana mismo, una hora antes de su hora de entrada y me iré con cada uno de ellos, a fin de verificar como hacen su trabajo, conocer a sus clientes y apoyarlos en su proceso de ventas; si traen automóvil como herramienta de trabajo se los cambiaría por camionetas y que salieran todos los días con la camioneta llena de mercancía, con la finalidad de darle al cliente un servicio inmediato. El objetivo de esto es **producir** resultados en forma inmediata y mejorar los resultados de ventas de la compañía desde el primer día que asuma la responsabilidad. Podemos concluir, con esta

respuesta, que la característica más sobresaliente de este candidato es la de ser **Productor**.

Ahora bien: ¿Cuál es la **característica** principal que debe prevalecer en un **Gerente de Ventas**? Este puesto requiere de una persona que tenga la característica de ser **Productor**. ¿Porqué? Como ya lo mencionamos antes, el Gerente de Ventas debe ser una persona muy activa, que cuando reciba instrucciones de hacer algo lo haga inmediatamente, sin darle oportunidades a la competencia. Se requiere de una persona con afán de logro, con ambición profesional y con enfoque a obtener resultados en forma inmediata.

## V. Conclusiones

Sería muy importante para alcanzar los objetivos y el desarrollo organizacional de una empresa, que esta tuviera bien definidas las características que se requieran para cada puesto que forma su estructura organizacional (especificación del puesto), así como un manual de descripciones de puestos, y que cada puesto estuviera ocupado por una persona que reúna estas características, a fin de obtener el éxito deseado.

No debemos de olvidar que cada puesto que existe en la estructura organizacional, requiere de una persona que tenga la característica principal que el puesto requiera. Esto le dará a la empresa bastantes posibilidades de éxito.

## Recomendaciones

Se recomienda que los empleadores se rodeen de personal suficientemente preparado, con habilidades y experiencias para aplicar todo tipo de prueba, exámenes, entrevistas, etc., que realicen las funciones de los procesos de *reclutamiento y selección de personal*, con la finalidad de tener mayores posibilidades de éxito del puesto, del departamento y de la empresa (Chruden & Sherman, 2010).

Nos permitimos recomendar, en forma amplia, se utilice el *Método ADIZES* al desarrollar las funciones de los procesos de *reclutamiento y selección de personal*, así como para tomar decisiones de *cambios, promociones y ascensos*, a fin de incrementar las posibilidades de éxito del puesto, del departamento y de la organización.

Se recomienda que todas las empresas, con la finalidad de tener mayores garantías de éxito, cuenten con lo siguiente:

- Manual de descripción de puestos
- Manual de especificación de puestos (perfil)
- Programas de inducción
- Programas de entrenamiento
- Programas de Capacitación
- Métodos de análisis y valuación de puestos
- Métodos de evaluación del desempeño
- Manuales de políticas y procedimientos, para cada una de las áreas que formen su estructura organizacional, haciendo énfasis en el de Administración de Personal

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# Ergonomía como elemento preventivo y de seguridad en las actividades laborales

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## Resumen

Ergonomía disciplina requerida en toda actividad humana, desde trabajos en casa, deporte, escuela sobre todo en los procesos productivos, por las acciones y posturas en prolongadas jornadas laborales.

Se puede definir el neologismo de la unión de raíces griegas *ergos* (trabajo) más *gnomos* (ley), así da origen a la palabra Ergonomía. Por tal, toda actividad debe regirse o normarse aplicando el concepto ergonomía, con lo cual, se estará facilitando y procurando la fácil y segura realización de actividades repetitivas, evitando accidentes, e incrementando la productividad y la calidad de labores cotidianas.

El descuido u omisión en la adopción de ergonomía, traerá malestares corporales desde leves hasta severos e irreparables, provocando el daño físico permanente de la persona e incrementando el coste de actividad realizada. Por tal la aplicación de métodos preventivos; es analizar las actividades para adoptar elementos ergonómicos, se estará salvaguardando la vida de las personas, bajando el coste a la manufactura, asegurando la calidad del producto o servicio, observando las normas (leyes) impuestas por el gobierno.

**Palabras claves:** Ergonomía, Seguridad, prevención.

## Abstract

Ergonomics discipline required in all human activity, from work at home, sports, school, especially in production processes, by actions and prolonged postures during working hours.

You can define the neologism of the union of Greek roots *ergos* (work) plus *gnomes* (law), thus giving rise to the word ergonomics. Therefore, all activities must be governed or regulated by applying the ergonomics concept, which will facilitate and ensure the easy and safe performance of repetitive activities, avoiding accidents, and increasing productivity and the quality of daily tasks.

Neglect or omission in the adoption of ergonomics will bring bodily discomfort from mild to severe and irreparable, causing permanent physical damage to the person and increasing the cost of the activity carried out. For such the application of preventive methods, is to analyze the activities to adopt ergonomic elements, you will be safeguarding the lives of people, lowering the

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cost of manufacturing, ensuring the quality of the product or service, observing the standards (laws) imposed by the government.

**Keywords:** Ergonomics, Safety, prevention.

## I. Introducción

Uno de los lugares que los seres humanos pasamos la mayor parte de nuestro día es en el trabajo, la mayoría de estas actividades realizadas requieren mantener el cuerpo en una postura, durante cierto tiempo, como también se realizan actividades repetitivas, creando un hábito de posición a lo largo del tiempo si se realiza de forma inadecuada, podrá traer consecuencias ya sea de forma física o mental. Como se vuelve parte de la rutina, se realizan estas acciones de forma automática sin tener conocimiento de los factores que influyen para, como evitar consecuencias negativas. Para conocer estos factores es importante analizar las actividades en el entorno físico, es decir, la interacción humano-sistema. La disciplina dedicada a estudiar esta interacción es la ergonomía, la cual, se centra en como adaptar el espacio físico del accionar cotidiano, en relación con la morfología del ser humano.

