

Capítulo 9

Buried Treasure, Buried Rights: Gender Wage Inequality in Latin American Mining Industry

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Abstract

This study examines gender pay inequalities in Latin America's mining industry. This study is based on data from several mining companies in various Latin American countries. It uses quantitative and qualitative methods to analyze the data. The results reveal significant pay disparities between men and women in the mining industry in Latin America, with women earning, on average, between 25 % and 41 % less than men in equivalent roles. This study identifies several factors contributing to these disparities, including discrimination and bias, lack of access to training and career development opportunities, and gendered occupational segregation.

The study also finds the consequences of these pay disparities, including reduced economic security and well-being for women and their families and negative impacts on the broader economy. The study concludes by proposing several policy and practice recommendations for addressing gender pay inequalities in the mining industry in Latin America, including implementing gender-sensitive recruitment and retention strategies, promoting equal pay and equal opportunities for women, and addressing discrimination and bias in the workplace.

1. Unveiling the Gender Pay Gap: A Holistic Examination of Latin America's Mining Industry

The issue of gender pay disparity persists globally, impacting both developed and developing nations. This inequality affects individual women and has broader economic implications, hindering growth, poverty reduction, and social development (Goldin, 2014; OECD, 2022). While the change in pay differentials among workers with similar skills and education accounts for a large share of overall inequality, more than half of the prevailing wage inequality occurs among workers with equivalent

education, labor market experience, gender, location, and employment in the same sector (Helpman et al., 2010). The mining industry exemplifies this trend, with women often receiving lower pay and facing significant barriers to advancement, particularly in regions like Latin America (Kansake et al., 2020). This study analyzes the income gender gap (IGG) within Latin America's mining sector, exploring its multifaceted causes and far-reaching consequences (Mayes and Pini, 2014; Ugwuanyi and Jones, 2016; Yeung and Yang, 2020).

The roots of gender pay disparities in mining are deep and multifarious. Women who earn less than men are disproportionately affected by poverty and lack access to crucial services like healthcare and education, impeding their full participation in society (Busse and Speilmann, 2006). In 2022, the global gender gap closed by 68,1 %, meaning it would take 132 years to reach full parity (Global Gender Gap Report, 2022). Despite these challenges, efforts to address gender pay gaps have been insufficient, with male dominance in the workforce and entrenched cultural norms perpetuating inequalities (McDonald et al., 2012). While previous studies have shed light on these issues, more quantitative analysis is still needed, particularly across different countries. This study seeks to fill that gap by examining trends in the IGG over the past decade, emphasizing the need for continued action to achieve true gender parity.

Moreover, the complexities of gender pay disparities extend beyond the workplace, intersecting with more significant economic and political systems. The mining industry's impact on gender equality profoundly affects stakeholders positively and negatively. Globalization and multinational corporations exacerbate disparities by outsourcing low-paying jobs to developing countries, where women often bear the brunt of unequal compensation (Madgavkar et al., 2016). Despite the potential benefits of women's participation in the workforce, limited political will and inadequate legal protections impede progress toward gender equity.

Given these challenges, this study aims to provide valuable insights into the current gender pay disparities in Latin America's mining industry. By identifying root causes and highlighting the adverse effects of unequal pay, we seek to inform policies and programs to promote equality and fairness in the workplace. Ultimately, our analysis underscores the ur-

gency of addressing gender pay disparities to foster inclusive economic growth and social development in Latin America and beyond (Messina and Silva, 2018; Ugwuanyi and Jones, 2016).

We hope this study will help inform policies and programs to promote equality and fairness in the workplace by understanding the factors contributing to gender pay disparities in developing countries and highlighting the adverse effects of unequal pay.

2. A Review of Gender Pay Disparities in Developing Countries

The income gender gap (IGG) in developing countries has garnered considerable attention within the academic community due to its persistent nature and significant socioeconomic implications (Lee and Kray, 2021; Aksoy et al., 2021). Scholars have often decomposed this gap to understand its various components, including gender differences in human capital, family responsibilities, labor market location, and organizational characteristics (Rosenfeld and Kalleberg, 1990; Kalleberg and Berg, 1987). Notably, the mining industry in Latin America faces unique challenges, including governmental interactions and a lack of rule of law, contributing to gender income disparities (Valderrey et al., 2022; Humphrey et al., 2019).

Gender-based division of labor and cultural expectations significantly influence women's economic opportunities despite the region's economic growth and urbanization (Marquez and Prada, 2007). Women are often relegated to low-paid occupations, perpetuating wage inequalities (Atal et al., 2009). Research across Latin American countries offers diverse perspectives on the causes of the income gender gap, ranging from fertility rates to educational attainment (Madrigal, 2004; Pagan and Sanchez, 2000; Popli, 2008).

