Gender in Entrepreneurship

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Table of Contents

1	Introduction
2	Literature Review
3	Purpose of the Research
4	Data and Methods
5	Results
6	Discussion
7	Limitations and Future Research
8	Conclusion
9	References

1

Introduction

Introduction

- United Nations Women (2019), “[g]ender equality is a right.”
- 17 Sustainable Development Goals (SDGs), including no poverty, zero hunger, and quality education, are universal and intended to benefit women as well.
- SDG #5: Gender Equality and SDG #8: Decent Work and Economic Growth aim to transform the lives of women by 2030, ensuring equal opportunities and economic empowerment.
- Potential to shape the future of women worldwide.
- Disparities persist in the number of women who own and operate businesses, emphasizing the need to support women entrepreneurs in achieving these goals.
- “Strengthening women entrepreneurs is a human right, and an economic and environmental imperative” (United Nations SDG: Learn, 2024),

2

Literature Review

Literature Review

Foundation

- SDG #5 Gender Equality: “[a]chieve gender equality and empower all women and girls.”
- SDG #8 Decent Work and Economic Growth: “[p]romote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all” (United Nations, 2024).

Entrepreneurship and Sustainable Livelihoods (SL)

- Learning of business skills and strategies from networking to gaining intellectual capital (Achsania, 2024).
- Empower women entrepreneurs as they contribute to the economies of their countries and regions (Alsaad, et al., 2023).

Government Initiatives and Policies

- Establish long-term vision of their economies and the achievement of their SDGs (Debnath, et al., 2020; Jayanti, 2017).
- Support the social and economic well-being of women entrepreneurs (Dewi, 2022).
- Recognize the different gender constraints that women and men face (Siba, 2019).

Sustainability

- 17 SDGs which can be categorized into economic, social, and environmental dimensions of what needs to be sustained and developed (Fernández, 2021).

Social Impacts

- Essential in minimizing and overcoming gender gaps and inequalities (Pimpa, 2021).
- Besides the expansion of women’s potential, there is also their creativity and care for their communities (Thomas, 2024).

3

Purpose of the Research

Purpose

- Analyze Women, Business, and the Law: Entrepreneurship Indicator Score (0-100)
- Assess conditions for women entrepreneurs across global economies
- Evaluate conditions impact women's entrepreneurship
- Conditions evaluated based on Independent Variables #1-5: borrowing, costs, savings, procedures, and time required to start business
- Align findings in literature review on SDG #5 Gender Equality and SDG #8 Decent Work and Economic Growth
- Entrepreneurship identified as strategy and tool for advancing goals for women

Research Question

- **Research Question #1**
  - *Based on Independent Variables #1 and #3 to Dependent Variable*
  - How do borrowing and saving behaviors for starting, operating, or expanding a business influence the Women, Business, and the Law: Entrepreneurship Indicator Score?
- **Research Question #2**
  - *Based on Independent Variables #2 and #4 to Dependent Variable*
  - How do the cost and number of business start-up procedures to register a business affect the Women, Business, and the Law: Entrepreneurship Indicator Score?
- **Research Question #3**
  - *Based on Independent Variable #5 to Dependent Variable*
  - How does the time required to start a business impact the Women, Business, and the Law: Entrepreneurship Indicator Score?

Hypotheses

- **Hypothesis #1**
  - *Based on Independent Variables #1 and #3 to Dependent Variable*
  - Higher borrowing and saving behaviors for starting, operating, or expanding a business result in higher Women, Business, and the Law: Entrepreneurship Indicator Score *[Hypothesis with Direction].*
- **Hypothesis #2**
  - *Based on Independent Variables #2 and #4 to Dependent Variable*
  - Higher costs and a greater number of business start-up procedures result in a lower Women, Business, and the Law: Entrepreneurship Indicator Score *[Hypothesis with Direction].*
- **Hypothesis #3**
  - *Based on Independent Variable #5 to Dependent Variable*
  - Longer time required to start a business results in a lower Women, Business, and the Law: Entrepreneurship Indicator Score *[Hypothesis with Direction].*

4

Data and Methods

Data Acquisition

- **Source:** World Bank Group's Gender Data Portal
- **Topic:** Entrepreneurship
- **Year:** 2017
- **Type:** Secondary Data
- **Geographical Coverage:** Global Economies
- **Indicators:** 16