Debido a la relevancia de la ergonomía por los distintos elementos que se relacionan en las áreas de trabajo de oficinas, despachos, talleres y cualquier otro espacio laboral, es por lo cual se realiza una investigación acerca de la ergonomía en algunas empresas de Nuevo Laredo. Buscando conocer el cierto porcentaje de personas que tienen conocimiento de esta disciplina, como aplicarla, si las están llevando a cabo, sus riesgos de no implementarla y sus ventajas. Otro de los objetivos de esta investigación es tener conocimiento del porcentaje de empresas que aplican esta disciplina en el entorno de los empleados.

La presente investigación se llevará a cabo con alumnos de la Facultad de Comercio Administración y Ciencias Sociales (FCAYCS), los cuales se encuentran trabajando, y tienen acceso a medios de prevención ergonómico en empresas de la localidad, Nuevo Laredo.

El término ergonomía proviene del griego *ergo* que significa trabajo, actividad y *nomos* que significa principios, normas. Autores definen la ergonomía de la siguiente manera:

Murrell (1949) la define como *Ciencia de las comunicaciones en el sistema multidisciplinario del trabajo humano para descubrir sus leyes para formular mejor las reglas y la combinación resulte conforme conformable, segura y más eficiente.*

Singlenton (1969) la define, *Interacción entre el hombre y las condiciones ambientales.*

El aporte de la Real Academia Española (1992), *Estudio de datos biológicos y tecnológicos aplicados a problemas de mutua adaptación entre el hombre y la máquina.*

Otra definición International Ergonomics Association (2001), *Ergonomía es la disciplina científica relacionada con la comprensión de las interacciones entre los seres humanos y los elementos de un sistema, y la profesión que aplica teoría, principios, datos, y métodos de diseño para optimizar el bienestar humano y todo el desempeño del sistema.*

Así mismo González (2007), *la ergonomía es el estudio del trabajo encargándose de elaborar las normas por las que debe regirse este.*

La contribución de Fernández (2020), *La ergonomía es el conjunto de conocimientos que estudia las capacidades y habilidades de los humanos, analizando aquellas características que afectan al diseño de productos o procesos de producción.*

A raíz de las definiciones anteriores se puede concluir, la ergonomía es una disciplina cuyo objetivo es adaptar el entorno y las herramientas utilizadas en actividad laboral, para conservar el bienestar del ser humano. En esta, se pueden encontrar otros conceptos los cuales son relevantes para la presente investigación tales como: interacción, humano, sistema, bienestar, desempeñar.

La Real Academia Española define los conceptos anteriores de la siguiente manera: Interacción: Acción que se ejerce recíprocamente entre dos o más objetos, personas, agentes, fuerzas, funciones, etc.

- Humano: Dicho de un ser.
- Sistema: Conjunto de reglas o principios sobre una materia racionalmente enlazados entre sí.
- Bienestar: Conjunto de las cosas necesarias para vivir bien.
- Desempeñar: Ejercer las obligaciones inherentes a una profesión, cargo u oficio.

## II. Antecedentes

La ergonomía está presente desde tiempos primitivos como se observaba en las primeras herramientas que fueron desarrolladas a partir de materiales disponibles, de acuerdo con las capacidades y limitaciones que tenían y conforme al efecto que aportara este utensilio. Aun cuando el concepto o disciplina como tal no estaba definido, ya se establecían las bases que fundamentan esta especialidad. Las bases que sustentan a la ergonomía consisten en ajustar las herramientas, maquinarias, áreas de trabajo, condiciones físicas, al trabajo que realiza el ser humano de forma cotidiana. Para adentrarse a los antecedentes de la ergonomía, específicamente el cómo y cuándo inició el interés del estudio hombre-entorno, se divide en tres etapas: doméstica, artesanal e industrial.

La etapa doméstica se sitúa en las personas en tiempos primitivos que conformaban las familias o grupos con las que convivían diariamente, tenían la característica de producir herramientas para poder satisfacer necesidades tales como alimentarse, protegerse, adaptar su entorno, crear su hogar, y más. Todas estas requieren realizar actividades con herramientas que fueran adecuadas, para enfrentar las circunstancias presentes y de supervivencia.

Las actividades tales como la caza, recolección, pesca, pelear con los animales que los atacaban, todas estas si no se realizaban con utensilios que fueran desarrolladas a su capacidad, por tal podían terminar en fracaso. Conforme evolucionaba la humanidad se fueron estableciendo nuevas funciones en la sociedad, por lo que de esta etapa se pasa a la era artesanal.

La etapa artesanal inició específicamente como consecuencia de la demanda de utensilios y artefactos requeridos para la producción, estas actividades se llevaban a cabo bien sea dentro o fuera del hogar. Todo esto debido al crecimiento de la población y a todos estos nuevos trabajos incorporados a la vida social. Esta etapa se destaca por el hecho de satisfacer las demandas de los consumidores que influenciaron el desarrollo de nuevos roles, oficios, trabajos requeridos. Conforme pasa el tiempo y fue evolucionando la sociedad hacia estas actividades más complejas, y se cambia a asentamientos sedentarios, las personas y los nuevos roles, empezaron a tener funciones más específicas tales como gobernantes, mercaderos, militares, pescadores, entre otros. Como resultado del avance en la sociedad fueron promoviendo las ciencias.

