

Gender Gaps in Firm Performance

Evidence from Mexico, Central America, and Caribbean
Countries

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Introduction

Context:

- ▶ Female entrepreneurship is increasingly promoted as a driver of inclusive growth and gender equality.
- ▶ Women's participation in business contributes to productivity and economic diversification, but their potential remains underutilized due to social norms and limited access to productive assets.

Problem:

- ▶ Despite policy efforts, women-led firms consistently underperform compared to male-led firms—in sales, profits, and value added.
- ▶ Understanding whether these gaps reflect differences in resources or structural barriers remains an open question in LAC.

This Paper

Objective

- ▶ Quantify and decompose gender gaps in firm performance using World Bank Enterprise Surveys from eight countries in Mexico, Central America, and the Caribbean.

Research Question

- ▶ Are there systematic gender gaps in firm performance across LAC?
- ▶ How much of these gaps are explained by differences in endowments versus differences in returns?

Literature Review (I): Global Patterns

- ▶ Women entrepreneurs have less access to productive assets (credit, land, capital) across regions.
- ▶ Even with similar inputs, women often face lower returns, pointing to structural barriers.
- ▶ Empirical studies in Africa, Asia, and Latin America show lower sales, profits, and productivity among female-led firms (Bardasi et al., 2011; Bruhn 2009; Palacios-Lopez et al., 2018).
- ▶ Gaps often persist after controlling for firm and manager characteristics, suggesting systemic constraints beyond resources.
- ▶ Explanations in the literature emphasize access to finance, networks, market linkages, and social norms that limit women's business growth.

(Key refs: Bardasi et al. 2011; Bruhn 2009; Palacios-Lopez et al. 2018; World Bank 2019)

Literature Review (II): Gaps and Contribution

What existing studies show

- ▶ Most focus on agriculture or Sub-Saharan Africa; few on LAC's formal private sector. LAC evidence is country-specific and often based on ownership, not management.
- ▶ Global analyses (Palacios-Lopez et al. 2018; World Bank 2019) pool regions, masking LAC-specific patterns and sectoral variation.

What this paper adds

- ▶ First regional analysis of gender gaps in formal firm performance across LAC.
- ▶ Uses manager-based definition and harmonized Enterprise Survey data
- ▶ Reveals sectoral and country heterogeneity, with persistent gaps in services and key economies.
- ▶ Shifts focus from access to resources to returns on those resources.

Data

- ▶ Source: World Bank Enterprise Surveys (2010-2017)
 - ▶ Representative of formal firms (≥ 5 employees) in manufacturing & services
 - ▶ Eight countries → Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Dominican Republic.
- ▶ Unit of analysis: Firm (top manager identified as male / female).
- ▶ Sample size: $\approx 3,500$ firms.