Data Processing: Part 1

16 Indicators

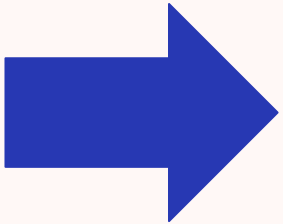
1. A woman can register a business in the same way as a man (1=yes; 0=no)
2. A woman can sign a contract in the same way as a man (1=yes; 0=no)
3. Borrowed to start, operate, or expand a farm or business (% age 15+)
4. Cost of business start-up procedures (% of GNI per capita)
5. Firms with female participation in ownership (% of firms)
6. Firms with female top manager (% of firms)
7. Number of business owners
8. Number of directors
9. Number of sole proprietors
10. Saved to start, operate, or expand a farm or business (% age 15+)
11. Share of business owners (% of total business owners)
12. Share of directors (% of total directors)
13. Share of sole proprietors (% of sole proprietors)
14. Start-up procedures to register a business (number)
15. Time required to start a business (days)
16. Women, Business and the Law: Entrepreneurship Indicator Score (scale 1-100)

Data Processing: Part 2

Indicator	Dependent Variable	
#16	#1	Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)
	Independent Variable	
#3	#1	Borrowed to start, operate, or expand a farm or business (% age 15+)
#4	#2	Cost of business startup procedures (% of GNI per capita)
#10	#3	Saved to Start, Operate, or Expand a Farm or Business (% age 15+)
#14	#4	Start-up procedures to register a business (number)
#15	#5	Time required to start a business (days)

Data Processing: Part 3

- **Original Data:**
  - Indicator Name
  - Indicator Code
  - Country Name
  - Country Code
  - Year
  - Value
  - Disaggregation
- **Original Sample (*n*)**
  - $n < 100$
  - $n > 100$



- **Processed Data**
  - Country Name
  - Country Code
  - Year = 2017
  - Value
  - Disaggregation = Female
- **Processed Sample (*n*)**
  - $n \geq 100$

Data Analysis

- **Software**
  - Microsoft Excel
  - PSPP
- **Types of Analysis**
  - Descriptive Statistics
    - Frequency Tables
    - Histograms
  - Bivariate Correlations
  - Ordinary Least Squares (OLS) Regression

5

Results

Descriptive Statistics for Dependent and Independent Variables

Table 1: Descriptive statistics for the key variables

	N Valid	N Missing	Mean	Standard Deviation	Minimum	Maximum
Dependent Variable						
Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)	189	3	82.94	16.61	0	100
Independent Variables						
Borrowed to start, operate, or expand a farm or business (% age 15+)	145	47	5.82	4.78	0.1	20.7
Cost of business start-up procedures (% of GNI per capita)	189	3	26.58	46.89	0	352
Saved to Start, Operate, or Expand a Farm or Business (% age 15+)	145	47	11.68	6.74	0.3	33.9
Start-up procedures to register a business (number)	189	3	7.21	3.09	1	20
Time required to start a business (days)	189	3	21.62	26.24	1	230

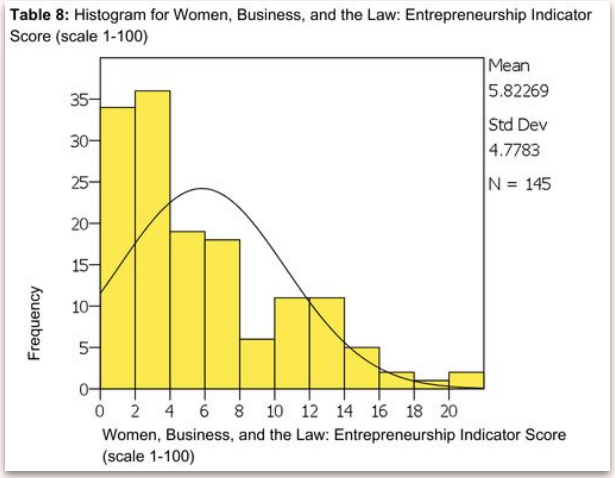
- **Number of Worldwide Economies (across countries and regions)**
  - *n*=145 and *n*=189
- **Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)**
  - Mean: 82.94; Minimum: 0; Maximum: 100
- **Borrowed to start, operate, or expand a farm or business (% age 15+)**
  - Mean: 5.82%; Minimum: 0.1; Maximum: 20.7
- **Cost of business start-up procedures (% of GNI per capita)**
  - Gross National Income (GNI)
  - Mean: 26.58%; Minimum: 0%; Maximum: 352%
- **Saved to Start, Operate, or Expand a Farm or Business (% age 15+)**
  - Mean: 11.68%; Minimum: 0.3%; Maximum: 33.9%
- **Start-up procedures to register a business (number)**
  - Mean: 7.21; Minimum: 1; Maximum: 20
- **Time required to start a business (days)**
  - Mean: 21.62 days; Minimum: 1 day; Maximum: 230 days

Descriptive Statistics: Frequency Table and Histogram for Dependent Variable

Table 2: Frequency Table for Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)