Con estos nuevos conocimientos y el aprendizaje para aplicarlos. se fueron transformando las condiciones de organización social, la estructura familiar, así como el sistema económico de la sociedad. El desarrollo de estos factores fue de forma gradual, de acuerdo a los descubrimientos realizados en los siglos XV y XVI, provocaron aún más el aumento de la demanda a la manufactura artesanal. Las técnicas y procedimientos que se utilizaban para realizar estas herramientas prevalecieron como estaban hasta el siglo XVII, etapa en la cual evolucionó el trabajo en los hogares debido al aprovechamiento y uso de las maquinas. Las actividades que se realizaban en los hogares convertían esta área como una empresa doméstica, ya que consistía, en distribuir la materia prima, para que entre los integrantes familiares procesarán con las herramientas artesanales, y después se recogían los productos para distribuirlos o venderlos.

Con todos los cambios que estaban sucediendo, llevó a la transformación de los pueblos que tenían actividades campesinas a unas sociedades industriales que demandaban más producción y ahí es cuando inicia la etapa industrial. En esta nueva etapa, en lugar de elaborar los productos en casa como se requería mayor producción debido al aumento considerable de la población, se derivó a que la manufactura se realizara en instalaciones más adecuadas. La evolución rápida de la tecnología y el acelerado crecimiento de la población, prácticamente obligaron a que las ciudades anteriormente pueblos buscaran otros sistemas para aumentar la producción. Es por



ello que la máquina de vapor y el telar mecánico en Inglaterra significaron el comienzo de la etapa que se conoce como Revolución Industrial.

En esta nueva etapa surgieron grandes talleres y áreas acondicionadas para fabricar, las cuales se multiplicaron alrededor de aquellas ciudades que contaban con mano de obra y combustible baratos. En este periodo de tiempo no se aplicaba la ergonomía como disciplina y el área científica inició a procurar la salud y el bienestar de los trabajadores, ya que antes las personas solamente eran una herramienta más para producir y satisfacer las necesidades de la población. Esto marcó el inicio del interés en el hombre-sistema, por lo cual, es un periodo fundamental para la historia de ergonomía, como consecuencia de esto se comenzó a considerar al trabajador como el ser humano que es, el cual tiene sentimientos, ideas, se puede enfermar y cansar. Por tal se considera, la ergonomía surge antes de la era Industrial, y se practicaba anteriormente por los artesanos.

Los artesanos practicaban la ergonomía conocida como vernácula, es llamada así ya que se ponía en práctica según ellos consideraban, era más conveniente pero no tenían conocimiento en sí, y no utilizaban el termino de ergonomía. Ya que la ergonomía carecía de fundamentos de estudio simplemente se enseñaban actividades productivas y se transmitían técnicas de artesano-aprendiz. A raíz de esto la ergonomía inició como ciencia, fue producto de la evolución y fue desarrollándose conforme analizaban las circunstancias y experiencias que se presentaban en el trabajo rutinario, y de ahí comenzó la búsqueda de ajustar el entorno y área productiva en el cual se realizan las actividades. Todo el proceso de formación de esta disciplina se basó en observar de cerca el desempeño de la actividad laboral, de ahí se descubren acciones en las que la ergonomía puede contribuir a mejorar la producción.

Fue a partir de la Revolución Industrial se inician las primeras investigaciones científicas en el campo de la ergonomía, el aporte de la ciencia permitió la adopción de los trabajadores a estas nuevas herramientas y regulaciones laborales, debido a que el ser humano se estaba adaptando a la nueva maquinaria, para sustituir ciertas de las actividades que antes el hombre realizaba, aplicando demasiado esfuerzo y riesgo, obteniendo resultados poco satisfactorios en sus funciones cotidianas. En esta época además de tener en cuenta los esfuerzos físicos, comenzó el interés en los factores fisiológicos, lo cual fue clave fundamental para el diseño de estos nuevos instrumentos de trabajo. Hubo un revuelo de ideas con estas nuevas consideraciones, por un lado, en 1829 Dupine aseguraba que las herramientas debían ser las que se ajustaran al ser humano, mientras Karl Marx opinaba lo contrario en 1850.

En los siguientes años conforme se iba desarrollando la sociedad se crearon nuevos cambios y con ellos nuevos obstáculos para la organización en el trabajo. Es hasta el siglo XIX que con la máquina de vapor cambia la forma de estudio que se tenía con la ergonomía, hasta esa época la interacción hombre-máquina estaba siendo analizada por la experiencia o el sentido común. Es ahí cuando empiezan a considerarse fundamentos más sólidos acerca de la maquinaria, herramientas y métodos de utilización, con el objetivo de obtener el mejor uso, sin que hubiese consecuencia que perjudicaban al trabajador física o mentalmente.

Taylor realizó investigaciones acerca de la fatiga que tenían los trabajadores según la forma en que ejecutaban las actividades, tomando en cuenta el peso de las herramientas que utilizaba y el tiempo a realizar la actividad. Al concluir sus investigaciones, pudo determinar las características y el tamaño de las herramientas debían coincidir con la morfología de los trabajadores, es decir su estatura, peso, ya que esto era el factor que determinaba en el cansancio que presentaban. Los estudios de esta disciplina surgen en el año 1857, el concepto como tal se puede encontrar en los estudios del naturalista Woitej Yastembowky quien realizó las investigaciones “Ensayos de ergonomía” la cual está basada en la ciencia sobre la naturaleza y la idea de desarrollar algún modelo de actividad laboral del ser humano.

Fue en 1878 cuando se sentaron las bases para lo que es el estudio con la obra de Federic Winslow Taylor titulada “Organización científica del trabajo”. En este trabajo se destaca, Taylor aplicó el diseño de las herramientas que eran fundamentales para realizar las actividades tomando en cuenta el tamaño y la forma de estas. En 1949 tras lo observado en la primera guerra mundial con la mala postura, un grupo de ingleses dentro del cual se encontraban ingenieros, sociólogos, psicológicos y médicos fundaron la primera sociedad de ergonomía. Alemania, Estados Unidos de América y algunos otros países a principios del siglo XX comenzaron a

organizar congresos en donde veían la importancia que tiene el proceso y entrono laboral sobre los seres humanos. Aun así, en esta nueva época se empezaron a utilizar nuevos tipos de maquinarias como tanques, aviones que exigían largo tiempo de entrenamiento lo cual trajo problemas fisiológicos.