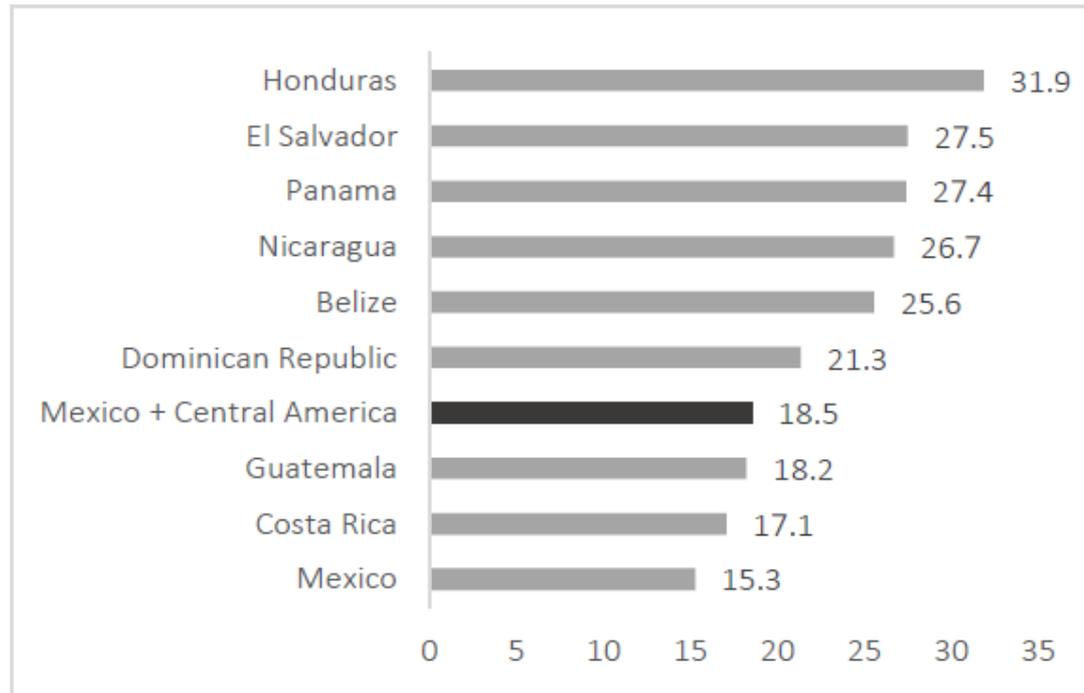
Performance Indicators

- ▶ Annual Sales
- ▶ Gross Profits (sales - labor costs)
- ▶ Value Added (sales - cost of materials)
- ▶ All expressed in 2010 USD, IHS transformation to handle zero/negative values

Methodology

- ▶ Estimate gender gaps in **firm performance**.
- ▶ Control for firm characteristics – size, sector, exporting, investment, technology use, and access to finance.
- ▶ Include top manager's gender and tenure (only available individual-level variable).
- ▶ Add **country and sector fixed effects** to capture contextual variation.
- ▶ Apply **Oaxaca-Blinder decomposition** to separate:
 - ▶ **Endowment effect:** differences in inputs (e.g., capital, exports, finance, technology).
 - ▶ **Structural effect:** differences in returns to those inputs (potential structural barriers).
- ▶ Quantifies **how much of the gap** is explained by observed factors vs. unexplained differences.
- ▶ Provides a **diagnostic**, not causal, interpretation → identifies where inequalities originate.

Share of Female-Managed Firms



- ▶ This figure mirrors the low shares of female-managed firms in each country, which do not reach a third in either one.
- ▶ The regional average of **18.5 percent** is lower than the average for the Latin America and the Caribbean region (21.4 percent), and higher than the OECD.

Descriptive Findings

- ▶ Median sales, profits, and value added are markedly lower for women-led firms.

Establishment Performance	Male	Female	Difference
Annual sales	14.63	13.43	1.202 ***
Gross profit (sales - labor cost)	14.09	12.76	1.323 ***
Value added (sales - materials)	13.39	11.95	1.442 ***
USD equivalent ('000)			
Mean sales	\$1,129	\$340	70%
Mean gross profit	\$658	\$174	74%
Mean value added	\$327	\$77	76%

Descriptive Findings

- ▶ Gaps hold across firm sizes and countries
- ▶ Female-led firms are **younger, smaller, and less likely** to export, invest, or access credit
- ▶ **Sectoral pattern:** women concentrate in **services and retail**, men in manufacturing and capital-intensive sectors

Regression Results: Conditional Gaps (Pooled)

- ▶ After controlling for firm, manager, sector, and country characteristics:
 - ▶ Sales: women-led firms perform 38 % lower
 - ▶ Gross profits: 43 % lower
 - ▶ Value added: 46 % lower
- ▶ Gaps remain statistically significant at the 1 % level
- ▶ Key correlates of better firm performance:
 - ▶ Exporting, foreign ownership, own website, capital investment, and access to credit
- ▶ Suggests that even with similar inputs, female-managed firms earn less → motivates decomposition into endowment vs. structural effects

Regression Results: Returns by Manager's Gender

Domain	Variable	Female-managed firms	Male-managed firms	Stronger effect
Market access	Foreign ownership	0.89 ***	1.17***	Men
	Exporting	0.76 ***	0.96***	Men
Human capital	Manager experience	n.s.	0.009 ***	Men
ICT & innovation	Own website	0.80 ***	1.25 ***	Men
Capital	Investment in equipment / land	0.055 ***	0.075 ***	Men
Finance	Bank credit	n.s.	0.15 **	Men
Labor	# female employees	0.004 **	0.001 **	Women

- Returns to the same inputs differ by manager's gender.
- Men's returns are higher for experience, capital, exporting, and finance.
- Women's returns are weaker; only website use and female labor share remain significant.
- Confirms structural differences in returns, not only access gaps.