			Frequency	Percent	Valid Percent	Cumulative Percent
	Valid	0	2	1.0%	1.1%	1.1%
		25	1	0.5%	0.5%	1.6%
		50	6	3.1%	3.2%	4.8%
		75	106	55.2%	56.1%	60.8%
		100	74	38.5%	39.2%	100.0%
	Missing	.	3	1.6%		
	Total		192	100.0%		

Table 8: Histogram for Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)



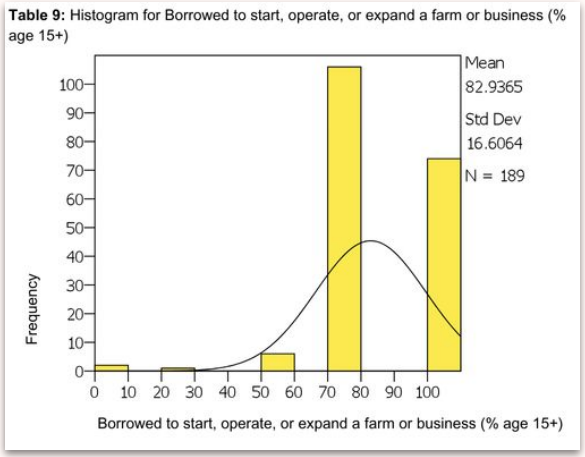
- **1st Highest Frequency:**
  - Scale 75 on Entrepreneurship Indicator Score
  - 106 global economies
- **2nd Highest Frequency:**
  - Scale 100 on Entrepreneurship Indicator Score
  - 74 global economies

Descriptive Statistics: Frequency Table and Histogram for Independent Variable #1

Table 3: Frequency Table for Borrowed to start, operate, or expand a farm or business (% age 15+)

			Frequency	Percent	Valid Percent	Cumulative Percent
	Valid	0.1	1	0.50%	0.70%	0.70%
		0.6	1	0.50%	0.70%	1.40%
				/\/\/\		
		20.7	1	0.50%	0.70%	99.30%
		20.7	1	0.50%	0.70%	100.00%
	Missing	.	47	24.50%		
	Total		192	100.00%		

Table 9: Histogram for Borrowed to start, operate, or expand a farm or business (% age 15+)



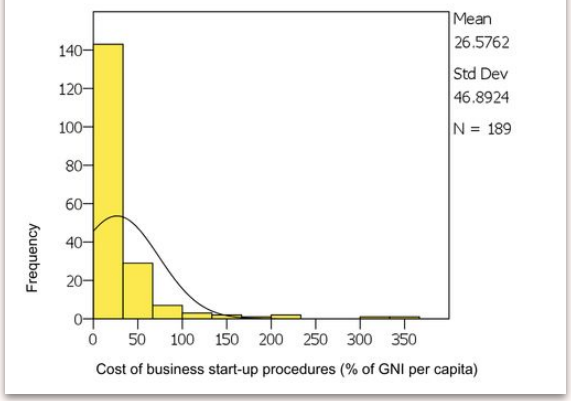
- **1st Highest Frequency:**
  - 2-4% women age 15+ borrowed
- **2nd Highest Frequency:**
  - 0-2% women age 15+ borrowed

Descriptive Statistics: Frequency Table and Histogram for Independent Variable #2

Table 4: Frequency Table for Cost of business start-up procedures (% of GNI per capita)

			Frequency	Percent	Valid Percent	Cumulative Percent
	Valid	0	2	1.00%	1.10%	1.10%
		0	3	1.60%	1.60%	2.60%
				/\/\/\/		
		305	1	0.50%	0.50%	99.50%
		352	1	0.50%	0.50%	100.00%
	Missing	.	3	1.60%		
	Total		192	100.00%		

Table 10: Histogram for Cost of business start-up procedures (% of GNI per capita)



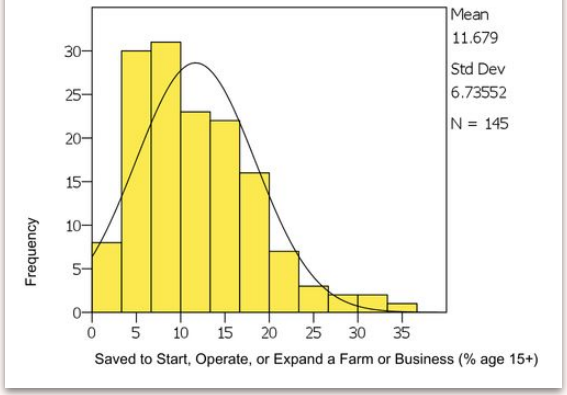
- **Highest Frequency:**
  - 0–10% Gross National Income (GNI) per capita start-up cost
- **Distribution Shape:**
  - Right-Skewed

Descriptive Statistics: Frequency Table and Histogram for Independent Variable #3

Table 5: Frequency Table for Saved to Start, Operate, or Expand a Farm or Business (% age 15+)