Debido nueva la replantación, el hombre debía adaptarse a la máquina, como integrar y conformar el sistema hombre-máquina. Con esto se tratan de establecer la interacción entre el área laboral y el rendimiento de los trabajadores conforme a la medición del cansancio que presentaban. El 12 de julio de 1949 en Inglaterra surge la ergonomía como disciplina y fue establecida por la Sociedad de Investigación Ergonómica. En 1950 el término ergonomía se adoptó para dar a conocer al mundo esta disciplina, la cual está relacionada con el área laboral. La Sociedad de Factores Humanos, se encarga de impartir los conocimientos que se tienen de esta nueva disciplina, a 1957 surge en Europa la Asociación Ergonómica Internacional, para 1961 agrupaba a más de 30 países.

A inicio de los años 70s diversas disciplinas se integraron a la aportación de conocimientos acerca del ser humano en el ámbito laboral, los cuales fueron de utilidad para entender la importancia de equipos útiles, que puedan ser utilizados con la máxima eficiencia posible. Entre estas disciplinas se puede encontrar la fisiología, la medicina, la sociología, ingeniería, biomecánica entre otras. La disciplina de la ergonomía tiene como propósito, el estudio y conocimiento para el diseño y modificación de todos los factores del área de trabajo como las instalaciones, máquinas, herramientas y más. Esto con el objetivo de prevenir las consecuencias negativas que puedan presentarse, al estar utilizando de manera incorrecta o una herramienta no adecuado para realizar actividades laborales.

### III. Objetivos de la ergonomía

El objetivo principal de la ergonomía de acuerdo con la International Ergonomics Association es, aportar conocimientos para el diseño y análisis de las actividades-sistemas y que estos sean compatibles con las capacidades de las personas. De igual forma se puede destacar, esta disciplina busca optimizar el trabajo y a la vez dar comodidad a las personas que está encargadas de realizarlo. A pesar de que el principal objetivo sea la adaptación del sistema y herramientas disponibles para el trabajador, se puede enlistar otros que de igual forma son parte de este objetivo. Cinco propósitos generales de la ergonomía son: *Mayor productividad, reducción de posibles lesiones o enfermedades debido a la mala adaptación a las actividades y al lugar en las que se realizan, aligerar la carga física, encontrar la comodidad para todos y la modificación de tareas repetitivas.*

Otro objetivo de esta disciplina es identificar las máquinas y equipos de alta tecnología, y no siempre resulta sencillo la adaptación del trabajo presentándose problemas a futuro. Por otro lado, se necesita adaptar el diseño y las condiciones al buen funcionamiento del equipo de trabajo como los son las herramientas con las necesidades del trabajador, logrando la integración Hombre-Máquina, para poder eliminar posibles errores humanos minimizando los costos técnicos. Es por ello, resulta necesario solucionar el problema adaptando la máquina a la persona.

Resulta importante seleccionar la tecnología adecuada para las herramientas y equipos de trabajo afín al personal adecuado y asignarlo, así mismo, ofrecer al trabajador las máquinas, equipos e instalaciones con un máximo rendimiento, precisión y seguridad; no sólo adaptar las herramientas al trabajador, también el ambiente como ejemplo niveles adecuados de luz, eliminación de ruido, temperatura ambiental acorde a las condiciones climatológicas. Adecuar estas condiciones laborales acorde con las necesidades del empleado en su puesto de trabajo, de igual manera detectar posibles riesgos comunes encontrados, como la fatiga física y mental.

## IV. Características de la ergonomía

La Ergonomía trata de ajustar las condiciones de trabajo a las características del empleado, al establecer esta disciplina en las actividades laborales, se identifican riesgos ocasionados por condiciones de trabajo, lo cual permite ubicar soluciones, para esto, se analizan los posibles riesgos que se pueden presentar a futuro, se determinan las tareas de cada puesto de trabajo, las herramientas a utilizar y las condiciones en las que se desarrolla el proceso productivo. Las mejoras al implementarlo en las áreas de trabajo hacen que se reduzcan las lesiones, mejore la salud y aumente la eficiencia y productividad en la empresa viéndose reflejado en los resultados del servicio del producto, obteniendo así la satisfacción del cliente al artículo y/o servicio prestado.

Por otra parte, un adecuado diseño de un puesto de trabajo permite una correcta posición entre las características morfológicas personales del trabajador, tanto física como psicológica. Para esto se requiere ajustar el sistema de trabajo, evitando sobrepasar los esfuerzos y límites establecidos como son carga física de trabajo, carga mental a veces los empleados tienen muchas áreas de trabajo a su cargo con múltiples tareas y esto provoca una carga mental, a su vez un desgaste hacia la persona provocando no sólo una posible enfermedad, también un deterioro del desempeño en la actividad del empleado, programar descansos y pausas, horarios y/o turnos, también llevar a cabo de forma correcta un estudio postural del puesto para evitar lesiones.

Se considera a la ergonomía, la ciencia que puede encontrar la reducción y/o la eliminación de riesgos profesionales, Accidentes y enfermedades así como la disminución de fatiga por Carga física, psicofísica y mental, así mismo, el aumento en la eficiencia de las actividades productivas para obtener un mejor servicio o producto y ofrecerle al cliente/consumidor lo requerido.

Según el ingeniero laboratorista Mario E. Jaureguiberry el radio de acción de la ergonomía es bastante amplia, ya que cruza los límites de muchas disciplinas científicas y profesionales, constituyéndose en un sistema integrado de la Fisiología y la Medicina, de la Psicología y la Psicología Experimental y de la Física; así, estas tres principales ramas de la ergonomía son el sustento científico y empírico para aplicarla en las actividades humanas.

