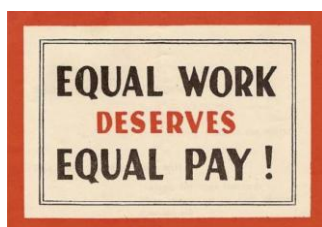


## GENDER SEGREGATION IN EMPLOYMENT - VERY PERSISTENT IN DEVELOPING COUNTRIES

**Occupational and sectoral segregation does not fall with rising incomes or more trade; higher female labor force participation and rising female education is associated with more occupational segregation.**



### Overview

Considerable progress has been made over the past few decades to decrease the gender gap in education in developing countries. Despite the progress made in education, gender gaps in labor force participation and employment have persisted. Moreover, occupational and sectoral segregation remains pervasive, with women working disproportionately in agriculture, some service sectors, and lower occupations. This segregation is a major determinant of pervasive gender wage gaps. A paper by Borrowman and Klasen (2017) analyzes the trends and determinants in occupational and sectoral segregation by gender using data for 69 developing countries between 1980 and 2011.

### Key Results

- Gendered sectoral and occupational segregation has increased in more developing countries than it has decreased over time.
- Income does not have a significant effect on neither occupational nor sectoral gender segregation in employment, and does not reduce segregation.
- An increase in female labor force participation decreases sectoral segregation but increases occupational segregation.
- Surprisingly, a decrease in the education gender gap actually increases segregation.

### By

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The Growth to Empowerment (G2E) program within GrOW examines the impact of economic growth on women's economic empowerment.

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## Background

Over the past decades, there has been tremendous progress made in reducing the global gender gap in education. To understand the implications of this progress on women's wellbeing, Borrowman and Klasen (2017) investigate whether these improvements translate into an increase in economic equality for women in the labor market. The problem could be that while women may now enter the labor force in greater numbers, they are often filling roles in the worst jobs, with the worst pay, poorest working conditions, with no benefits, and in roles where they are the first to be laid off. The segregation of women into these jobs can also create a crowding effect, which can further reduce the pay and bargaining power of women.

The existing empirical analyses on the gender wage gap shows that the gap is largely driven by occupational and sectoral segregation. Some studies even find that this segregation plays a larger role in the gender wage gap than women being paid less than men in the same sector. This type of segregation can also help explain differences in working conditions, workplace protections, benefits, health risks, and opportunities for advancement.

Most studies on employment segregation, however, do not focus on developing countries. Borrowman and Klasen close this gap in the literature by updating the literature to include 69 developing countries. Their paper also uses a more nuanced understanding of segregation by applying three different segregation measures: two aggregate indices and one that breaks down the sectoral employment distribution by gender. It also uses a fixed effects panel econometric model to robustly study the factors affecting changes in the level and trends in gendered labor market segregation over time. Lastly, their study also includes a breakdown of the effect of trends in labor market segregation by age, looking at three different samples: national age 18-64, urban age 18-64, and national age 30-54.

## Methods and Data

The data used for the study by Borrowman and Klasen (2007) is the International Income Distribution Database (I2D2), a World Bank dataset that harmonized over 600 household surveys across three decades, from 1980 to 2011. The surveys were conducted at the household level, offering a wide range of labor market, demographic, education, and standard of living variables. The authors aggregate the data and ended up with 69 developing countries that had comparable sectoral or occupational data to calculate the segregation indices (see Table 1 for the categories). The final dataset includes 24 countries from Sub-Saharan Africa, 20 from Latin America and the Caribbean, 10 from East Asia and the Pacific, 8 from South Asia, 5 from Europe and Central Asia, and 2 from the Middle East and North Africa. While this is still a small sample of countries, it is much larger than cross-country analyses in the existing literature.

As a metric for segregation, the authors used two of the main composite benchmark indices, the Duncan Index of Dissimilarity (ID) and the Karmel and MacLachland Index (IP). Each is used to measure both sectoral segregation, which measures horizontal segregation across sectors of the economy; and occupational segregation, which measures vertical segregation as some occupations occupy different positions in a hierarchy (see Table 1 for

the categories used in the paper by Borrowman and Klasen). The ID calculates the difference in male and female participation rates across sectors or occupations. It gives the percentage of men or women that would have to change sectors (occupations) without replacement to result in an equal distribution of men and women across all sectors. The values range from 0, which would indicate no segregation and an equal distribution of women and men across sectors, to 1, which would be indicative of complete sectoral segregation. As an alternative, the IP looks at the percentage of men or women that would need to change sectors (occupations) with replacement. It ranges from 0 to 0.5. While the ID is sensitive to the size of particular sectors, the IP is sensitive to the overall labor force participation rate. The two can be viewed as complementary measures of segregation.