			Frequency	Percent	Valid Percent	Cumulative Percent
	Valid	0.3	1	0.50%	0.70%	0.70%
		1.1	1	0.50%	0.70%	1.40%
				/\/\/\		
		32.6	1	0.50%	0.70%	99.30%
		33.9	1	0.50%	0.70%	100.00%
	Missing	.	47	24.50%		
	Total		192	100.00%		

Table 11: Histogram for Saved to Start, Operate, or Expand a Farm or Business (% age 15+)



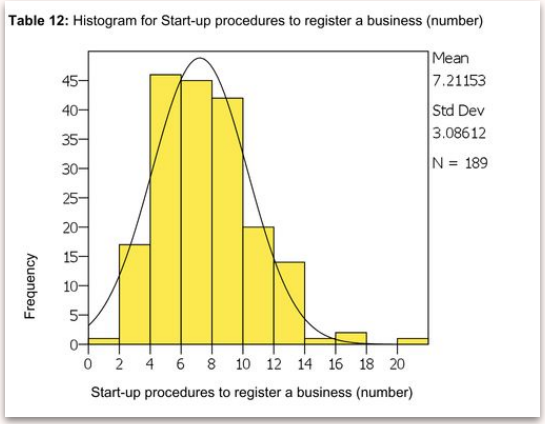
- **1st Highest Frequency:**
  - 5-10% women age 15+ saved
- **2nd Highest Frequency:**
  - 0-5% women age 15+ saved

Descriptive Statistics: Frequency Table for Independent Variable #4

Table 6: Frequency Table for Start-up procedures to register a business (number)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	0.50%	0.50%	0.50%
	2	5	2.60%	2.60%	3.20%
	3	12	6.30%	6.30%	9.50%
	4	19	9.90%	10.10%	19.60%
	5	27	14.10%	14.30%	33.90%
	6	16	8.30%	8.50%	42.30%
	7	28	14.60%	14.80%	57.10%
	8	1	0.50%	0.50%	57.70%
	8	22	11.50%	11.60%	69.30%
	8	1	0.50%	0.50%	69.80%
	9	19	9.90%	10.10%	79.90%
	10	10	5.20%	5.30%	85.20%
	11	10	5.20%	5.30%	90.50%
	12	8	4.20%	4.20%	94.70%
	12	1	0.50%	0.50%	95.20%
	12	1	0.50%	0.50%	95.80%
	13	4	2.10%	2.10%	97.90%
	14	1	0.50%	0.50%	98.40%
	16	1	0.50%	0.50%	98.90%
	17	1	0.50%	0.50%	99.50%
	20	1	0.50%	0.50%	100.00%
Missing	.	3	1.60%		
Total		192	100.00%		

Descriptive Statistics: Frequency Table for Independent Variable #4



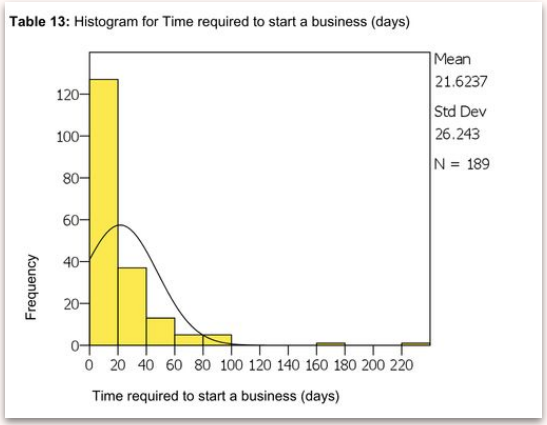
- **1st Highest Frequency:**
  - 7 start-up procedures
- **2nd Highest Frequency:**
  - 5 start-up procedures
- **3rd Highest Frequency:**
  - 8 start-up procedures

Descriptive Statistics: Frequency Table and Histogram for Independent Variable #5

Table 7: Frequency Table for Time required to start a business (days)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	0.50%	0.50%	0.50%
	2	2	1.00%	1.10%	1.60%
			/\/\/\		
	174	1	0.50%	0.50%	99.50%
	230	1	0.50%	0.50%	100.00%
Missing	.	3	1.60%		
Total		192	100.00%		

Table 13: Histogram for Time required to start a business (days)



- **1st Highest Frequency:**
  - 5-10 days time required
- **2nd Highest Frequency:**
  - 10-15 days time required
- **3rd Highest Frequency:**
  - 15-20 days time required

Bivariate Correlations for Independent Variable #1

Table 14: Biovariate Correlations: Borrowed to start, operate, or expand a farm or business (% age 15+)

	Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)	**Borrowed to start, operate, or expand a farm or business (% age 15+)**
Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)		
Pearson Correlation	1.000	-0.318*
Significance Level (2-tailed)		0.000
N	189	144
Borrowed to start, operate, or expand a farm or business (% age 15+)		
Pearson Correlation	-0.318*	1.000
Significance Level (2-tailed)	0.000	
N	144	145

Note: Significant at 0.05 level

- **Borrowed to start, operate, or expand a farm or business (% age 15+)**
  - **Pearson Correlation:** -0.318 (negative, very weak)
  - **Significance Level (2-tailed):** 0.000 (significant)
  - **Relationship:** Inverse
- Statistically significant, very weak inverse relationship between borrowing (% age 15+) and Entrepreneurship Indicator Score (Scale 0-100)
- *Borrowing (% age 15+) ↑ Entrepreneurship Indicator Score (Scale 0-100) ↓ slightly*
- *Borrowing (% age 15+) ↓ Entrepreneurship Indicator Score (Scale 0-100) ↑ slightly*

Bivariate Correlations for Independent Variable #2

Table 15: Bivariate Correlations: Cost of business start-up procedures (% of GNI per capita)

	Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)	Cost of business start-up procedures (% of GNI per capita)
Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)		
Pearson Correlation	1.000	-0.262*
Significance Level (2-tailed)		0.000
N	189	189
Cost of business start-up procedures (% of GNI per capita)		
Pearson Correlation	-0.262*	1.000
Significance Level (2-tailed)	0.000	
N	189	189

Note: Significant at 0.05 level

- **Cost of business start-up procedures (% of GNI per capita)**
  - **Pearson Correlation:** -0.262 (negative, very weak)
  - **Significance Level (2-tailed):** 0.000 (significant)
  - **Relationship:** Inverse
- Statistically significant, very weak inverse relationship between cost (% of GNI per capita) and Entrepreneurship Indicator Score (Scale 0-100)
- *Cost (% of GNI per capita) ↑ Entrepreneurship Indicator Score (Scale 0-100) ↓ slightly*
- *Cost (% of GNI per capita) ↓ Entrepreneurship Indicator Score (Scale 0-100) ↑ slightly*

Bivariate Correlations for Independent Variable #3

Table 16: Bivariate Correlations: Saved to Start, Operate, or Expand a Farm or Business (% age 15+)

	Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)	Saved to Start, Operate, or Expand a Farm or Business (% age 15+)
Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)		
Pearson Correlation	1.000	-0.188*
Significance Level (2-tailed)		0.024
N	189	144
Saved to Start, Operate, or Expand a Farm or Business (% age 15+)		
Pearson Correlation	-0.188*	1.000
Significance Level (2-tailed)	0.024	
N	144	145

Note: Significant at 0.05 level

- **Saved to Start, Operate, or Expand a Farm or Business (% age 15+)**
  - **Pearson Correlation:** -0.188 (negative, very weak)
  - **Significance Level (2-tailed):** 0.024 (significant)
  - **Relationship:** Inverse
- Statistically significant, very weak inverse relationship between saving (% age 15+) and Entrepreneurship Indicator Score (Scale 0-100)
- *Saving (% age 15+) ↑ Entrepreneurship Indicator Score (Scale 0-100) ↓ slightly*
- *Saving (% age 15+) ↓ Entrepreneurship Indicator Score (Scale 0-100) ↑ slightly*

Bivariate Correlations for Independent Variable #4

Table 17: Bivariate Correlations: Start-up procedures to register a business (number)

	Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)	Start-up procedures to register a business (number)
Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)		
Pearson Correlation	1.000	-0.324*
Significance Level (2-tailed)		0.000
N	189	189
Start-up procedures to register a business (number)		
Pearson Correlation	-0.324*	1.000
Significance Level (2-tailed)	0.000	
N	189	189

Note: Significant at 0.05 level

- **Start-up procedures to register a business (number)**
  - **Pearson Correlation:** -0.324 (negative, very weak)
  - **Significance Level (2-tailed):** 0.000 (significant)
  - **Relationship:** Inverse
- Statistically significant, very weak inverse relationship between procedures (number) and Entrepreneurship Indicator Score (Scale 0-100)
- *Procedures (number) ↑ Entrepreneurship Indicator Score (Scale 0-100) ↓ slightly*
- *Procedures (number) ↓ Entrepreneurship Indicator Score (Scale 0-100) ↑ slightly*

Bivariate Correlations for Independent Variable #5

Table 18: Bivariate Correlations: Time required to start a business (days)

	Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)	Time required to start a business (days)
Women, Business, and the Law: Entrepreneurship Indicator Score (scale 1-100)		
Pearson Correlation	1.000	-0.102
Significance Level (2-tailed)		0.163
N	189	189
Time required to start a business (days)		
Pearson Correlation	-0.102	1.000
Significance Level (2-tailed)	0.163	
N	189	189