La Biología: los datos y estudios sobre la estructura del cuerpo, así como menciones y capacidades físicas, identificada como la Psicología Fisiológica: el funcionamiento del cerebro y del sistema nervioso, determinan la conducta Física, información del comportamiento de las máquinas y el medio ambiente. Los antes mencionados son ramas organizacionales dedicadas al área de la seguridad física, en el diseño técnico y a la vez en el comportamiento humano, analizar el entorno de toda área de la organización que compone el organigrama ajustando el trabajo, las tareas, el equipo y el ambiente al empleado, para obtener resultados favorables.

Existen organizaciones que buscan promover y propiciar los conocimientos de dicha disciplina tan importante en el ámbito laboral, tal es el caso de la Unión Latinoamericana de Ergonomía (ULAERGO), esta organización realiza congresos con la participación de diversas organizaciones, personas como Carlos Espejo Guasco presidente de ULAERGO; José Orlando Gomes presidente de la Asociación Internacional de Ergonomía y Andrew Todd, presidente del comité permanente de desarrollo internacional IEA y ex presidente de la Sociedad de Ergonomía en Sudáfrica, Con lo anterior estos encuentros tienen como objetivo promover el desarrollo científico de la disciplina, la garantía de una práctica profesional competente de ergonomía y la aplicación de principios éticos dentro de los 16 países miembros.

En estos congresos se imparten talleres, promoviendo la importancia de la ergonomía como un aliado para el bienestar y la salud de las personas que laboran en las organizaciones. Se enfatiza en las dimensiones del área y espacio de trabajo, permitirá una variedad de ventajas las cuales podrán favorecer a la empresa tanto que puede llegar a ser muy demandante entre los competidores, y a los trabajadores como ejemplo garantizar una correcta disposición de cada uno de los componentes del ambiente laboral, también se minimizarían los esfuerzos que sobrepasen la capacidad física de los trabajadores, y en su momento evitar los movimientos innecesarios, así se favorece la adecuada articulación de sistemas, se eliminarán acciones repetitivas, permitiendo un control minucioso y adecuado de los espacios de producción.

De las actividades de control y dirección en las cuales se requiere alimentar la computadora, se recomienda una postura adecuada, con suficiente iluminación, programar descansos a intervalos de 3 hrs., estas prevenciones evitarán daños permanentes e irreversibles, al tiempo errores en los controles alimentados a la máquina, por consiguiente evita pérdidas económicas, atrasando y provocando la desconfianza en el empleado que administra el control.

La ergonomía trata de adaptar productos, tareas, herramientas, espacios al entorno en general, y a las capacidades y necesidades del trabajador, con la finalidad de mejorar la eficiencia y su seguridad para el bienestar de todos los involucrados en el proceso productivo. La comodidad y facilidad al realizar actividades en la organización es responsabilidad de todos; realizar actividades observando los indicadores de seguridad, con las protecciones indicadas y recomendadas para la realización del trabajo.

Es responsabilidad de cada integrante dentro de la organización, hacer fácil, eficiente, segura y rentable cada tarea, estas acciones son dirigidas para producir con el mínimo esfuerzo, obteniendo la máxima utilidad económica para todos dentro de la empresa.

## V. Ejemplos de la ergonomía

Un teclado ergonómico es aquel que está diseñado a las dimensiones de manos y dedos del personal que lo activan, con lo cual se puede evitar el *síndrome de túnel carpiano* Stanford Medicine (enero 2023), que se manifiesta por dolor en las articulaciones de dedos y muñeca, también con adormecimiento de los músculos de la mano, después de varios años puede provocar artritis en esta zona.

Otro ejemplo para citar es sobre el monitor del ordenador, que se encuentra siempre de frente en plano perpendicular a la altura de los ojos, o levemente más bajo. Se debería de ubicar la pantalla a una distancia entre 50 y 70 cm. ya que el problema de la pantalla es porque nos afecta mucho en los ojos, se presenta *el efecto flicker en la pantalla del computador* (parpadeo de pantalla), el cual provoca daños a la visión, se recomienda utilizar filtros o monitores que tengan tratamiento antirreflejo, también regular el brillo y contraste de acuerdo con las características del entorno.

Otro ejemplo para citar y es recomendable, descanso programado, de acuerdo con el ARTÍCULO 63. De la Ley Federal del Trabajo vigente a partir ratificación LX/2PPO-176-451/15084, con fecha jueves 13 diciembre 2007, en el Senado de la Republica - *Durante la jornada continua de trabajo se concederá al trabajador un descanso de media hora, por lo menos y en jornadas especiales el trabajador deberá disfrutar de por lo menos una hora de descanso cada 6 horas de trabajo para tomar sus alimentos y un periodo de descanso durante la noche si la jornada abarcara ésta.*

Esta pausa razonable impide errores y daños físicos y mentales, ocasiona eficiencia en la realización del trabajo, evita el estrés, incrementa la responsabilidad del empleado o trabajador.

Ahora se presentaran posibles lesiones con síntomas y la causa que las provocan como proclive es la bursitis, inflamación de la cavidad que existe entre la piel y el hueso o el hueso y el tendón. Se puede producir en la rodilla, el codo o el hombro Inflamación en el lugar de la lesión es decir del lugar de trabajo según sea el caso, esto provocado por arrodillarse, hacer presión sobre el codo o movimientos repetitivos de los hombros. Una lesión parecida es el cuello y hombro tensos inflamación del cuello y de los músculos y tendones de los hombros, los síntomas son dolor localizado en el cuello o en los hombros. Una de sus causas es tener que mantener una postura rígida.