Studies on specific Latin American countries highlight distinct factors contributing to wage differentials. In Mexico, for instance, Madrigal (2004) states that higher fertility rates may result in lower levels of female labor participation, while women with higher levels of schooling have a higher opportunity cost when leaving their jobs. Pagan and Sanchez

(2000) argue that because women are forced to balance family and market responsibilities, they face a significant constraint on women's work, productivity, and earnings, which may expand the IGG. Popli (2008) assures that increasing women's education level leads to higher wages than men in the long term if segregation and age-related paradigms do not persist.

The literature focused on Brazil finds that income differences may be mainly attributed to an organization's human capital department (Birdsall and Fox, 1985), to unobserved characteristics (Tiefenthaler, 1992), to an increase in the female proportion of the labor force (Olivera, 2001), to skin color (Arias et al., 2004), to higher differences in the informal sector than the formal sector (King, 2007) and in urban areas than in rural areas. (Loureiro et al., 2004).

Similarly, in Chile, systematic differences in education, experience returns, and structural barriers to accessing decision-making posts contribute to wage gaps (Montenegro, 2001; Fuentes et al., 2005; Acosta, 2007). Education becomes significant in explaining IGG only after the 50th percentile, which favors women. The unexplainable gap is more prominent at the median of the salary distribution curve. At the same time, the IGG seems to decrease at both ends of the wage distribution spectrum (Astudillo and Perticará, 2008).

In Colombia, the correlation between the gender gap and relative poverty underscores the profound socioeconomic implications of income disparities (Urdinola et al., 2006; Bernat and Vélez, 2008), and a glass ceiling effect occurs when women reach a certain level or position (Badel and Peña, 2008).

Meanwhile, in Peru, factors such as overrepresentation in low-paid jobs and the positive effect of education on reducing the income gender gap are notable (Chavez-O'Brien, 2003; Barrón, 2008). Ethnic-related variables have no apparent effect on the IGG, but there is a positive effect if education is introduced (Ñopo et al., 2007). Gill (1992) concludes that the wage sector may attract highly educated women. However, the lack of flexibility may lead them to search for alternatives such as self-employment.

The COVID-19 pandemic has further exacerbated gender income disparities in Latin America, with women disproportionately affected by

job losses and increased caregiving responsibilities (Alon et al., 2020). Research suggests that women were more likely to suffer job and income losses because of the pandemic than men. (Fabrizio et al., 2021). Governmental responses to the pandemic, while necessary, have inadvertently reinforced traditional gender roles, underscoring the need for targeted policies to address gender inequalities (Stotsky, 2016). While these policies do not differentiate based on gender but on the type of industry and work, traditional divisions of job-related gender and caring roles disproportionately affect women.

This review underscores the intricate interplay of economic, social, and cultural factors contributing to gender pay disparities in developing countries.

3. Unveiling Gender Disparities: A Methodological Exploration

This study adopts a comparative research design to analyze the Income Gender Gap (IGG) in the Latin American mining industry, encompassing six countries: Mexico, Argentina, Chile, Colombia, Venezuela, and Panama. Utilizing secondary data from national and international databases, including official government reports, labor market surveys, and mining industry databases, we aim to discern common trends and country-specific variations in gender disparities (IMCO, 2019; Secretaría de Minería de Argentina, 2021.; Datamexico, 2023; Portal Minero Chile, 2022; Bravo, 2017; Infobae, 2022; DANE, s.f.; CEPAL, 2023; El Nacional, s.f.; INDESA, 2023). The data was collected for a specific period from 2017 to 2023, ensuring consistency across countries.

A stratified sampling technique ensures representation from diverse regions and mining companies within each country. The sample size, determined based on data availability and statistical power considerations, encompasses a range of mining operations, from large-scale to small-scale, capturing the industry's heterogeneity in Latin America. Table 1 presents a summary of the authors and extracted pay gap data.

Table 1.
References summary and extracted data.