- **Time required to start a business (days)**
  - **Pearson Correlation:** -0.102 (negative, very weak)
  - **Significance Level (2-tailed):** 0.163 (not significant)
  - **Relationship:** Inverse
- Not statistically significant, very weak inverse relationship between time (days) and Entrepreneurship Indicator Score (Scale 0-100)
- *Time (days) ↑ Entrepreneurship Indicator Score (Scale 0-100) ↓ slightly*
- *Time (days) ↓ Entrepreneurship Indicator Score (Scale 0-100) ↑ slightly*

Ordinary Least Squares (OLS) Regression for Dependent and Independent Variables

Table 19: OLS Regression Summary - Women, Business, and the Law: Entrepreneurship Indicator Score (Scale 0-100) (*n*=189)

	Value
R	0.42
R Squared	0.18
Adjusted R Square	0.15
Standard Error of the Estimate	13.00

- **Women, Business, and the Law: Entrepreneurship Indicator Score (Scale 0-100)**
  - **R Squared =** 0.18
  - 18% variance in dependent variable explained by independent variables in OLS regression
  - 82% unexplained and may be influenced by other variables not included in research
  - Limited explanatory power
  - Relatively weak relationship between dependent and independent variables

Ordinary Least Squares (OLS) Regression for Dependent and Independent Variables

Table 20: ANOVA of OLS Regression - Differences in Women, Business, and the Law: Entrepreneurship Indicator Score (Scale 1-100) by Country and Region (*n*=189)

	Sum of Squares	df	Mean Square	F	Significance Level
Regression	5061.04	5	1012.21	5.99	0.000
Residual	23138.27	137	168.89		
Total	28199.30	142			

- **Women, Business, and the Law: Entrepreneurship Indicator Score (Scale 0-100)**
  - **F-Statistic:** 5.99
  - **Significance Level:** 0.000
  - Statistically significant
  - Explains variation in Entrepreneurship Indicator Score
  - At least one independent variable has significant impact on Entrepreneurship Indicator Score

Ordinary Least Squares (OLS) Regression for Dependent and Independent Variables

Table 21: OLS Regression Coefficients - Women, Business, and the Law: Entrepreneurship Indicator Score (Scale 1-100) (*n*=189)

	Unstandardized Coefficients B	Unstandardized Coefficients Standard Error	Standardized Coefficients Beta	t	Significance Level	95% Confidence Interval for B Lower Bound	95% Confidence Interval for B Upper Bound
Constant	96.86	3.23	0.00	29.96	0.000	90.47	103.26
Borrowed to start, operate, or expand a farm or business (% age 15+)	-0.76	0.34	-0.26	-2.25	0.026	-1.42	-0.09
Cost of business start-up procedures (% of GNI per capita)	-0.05	0.03	-0.17	-1.83	0.070	-0.10	0.00
Saved to Start, Operate, or Expand a Farm or Business (% age 15+)	0.08	0.23	0.04	0.34	0.732	-0.37	0.53
Start-up procedures to register a business (number)	-1.17	0.44	-0.27	-2.66	0.009	-2.04	-0.30
Time required to start a business (days)	0.10	0.05	0.20	1.92	0.057	0.00	0.20

- Entrepreneurship Indicator Score = a + b_1 Borrowed + b_2 Cost + b_3 Saved + b_4 Procedures + B_5 Time
- **Constant - Women, Business, and the Law: Entrepreneurship Indicator Score (Scale 0-100)**
  - **Intercept:** a = 96.86
    - Theoretical Entrepreneurship Indicator Score when all independent variables (b_1 Borrowed + b_2 Cost + b_3 Saved + b_4 Procedures + B_5 Time) = 0
    - Overall conditions positive and supportive for Entrepreneurship Indicator Score and entrepreneurship.
  - **Significance Level:** 0.000 (significant)
    - Statistically significant, intercept as reliable predictor for Entrepreneurship Indicator Score

Ordinary Least Squares (OLS) Regression for Dependent and Independent Variables

- **Borrowed to start, operate, or expand a farm or business (% age 15+)**
  - **Unstandardized Coefficients (B):** -0.76 (negative); **Significance Level:** 0.026 (significant)
  - Significantly negative net effect, borrowing (% 15+) decrease 0.76 Entrepreneurship Indicator Score
- ***Cost of business start-up procedures (% of GNI per capita)***
  - ***Unstandardized Coefficients (B):*** *-0.05 (negative);* ***Significance Level:*** *0.070 (not significant)*
  - *Insignificantly negative net effect, cost (% GNI per capita) decrease 0.05 Entrepreneurship Indicator Score*
- ***Saved to Start, Operate, or Expand a Farm or Business (% age 15+)***
  - ***Unstandardized Coefficients (B):*** *0.08 (positive);* ***Significance Level:*** *0.732 (not significant)*
  - *Insignificantly positive net effect, savings (% 15+) increase 0.08 Entrepreneurship Indicator Score*
- **Start-up procedures to register a business (number)**
  - **Unstandardized Coefficients (B):** -1.17 (negative); **Significance Level:** 0.009 (significant)
  - Significantly negative net effect, procedures (number) decrease 1.17 Entrepreneurship Indicator Score
- ***Time required to start a business (days)***
  - ***Unstandardized Coefficients (B):*** *0.10 (positive);* ***Significance Level:*** *0.057 (not significant)*
  - *Insignificantly positive net effect, time (days) increase 0.10 Entrepreneurship Indicator Score*