La celulitis es otro síntoma muy común, esto es una infección de la palma de la mano a raíz de roces repetidos. Sus síntomas son Dolores e inflamación de la palma de la mano. Una de sus causas es el empleo de herramientas manuales, como martillos y palas, junto con abrasión por polvo y suciedad. Otro ejemplo es el dedo engatillado: inflamación de los tendones y/o las vainas de los tendones de los dedos uno de sus síntomas es la incapacidad de mover libremente los dedos, con o sin dolor. Unas de sus causas Movimientos repetitivos. Tener que sujetar objetos por tiempo prolongado, con demasiada fuerza y con frecuencia.

Se mencionan también dos lesiones poco conocidas como tendinitis, es la inflamación de la zona en que se unen el músculo y el tendón, provoca dolor, inflamación, reblandecimiento y enrojecimiento de la mano, la muñeca y/o el antebrazo. Esto es causado por movimientos repetitivos. Otra lesión es la Tenosinovitis es una inflamación de los tendones y/o las vainas de los tendones esto provoca dolores, reblandecimiento, inflamación, y dificultad para utilizar la mano su causa es el movimiento repetitivo, a menudo no agotadores. Puede provocarlo un aumento repentino de la carga de trabajo o la implantación de nuevos procedimientos de trabajo.

La ergonomía en las empresas en Nuevo Laredo tratan aspectos muy importantes en el comportamiento humano del trabajo, los recursos importantes que influyen en este ámbito son como primera las personas, la ergonomía en el trabajo se encarga de acciones preventivas las cuales son físicas, fisiológicas, psicológicas y sociales del trabajador, en conjunto con las Máquinas de las que sirve el empleado para realizar su trabajo, también están el equipo, herramientas, mobiliario, instalaciones; otro importante factor es el medio ambiente físico de trabajo también son competencia de la ergonomía laboral.

Factores igual de importantes e influyen es la información, hace referencia a la comunicación entre miembros dentro de la empresa, toma decisiones en la organización, depende de cómo tengan formadas sus áreas de trabajo, podrán tener mesas redondas para la toma de decisiones elementos del sistema productivo como lo son horarios, turnos de trabajo, formación, entre otros. De este modo, al analizar los puestos de trabajo desde el punto de vista ergonómico podemos detectar con mayor facilidad algunos problemas. Especialmente, los relacionados con: diseño del puesto de trabajo, carga física, factores psicosociales del trabajo, condiciones ambientales del puesto de trabajo.

## VI. Conclusiones

Se considera del personal encuestado alumnado FCAYCS, carecen de información relativa a la ergonomía, es probable que en sus áreas de trabajo no tengan suficiente capacitación y desconocen el efecto de accidentes laborales y consecuencias negativas debido a la falta de entrenamiento correspondiente. Para comprobar esta hipótesis realizamos 70 encuestas a alumnos que trabajan en diversas áreas laborales. Los resultados que nos arroja esta encuesta son los siguientes:

**Tabla núm. 1 - Sector empresarial**

<b>Identifica la actividad de la empresa donde trabajas</b>		
	<b>N</b>	<b>%</b>
Producción (maquila)	15	21.4%
Servicios (agencia aduanal)	48	68.6%
Servicios (gobierno)	7	10.0%

Fuente: elaboración personal.

Los resultados arrojaron que el 68.6% labora para empresas prestadoras de servicios, Este resultado representa más de la mitad de la población encuestada, el siguiente más elegido fue producción y por último servicios públicos. Gracias a estos resultados podemos darnos una idea de las actividades que pueden estar llevando a cabo, como se observa en la tabla No.1

**Tabla núm. 2 - Área dentro de la compañía**

<b>¿Cuál es tu actividad en la compañía donde laboras?</b>		
	<b>N</b>	<b>%</b>
Líneas de producción	14	20.0%
Responsable de departamento	17	24.3%
Atención a personas	39	55.7%

Fuente: elaboración personal.

La siguiente pregunta, esta relacionada con la actividad principal desarrollada en la empresa, el resultado muestra el 55.7% atiende a público (servicio), el 24.3% se responsabiliza de un área determinada. Por último el 20% se ubica en las líneas de producción de su compañía. ¿Aquí cabe la pregunta, serán capacitados para atender las acciones ergonómicas indicadas dentro del área laboral? Esta información se puede observar en la tabla No.2 del documento.

**Tabla núm. 3 - Tiempo laborando**

<b>De los siguientes, elige el tiempo de tu actual trabajo.</b>		
	N	%
1 año	45	64.3%
2 años	17	24.3%
5 años	7	10.0%
10 años	1	1.4%

Fuente: elaboración personal.

Se buscó conocer un estimado de tiempo en las áreas de trabajo, para identificar posibles efectos en el cuerpo del encuestado por su actividad laboral, como se observa en la tabla No3, la mayoría de las personas el 64.3% tiene 1 año realizando la misma actividad, el 24.3% lleva dos años, el 10% tiene 5 años en la empresa y solamente una persona lleva haciendo lo mismo por 10 años. (sin mostrar efectos aparentes por la acción repetitiva en su labor).

**Tabla núm. 4 - Actividad realizada en la compañía**

<b>¿Cómo realizas tu trabajo diario?</b>		
	N	%
Estas todo el tiempo de pie	16	22.9%
Todo el tiempo sentado(a)	24	34.3%
Combinación de las anteriores	30	42.9%

Fuente: elaboración personal.

La pregunta **¿Cómo realizas tu trabajo diario?** Como se observa en la tabla No. 4, ayuda a identificar elementos clave para la investigación, ya que, junto a los resultados, permite conocer el tiempo y posición que más personal realiza sus actividades (de pie, sentado o ambas), de los encuestados el 42.9% realiza su labor de forma combinada (de pie y sentado), el 34.3% todo el tiempo esta sentado y el 22.9% esta todo el tiempo de pie. Ahora de acuerdo con lo establecido en la teoría cualquiera que sea la forma de realizar la actividad laboral, de no contar con las herramientas, utensilios, capacitación adecuada, entre otras es cuando se presentan accidentes o consecuencias ya sea física o mentalmente.