Author	Title	Country	Year Published	Pay Gap %
Instituto Mexicano Para La Competitividad	Gender Pay Gap: A Sectorial and International Comparative Analysis	México	2022	0.25
Secretaría de minería	Employment Overview in the Mining Industry	Argentina	2021	-0.109
Datamexico	Mining: Salaries and Employed Population	México	2022	-0.0291
Portal Minero Chile	Gender Pay Gap: A Reflection of Society	Chile	2022	-0.204
Universidad de Chile	Gender Pay Gap in the Professional Segment of the Chilean Mining Industry: A Case Study	Chile	2017	-0.1132
Infobae	Female Labor Participation Stagnates in the Mining Industry in Peru	Peru	2022	-0.06
Departamento Administrativo Nacional de Estadística	Gender Pay Gap in Colombia	Colombia	2022	0.236
Comisión Económica para América Latina y el Caribe (CEPAL)	Gender Gaps in Global Value Chains in the Americas and the Caribbean	Peru	2023	-0.41
Noticiero El nacional	Gender Pay Gap in Venezuela Exposes Women to Cases of Violence and Extreme Poverty	Venezuela	2023	-0.2179
Indesa Panamá	Economic Impact of Minera Panama: Preliminary Results	Panamá	2021	-0.2017

Source. Own elaboration

At first glance, substantial variations can be observed among the data, with the most significant gender gap in favor of women being 25 % in Mexico and the most crucial gender gap in favor of men being 41 % in Peru. In the case of Mexico, the credibility of the information is compromised as there are two different figures from two sources—one indicating a gender gap in favor of women and the other stating a minimal gender gap in favor of men. This discrepancy may be attributed to factors such as the population considered for each statistical figure, the data collection year differing from the year of publication, and the type of job positions for each gender.

4. Key Findings

The study's results underscore a gender pay gap within the mining industry across selected Latin American countries. Conducting a t-test analysis at a 95 % confidence level revealed an average gender pay gap of 0.0642.

On average, female employees in the mining sector earn approximately 6,42 % less than their male counterparts, indicative of significant gender-based earnings disparities within the industry. Notably, while this study establishes the presence of a gender pay gap, it does not delineate specific contributing factors.

Further research is imperative to unveil underlying causes, such as occupational segregation and discrimination, inherent to the mining industry and the socio-cultural contexts of the countries examined. These findings align with prior research on income gender gaps in the global mining industry and Latin America, emphasizing the persistence of gender inequalities necessitating targeted interventions.

Moreover, this study's contribution to the literature on gender inequality in the Latin American mining sector is invaluable, providing evidence to inform policy reforms and initiatives to foster gender equality. It is worth noting that while sources indicate a reduction in the gender gap over time due to increased female participation and reduced educational disparities, challenges persist.

Given the occupations typically held by women in the industry, gender gaps, whether favoring women or men, remain inevitable. Nonetheless, the consensus among sources is optimistic, affirming ongoing efforts and anticipating continued reduction of the gap with time.

5. Towards Gender Equity

The sources converged in the conclusion that the gender gap has been reducing over time due to the increment in women working in the field and the reduction of educational gaps in the branch. It is important to note that due to job positions occupied by women in the industry, the gender gap, either in favor of women or men, is inevitable nowadays. All sources also conclude that there is still room for improvement and that the gap will continue to be reduced with time.

Considering the mining industry's susceptibility to external influences like commodity prices, technological advancements, and governmental policies, future research could benefit from longitudinal analyses to comprehensively capture IGG fluctuations over time.

The study's findings underscore the ongoing reduction of the gender gap attributable to increased female participation and narrowed educational disparities within the mining industry. However, due to the occupational segregation prevalent in the sector, gender gaps, whether favoring women or men, remain inescapable despite advancements and ample room for improvement persists, necessitating continued research efforts.

Future research endeavors should integrate qualitative methodologies alongside quantitative analyses to enhance the depth of understanding. This holistic approach would unveil nuanced insights into the lived experiences of female employees within the mining sector, elucidating the multifaceted nature of gender disparities.

Longitudinal analyses tracking changes in the IGG over time and cross-sectional studies considering industry-specific dynamics would offer comprehensive perspectives. Additionally, subgroup analyses dissecting the impact of various independent variables on gender inequalities would inform targeted interventions to promote equity and inclusivity within the mining industry.

In conclusion, this study enriches the discourse on gender inequality within the Latin American mining industry, emphasizing the imperative of addressing the IGG and fostering gender equality. Policy interventions to reduce occupational segregation, promote equal opportunities for career advancement, and combat discrimination are pivotal in bridging the gender gap and fostering an inclusive mining sector.

While the study contributes valuable insights, its generalizability beyond Latin American mining contexts may be limited. Given the sector-specific dynamics observed in this study, caution should be exercised when extrapolating findings to other regions or industries. Nonetheless, the study's findings underscore the ongoing progress toward gender equity within the mining industry and highlight the need for sustained efforts to promote inclusivity and fairness.

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