Ordinary Least Squares (OLS) Regression for Dependent and Independent Variables

- **Most Robust Predictor of Entrepreneurship Indicator Score Using Standardized Coefficients (Beta)**
  - **1st Largest Beta**
    - $|-0.27| = 0.27$
    - Start-up procedures to register a business (number)
  - **2nd Largest Beta**
    - $|-0.26| = 0.26$
    - Borrowed to start, operate, or expand a farm or business (% age 15+)

6

Discussion

Results Summary for Research Question and Hypothesis #1

- **Descriptive Statistics:**
  - **Borrowed to start, operate, or expand a farm or business (% age 15+)**
    - **Mean:** 5.82%; **Minimum:** 0.1; **Maximum:** 20.7; **Highest Frequency:** 2-4%
  - **Saved to Start, Operate, or Expand a Farm or Business (% age 15+)**
    - **Mean:** 11.68%; **Minimum:** 0.3%; **Maximum:** 33.9%; **Highest Frequency:** 5-10%
- **Bivariate Correlations:**
  - **Borrowed to start, operate, or expand a farm or business (% age 15+)**
    - **Pearson Correlation:** -0.318 (negative, very weak); **Significance Level (2-tailed):** 0.000 (significant); **Relationship:** Inverse
  - **Saved to Start, Operate, or Expand a Farm or Business (% age 15+)**
    - **Pearson Correlation:** -0.188 (negative, very weak); **Significance Level (2-tailed):** 0.024 (significant); **Relationship:** Inverse
- **Ordinary Least Squares (OLS) Regression:**
  - **Borrowed to start, operate, or expand a farm or business (% age 15+)**
    - **Unstandardized Coefficients (B):** -0.76 (negative); **Significance Level:** 0.026 (significant); **2nd Largest Beta:** $|-0.26| = 0.26$
  - **Saved to Start, Operate, or Expand a Farm or Business (% age 15+)**
    - **Unstandardized Coefficients (B):** 0.08 (positive); **Significance Level:** 0.732 (not significant)

Discussion for Research Question and Hypothesis #1

- **Research Question #1**
  - **How do borrowing and saving behaviors for starting, operating, or expanding a business influence the Women, Business, and the Law: Entrepreneurship Indicator Score?**
    - Low borrowing behaviors average 5.82% and most women borrowing 2-4%
    - Slightly higher saving behaviors average 11.68% and most women saving 5-10%
    - Borrowing behaviors increase, Entrepreneurship Indicator Score decreases 0.76
    - Saving behaviors no effect on Entrepreneurship Indicator Score
- **Hypothesis #1**
  - **Higher borrowing and saving behaviors for starting, operating, or expanding a business result in higher Women, Business, and the Law: Entrepreneurship Indicator Score.**
    - Results does not support hypothesis
    - Higher borrowing behavior negative impact on Entrepreneurship Indicator Score
    - Higher saving behavior no negative or positive impact on Entrepreneurship Indicator Score

Results Summary for Research Question and Hypothesis #2

- **Descriptive Statistics:**
  - **Cost of business start-up procedures (% of GNI per capita)**
    - **Mean:** 26.58%; **Minimum:** 0%; **Maximum:** 352%; **Highest Frequency:** 0–10%
  - **Start-up procedures to register a business (number)**
    - **Mean:** 7.21; **Minimum:** 1; **Maximum:** 20; **Highest Frequency:** 7
- **Bivariate Correlations:**
  - **Cost of business start-up procedures (% of GNI per capita)**
    - **Pearson Correlation:** -0.262 (negative, very weak); **Significance Level (2-tailed):** 0.000 (significant); **Relationship:** Inverse
  - **Start-up procedures to register a business (number)**
    - **Pearson Correlation:** -0.324 (negative, very weak); **Significance Level (2-tailed):** 0.000 (significant); **Relationship:** Inverse
- **Ordinary Least Squares (OLS) Regression:**
  - **Cost of business start-up procedures (% of GNI per capita)**
    - **Unstandardized Coefficients (B):** -0.05 (negative); **Significance Level:** 0.070 (not significant)
  - **Start-up procedures to register a business (number)**
    - **Unstandardized Coefficients (B):** -1.17 (negative); **Significance Level:** 0.009 (significant); **1st Largest Beta**: | -0.27 | = 0.27