**Tabla núm. 5 - Herramientas**

<b>¿Cómo está la herramienta o instrumentos de trabajo?</b>		
	N	%
La puedes controlar con tus manos	46	65.7%
El tamaño no te permite control	1	1.4%
Si te permite el control	8	11.4%
Recibiste capacitación para el uso adecuado	15	21.4%

Fuente: elaboración personal.

Como se observa en la tabla No. 5 se observan resultados considerados favorables ya que, la mayoría tiene un buen control de los utensilios con los que laboran y también recibieron la capacitación para el uso adecuado de los mismos. Sin embargo, se observa una persona representando el 1.4%, no tiene una herramienta la cual no le permita tomar el control, representa un riesgo para el y los de su alrededor. Es importante destacar que se busca que la totalidad de

las personas sean capaces de identificar las formas adecuadas para realizar sus actividades tomando en cuenta sus posturas y su sistema.

**Tabla núm. 6 – Accidentes**

Aparte de realizar tu trabajo diario, has tenido:		
	N	%
Un accidente por falta de prevención	17	24.3%
Accidente por falta de entrenamiento	5	7.1%
Accidente ocasionado por no estar capacitado	8	11.4%
Accidente por herramienta inadecuada	15	21.4%
No he tenido accidente	25	35.7%

Fuente: elaboración personal.

La última tabla, la No. 6, muestra resultados que confirman la hipótesis, ya que más de la mitad de los encuestados han sufrido un accidente, el 24.3% accidente a falta de prevención, el 7.1% por falta de entrenamiento, el 11.44% por no estar capacitado y el 21.4% por manejar una herramienta inadecuada. A pesar de que el 35.7% no ha sufrido un accidente es importante recordar que el objetivo es minimizar los accidentes, ya que estos porcentajes arrojaron solamente los accidentes, no mencionan las consecuencias a largo plazo por dicho percance.

La presente investigación se llevo a cabo para conocer que tanto tiempo la gente pasa realizando una actividad, que tipo de actividad realizan y si han tenido algún accidente por la inadecuada practica de un movimiento o de la utilización de algún instrumento en sus trabajos.

La ergonomía organizacional tiene como principal objetivo adaptar el sistema-humano para laborar en armonía, evitando tener accidentes laborales, así las consecuencias a largo plazo no se verán reflejadas en el trabajador. Hay muchas consecuencias que se pueden tener sin embargo de forma general, se han presentado afecciones mentales y físicas, algunos problemas más comunes consecuencia de posturas indeseables son los dolores de espalda. Otra consecuencias presentes pueden ser daños en la vista, en personas que guardaron un distanciamiento adecuado con las computadoras (el monitor).

Estas son unos de varios problemas que pueden presentar en las personas y que la ergonomía organizacional busca evitar.

Por último, se menciona la importancia de esta disciplina en el área laboral, sin ella se puede perjudicar al trabajador para toda la vida, con un movimiento que se ha vuelto un hábito, el cual no se percibe que se realice de forma inadecuada.

Es de suma importancia recibir capacitación al momento de ingresar a una empresa, como organización es indispensable proporcionar las herramientas y un entorno adecuados, en el cual se implemente la ergonomía ya que esto beneficia a ambas partes (empleado empresa) para lo comodidad y motivación de perseguir los objetivos de una organización.

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# Comunidades portal a áreas naturales protegidas: Enfoque de innovación e intervención sistémica

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## Resumen

Lograr los objetivos de las Áreas Naturales Protegidas (ANPs), contribuir al cumplimiento de los objetivos Agenda 2030 para el Desarrollo Sostenible, y a mitigar el cambio climático requiere de integrar la conservación al desarrollo socio-territorial, sustentada en relaciones de confianza entre las comunidades locales y las ANPs.

Por ello, desde el territorio como laboratorio vivo se impulsa el diseño e implementación de políticas a fin de escalar hacia un modelo de desarrollo de Comunidad Portal, a través de enfoques de innovación sistémica.

Con el termino de Comunidad Portal, se identifica a las localidades cercanas física o culturalmente a un ANPs, y con las que establecen alianzas, redes de colaboración, relaciones de interdependencia tanto en los beneficios como en los retos asociados.

En este contexto, la conservación y el desarrollo socio-territorial requiere de un trabajo colaborativo para identificar las necesidades y diseñar estrategias para el desarrollo de capacidades de la Comunidad Portal. Lo que requiere de la articulación de esfuerzos de distintos ámbitos del gobierno, de la comunidad, de organizaciones no gubernamentales, de instituciones educativas, que definan y diseñen estrategias para la integración de espacios públicos, la interacción del conocimiento científico y local, las interacciones entre generaciones, la educación y capacitación para la conservación biocultural, que se refleje en beneficios tangibles y en un mejor ecosistema socio económico de la Comunidad Portal.

Desde el año 2020, se ha iniciado un trabajo para el desarrollo de la Comunidad Portal Gómez Farias, entrada principal a la Reserva de la Biosfera El Cielo (RBC), a la fecha se ha concluido el diagnóstico del estado del conocimiento de la Reserva, se han identificado y se mantiene interacción con actores del territorio, se trabaja con la formación de nuevos conservacionistas y se han identificado las áreas de oportunidad en el territorio.

En este proceso de desarrollo se ha transitado sin tanta resistencia ya que investigadores de la Universidad Autónoma de Tamaulipas desde hace más 30 años tiene presencia en la zona.

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## Entre generaciones: Gestión y transferencia del conocimiento para la conservación biocultural

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La gestión y transferencia del conocimiento *entre generaciones* es fundamental para lograr el avance de la ciencia. A pesar de reconocer la importancia de construir sobre el conocimiento, las redes de colaboración y los distintos andamiajes desarrollados por investigadores consolidados, la transferencia del conocimiento no siempre es posible ya que generalmente no existen políticas institucionales que promuevan dicha asociación.