The main empirical analysis was a regression analysis with country fixed-effects panel regressions across three different age groups. This is important because it allows the researchers to control for unobserved country differences that remain constant across time. However, the analysis cannot rule out unobserved differences that change over time, such as some other factor that can affect female labor force participation, education, and occupational or sectoral segregation. Such a factor could lead to a spurious negative correlation between female labor force participation and education and segregation.

**Table 1. Sector and occupation categories reported in the I2D1**

Sectors	Occupations
Agriculture	Senior Officials
Mining	Professionals
Manufacturing	Technicians
Public utilities	Clerks
Construction	Service and market sales workers
Commerce	Skilled agricultural
Transport and communications	Craft workers
Financial and business-oriented services	Machine operators
Community and family-oriented services	Elementary occupations
Other services	Armed forces

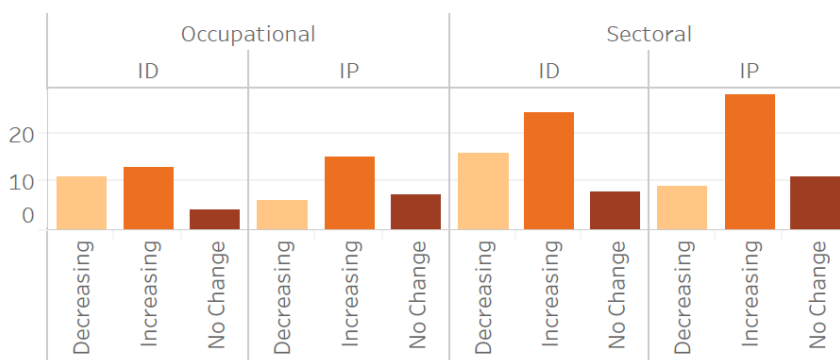
## Main Results

As shown in Figure 1, both sectoral as well as occupational segregation by gender has been rising in more developing countries than it has fallen, independent of the measure of segregation used. Segregation thus proves to be highly persistent in developing countries. Across all the age groups, rising income or economic development (measured as GDP per capita, PPP) had no significant effect on gendered occupational or sectoral segregation. This is consistent with a study by the World Bank (2011) that argued that economic development is not enough for integrating labor markets along gender lines. In fact, Borrowman and Klasen find that as countries get richer, gendered segregation stays entrenched or even becomes more entrenched. A multitude of forces work to increase and decrease gendered segregation throughout the development process, many of which are crystallized in institutions and social norms that have dynamic interactions with the process of development. Among the forces analyzed, the authors found that more exposure to trade also has no impact on sectoral or occupational segregation.

The paper also found that the effect of greater female labor force participation was different between occupations and sectors. The results suggest that increasing female labor force participation is associated with more women spreading out across the various sectors, but in a limited number of occupations. This means that segregation by gender decreased across sectors but increased across occupations. A one percent increase in female labor force participation is associated with a two percent increase in occupational segregation. The results suggest that greater female employment pushes women, at least initially, into female-dominated occupations within sectors, despite the fact that the sectors are becoming more gender balanced.

Another interesting result is that there seems to be a strong positive relationship between female education and sectoral segregation, suggesting that more female education leads to more concentration of women in certain sectors. This could be related to educated women increasingly dominating commerce or certain service sectors. The effect is only significant for sectoral segregation, and does not affect occupational segregation.

**Figure 1. Changes in segregation indices within countries over time**



## Policy Lessons

- **Structural forces and norms play an important role in occupational and sectoral segregation.** A range of programs are needed, from mentoring by role models, to specific programs for girls and young women to help them choose typical male occupations and sectors. Experiences from industrialized countries show how difficult it is to successfully implement such policies.
- **Economic development alone is not a driver of female economic empowerment in the labor market.** Instead, policies must also focus on the above changes in structural forces and social norms.
- **Focusing on the problem of gender wage gaps that result from occupational and sectoral segregation is an important policy objective.** Here the public sector as well as countrywide wage setting institutions such as minimum wages can play a role to reduce gender wage gaps arising from occupational and sectoral segregation.

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## Further Reading

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The **GrOW initiative** funds 14 research projects aimed to empower women to participate in economic activities, providing evidence that can inform social and economic policies to improve poor women's lives, while promoting economic growth.

**Research Project – G2E (Growth to Empowerment)** is a project of the GrOW initiative: Pathways for shared prosperity: Understanding the links between women's economic empowerment and growth.

### Information

<https://www.uni-goettingen.de/grow>

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