Discussion for Research Question and Hypothesis #2

- **Research Question #2**
  - **How do the cost and number of business start-up procedures to register a business affect the Women, Business, and the Law: Entrepreneurship Indicator Score?**
    - Moderate cost average 26.58% and most cost 0-10% (% of GNI per capita)
    - Cost range 0% (no cost) - 352% (very high cost)
    - Number of business start-up procedures average 7.21 and most 7
    - Procedures range 0-20
    - Cost no effect on Entrepreneurship Indicator Score
    - Number of business start-up procedures increases, Entrepreneurship Indicator Score decreases 1.17
- **Hypothesis #2**
  - **Higher costs and a greater number of business start-up procedures result in a lower Women, Business, and the Law: Entrepreneurship Indicator Score.**
    - Result partially support hypothesis
    - Higher costs negative impact on Entrepreneurship Indicator Score, but relationship lacks statistical significance
    - Greater number of business start-up procedures negative impact on Entrepreneurship Indicator Score

Results Summary for Research Question and Hypothesis #3

- **Descriptive Statistics:**
  - **Time required to start a business (days)**
    - **Mean:** 21.62 days; **Minimum:** 1 day; Maximum: 230 days; **Highest Frequency**: 5-10 days
- **Bivariate Correlations:**
  - **Time required to start a business (days)**
    - **Pearson Correlation:** -0.102 (negative, very weak); **Significance Level (2-tailed):** 0.163 (not significant); **Relationship:** Inverse
- **Ordinary Least Squares (OLS) Regression:**
  - **Time required to start a business (days)**
    - **Unstandardized Coefficients (B):** 0.10 (positive); **Significance Level:** 0.057 (not significant)

Discussion for Research Question and Hypothesis #3

- **Research Question #3**
  - **How does the time required to start a business impact the Women, Business, and the Law: Entrepreneurship Indicator Score?**
    - Time required to start a business average 21.62 days with most 5-10 days
    - Range 1-230 days
    - Statistically insignificant from Bivariate Correlations and OLS Regression
- **Hypothesis #3**
  - **Longer time required to start a business results in a lower Women, Business, and the Law: Entrepreneurship Indicator Score.**
    - Results does not support hypothesis
    - No clear evidence time required to start a business impact Entrepreneurship Indicator Score

7

Limitations and Future Research

Limitations and Future Research

- **Limitations**
  - Not all 16 Indicators $n \geq 100$
  - Limited indicators as dependent and independent variables
  - 2 Independent variables only available 2014 and 2017
    - Borrowed to start, operate, or expand a farm or business (% age 15+)
    - Saved to start, operate, or expand a farm or business (% age 15+)
  - Most recent year available for dependent and independent variables vary 2017-2023
  - Different economic, social, and cultural conditions for global economies
  - Research not connected with other topics in World Bank Group Gender Data Portal
    - Assets, Education, Employment and time use, Environment, Health, Leadership, Norms and Decision-making, Population, Technology, Violence, Children 0-14, Youth 15-24, and Sustainable Development Goals (SDGs)
- **Future Research**
  - In addition to entrepreneurship, what other strategies could advance the Sustainable Development Goals (SDGs)?
  - How can the work of women in the informal economy be better addressed to support the SDGs?
  - Comparison of variables and results (if available) when disaggregation = male, disaggregation = total
  - What do the variables and results show for men entrepreneurs?
  - Pre-COVID and Post-COVID entrepreneurship

8

Conclusion

Conclusion

- **Question and Hypothesis #1:**
  - Borrowing and saving behaviors do not have expected positive impact on Entrepreneurship Indicator Score
  - Borrowing behaviors linked decline in Entrepreneurship Indicator Score, suggest barriers to access and use of business loans for women's entrepreneurship
  - Structural and systemic financial factors
- **Question and Hypothesis #2:**
  - Some economies cost of starting a business relatively low
  - Other economies cost of starting a business significant financial barrier
  - Number of start-up procedures to register a business has greater negative impact than start-up costs
  - Highlight impact of government initiatives and policies on women's entrepreneurship
  - Simplify procedures for women's entrepreneurship
- **Question and Hypothesis #3:**
  - Other variables best time required substantial role impact Entrepreneurship Indicator Score
- **Impact on on Entrepreneurship Indicator Score**
  - Borrowed to start, operate, or expand a farm or business (% age 15+)
  - Start-up procedures to register a business (number)
- Other variables and strategies positively impact Entrepreneurship Indicator Score
- Other strategies advance SDG #5: Gender Equality and SDG #8: Decent Work and Economic Growth

9

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