La débil articulación de la planeación largo plazo y de la promoción entre investigadores consolidados y jóvenes genera casi de forma permanente vacíos de conocimiento en distintos ámbitos como es el caso de la conservación biocultural. Por ello desde el 2018 en el marco del proyecto Transcender las aulas desarrollado en la Facultad de Comercio y Administración - Victoria, hemos diseñado un esquema para la gestión y transferencia del conocimiento *entre generaciones* y agentes de territorio.

Desde el año 2020, hemos realizado actividades creativas y asociadas con la conservación biocultural y el desarrollo local. Pero es desde el 2022 que diseñamos un proceso integral para el desarrollo y formación de nuevos conservacionistas vinculados a la Reserva de la Biosfera El Cielo en Tamaulipas. Actualmente hemos integrado un grupo de 14 expertos en distintas áreas- ecología, antropología, gestión del territorio, cadenas de valor, elaboración de nuevos productos, cultura, alimentación y salud- cuyos rangos de edad son de los 47 a 72 años y provienen con diversas experiencias que enriquecen al grupo - algunos son miembros del Sistema Nacional de Investigadores - Nivel 3, 2 y 1 - expertos comunitarios, empresarios, jubilados.

Trabajamos directamente con 15 personas de 18 a los 55 años, que se desempeñan en distintos ámbitos, estudiantes, trabajadores de las comunidades aledañas a la Reserva de la Biosfera El Cielo, empleados de gobierno y trabajadores independientes.

El proceso de formación tiene una duración de un año, una vez cumplido con los requisitos se les otorgará un certificado como técnico en conservación avalado por la Secretaría de Educación del Gobierno del Estado. En este proceso, el grupo en formación junto con los expertos trabajamos en talleres participativos donde se abordan distintos temas relacionados con conservación biocultural, realizamos visitas de campo para el conocimiento de la flora, la fauna e identificar las potencialidades del territorio, se mantiene diálogos con autoridades locales, mujeres, jóvenes, ancianos. Los miembros en formación y los expertos imparten talleres en las escuelas y con en población en las distintas comunidades, lo que posibilita el diálogo, la interacción, para la gestión y transferencia del conocimiento *entre generaciones* y actores del territorio para que contribuyan a la conservación biocultural.

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# Ciberseguridad en la industria del transporte y la logística en Nuevo Laredo

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## Resumen

La ciberseguridad es un tema cada vez más importante en la industria del transporte y la logística en México. Los transportistas cada vez más dependen de los sistemas informáticos y telemáticos para sus operaciones del día a día por lo tanto se enfrentan a una variedad de amenazas cibernéticas. Estas amenazas incluyen la manipulación de datos, robo o secuestro de información con datos confidenciales hasta los ataques informáticos que pueden interrumpir los servicios, causando daños financieros y reputacionales. Las amenazas cibernéticas se han convertido en una preocupación creciente en los últimos años, especialmente para los transportistas que tienen que lidiar con la complejidad de los datos de clientes, proveedores y operaciones. Las amenazas y ataques cibernéticos pueden afectar las operaciones que ellos realizan. Por ejemplo, el secuestro de información financiera y de contabilidad, puede dejarlos sin operar financieramente. Otro ejemplo la manipulación de los datos de rastreo puede ocasionar que no lleguen o tomen cargas de tráiler oportunamente. La presente investigación tiene como objetivo conocer la percepción de las empresas transportistas de Nuevo Laredo que tan conscientes o el grado de conocimiento de los ataques cibernéticos a los que pudieran estar expuestos. A la vez si cuentan con sistemas de gestión de la seguridad de informática, si cuentan con herramientas y mecanismos que puedan mitigar los riesgos por ataques cibernéticos o intentos de ellos.

**Palabras clave:** Ciberseguridad, ataques, riesgos

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# Estrategias de prevención de delitos informáticos en las escuelas secundarias de la Ciudad de Nuevo Laredo

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## Resumen

La presente investigación tiene como finalidad conocer la percepción de los estudiantes de nivel secundaria respecto a los delitos informáticos, cuál es el nivel de conocimiento sobre estos y sugerir algunas medidas de prevención de dichos delitos.

En el trabajo se mencionan algunos conceptos de los delitos más comunes en la adolescencia, qué hacer en caso de ser víctima de un delito y también las recomendaciones para navegar de una forma segura en internet. Los antecedentes muestran investigaciones que se han realizado respecto a la seguridad en el uso del internet. En la actualidad muchos estudiantes de nivel educación secundaria cometen delitos informáticos sin estar conscientes de ello, debido a que pueden navegar en internet con la facilidad de hacerlo en cualquier momento, ya que muchos de ellos ya cuentan con un celular de uso personal o algún otro dispositivo. En su mayoría muchos de ellos no tienen la supervisión de sus padres y sin saberlo pueden ser víctimas de delito o lo contrario.

Ante esta problemática nos planteamos la siguiente pregunta, ¿Cuáles son los delitos informáticos que con mayor regularidad los estudiantes de secundaria cometen?

¿Los estudiantes están conscientes de que cometen un delito informático o si son víctimas de ello?

Entre los principales hallazgos tenemos que los estudiantes en su gran mayoría cuentan con algún dispositivo electrónico de comunicación, ya sea smartphone, tableta, computadora o consola. También se detectó que la mayoría de ellos no sabe qué hacer ante un delito informático. Por lo anterior a manera de conclusión preliminar se podría mencionar que a su corta edad algunos de estos estudiantes han cometido algún delito sin estar conscientes de ello.

**Palabras clave:** Dispositivos, Delito, Estudiantes, Secundaria.

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