Oaxaca-Blinder Decomposition Results

Performance outcome (IHS)	Annual sales	Gross profit	Value added
Mean			
Male manager	14.602 ***	14.062 ***	13.322 ***
Female Manager	13.404 ***	12.751 ***	11.888 ***
Gender differential	1.198 ***	1.311 ***	1.434 ***
Endowment effect (explained)	0.716 ***	0.750 ***	0.813 ***
<i>Share of differential</i>	60%	57%	57%
Female structural disadvantage (unexplained)	0.481 ***	0.560 ***	0.621 ***
<i>Share of differential</i>	40%	43%	43%

Standard errors in brackets in paper omitted here for clarity; *** $p < 0.01$)

- ▶ Large and significant gender gaps across all outcomes
- ▶ About 60 % of the gap explained by differences in observable inputs
- ▶ Remaining 40 % reflects structural disadvantages.

Explained vs. Unexplained Components

What drives the explained gap?

- ▶ Differences in firm size, access to finance, and market integration account for most of the explained share.
- ▶ These reflect persistent access constraints faced by women entrepreneurs.

What drives the unexplained gap?

- ▶ Women receive lower returns to similar inputs (capital, experience, exporting)
- ▶ Points to structural disadvantages—discrimination, weaker networks, or market segmentation

Overall message

Gender inequality in firm performance arises from both access and structural barriers – policies must tackle resources and returns.

Sectoral and Country Heterogeneity

Dimension	Main findings	Interpretation
Sectors	<ul style="list-style-type: none">• Gender gaps largest in Services and Retail• Smaller (but significant) in Manufacturing	Women concentrated in low-value, service activities → sectoral sorting drives part of gap.
Country variation	<ul style="list-style-type: none">• Gaps remain significant in Costa Rica, Dominican Republic, Honduras, and Mexico• Smaller or nonsignificant in others	Reflects differences in market structure, policy environment, and female firm participation.
Firm size	<ul style="list-style-type: none">• Gaps persist across all size categories• Slightly smaller among larger firms	Larger firms partly overcome constraints through scale and formal networks.
Time / cohort	<ul style="list-style-type: none">• No clear time trend (2010-2017)	Structural barriers appear stable over time.

- Gender gaps are **systematic but heterogeneous**: strongest in service-oriented and middle-income contexts, and persistent even among larger, formal firms.
- Highlights the need for **context-specific policies** rather than one-size-fits-all interventions.

Policy Discussion and Implications

- ▶ Women face dual constraints:
 - ▶ Lower access to productive resources
 - ▶ Lower returns to those resources
- ▶ Suggests both market exclusion and structural discrimination
- ▶ Dual Approach Needed:
 - ▶ Alleviate household-level constraints (e.g., childcare)
 - ▶ Improve women's access to critical markets (e.g., credit, technology)
- ▶ Effective Interventions: Bundled services (capital + training), mentorship, and addressing time/mobility constraints are more effective than standard business training alone.

Limitations

- ▶ Enterprise Surveys lack socioeconomic data on managers
- ▶ Covers only formal firms (excludes informal sector where many women operate)
- ▶ Cross-sectional data → no causal identification

Potential Extensions

- ▶ Incorporate household/family-level data
- ▶ Explore informal sector dynamics
- ▶ Use panel data to study firm growth trajectories
- ▶ Test policies (childcare, credit, training) using impact evaluations

Conclusion

- ▶ Women-led firms underperform across sales, profits, and value added – even within the formal sector
- ▶ About 60 % of the gap arises from unequal access to finance, scale, and markets.
- ▶ The remaining ≈ 40 % reflects structural disadvantages – lower returns to similar inputs.
- ▶ Gender inequality in firm performance is thus not only about resources, but also how markets value women's firms
- ▶ Policy implication: Address both access and returns – empower women to compete, innovate, and grow equally

Robustness Checks - Recent Revisions

- ▶ Belize removed from the sample; estimated separate regressions by firm size
 - ▶ Full sample regressions still show evidence of gender gaps
 - ▶ But excluding Mexico → gaps lose significance in 3 of 4 performance indicators
 - ▶ Size-specific regressions → no significant gender gaps, except weak evidence in small firms (labor productivity)
- ▶ Country-level regressions: mixed evidence, with some countries showing significance only for selected outcomes