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The Gender Dynamics of Employment Generation and Growth in a Globalizing World

(New title: The Costs of Exclusion: Gender Job Segregation, Structural Change, and the Labour Share of Income?

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Abstract

While women's share of employment has risen in many countries over the last two decades, they are increasingly excluded from 'good' jobs in the industrial sector, and gender job segregation has worsened. In this paper, the determinants of gender job segregation are assessed using panel data for a broad set of developing countries covering the period 1991-2015. The effect of gender job segregation on all workers, via the labour share of income, is also analysed. The results identify two major contributors to gender job segregation—the rising capital/labour ratio and the ratio of female/male labour force participation rates—indicative of 'crowding' and exclusion as economies move up the industrial ladder. The analysis further indicates that the crowding of women into lower quality jobs has a negative effect on workers as a whole by dampening the labour share of income. Those processes are influenced by global and macroeconomic conditions and policies that have circumscribed the expansion of high-quality jobs relative to labour supply, intensifying competition for 'good' jobs and weakening labour's bargaining power.

Key words: Dual labour markets, job segregation, gender, structural change, functional distribution of income.

The Costs of Exclusion: Gender Job Segregation, Structural Change, and the Labour Share of Income

INTRODUCTION

Equitable access to employment is a foundational requirement for inclusive growth, and in particular, for gender equality. While global improvements in educational equality by gender create the supply-side conditions for attaining this goal, the outcome is not assured. The ability to translate a narrowing educational gap into employment equality depends in part on processes of structural change and global macroeconomic conditions that influence the level and structure of aggregate demand. The growth of inequality within and between countries has, for example, dampened aggregate demand, circumscribing the growth of high quality jobs relative to labour supply and relative to job growth in other sectors (Alküz, 2017; Felipe et al., 2014).

This scarcity contributes to heightened competition for 'good' jobs, potentially triggering opportunity hoarding by members of the dominant group who may emphasize gender norms that privilege male access.[1] As key players in the employment process, firms may contribute to women's exclusion from high-quality jobs for a variety of motives: 1) employers may have formed faulty stereotypes about the relative qualifications of female and male workers, 2) they may harbor concerns about the negative effect of hiring women on productivity in male-dominated sectors, 3) they may

[1] Emerging research on the economics of identity underscores that opportunity hoarding and other mechanisms that promote and reproduce stratification do not require collusion or collective action (Darity et al., 2006; Davis 2015). Group identity formation reflects not how people behave in groups but rather, how groups behave in people.

see occupational segregation as a mechanism for dividing workers by gender, thereby reducing worker bargaining power and wages, and 4) insofar as this job hoarding occurs in oligopolistic industries where firms earn rents that can be shared with workers, firms may gain in terms of efficiency wage effects. Firms with preferences for male labour then may act to exclude women from such jobs relative to men, with the result that women are crowded into lower quality employment and/or unpaid work (Bergmann, 1974).

Focusing on developing countries, we explore the period since the early 1990s, and find that such a trend is taking place in developing countries.[2] In particular, in many developed and developing countries, women's relative employment rates have risen. This has occurred, however, in the context of declining male employment rates, rendering the shift in women's work roles potentially gender conflictive. Our results also highlight the growing scarcity of high-quality work, with gender one of the ways in which economic opportunity and security are rationed. The data provide evidence consistent with growing job segregation whereby women are increasingly excluded from 'good' jobs in the industrial sector.[3]

We econometrically analyze the determinants of increased gender job segregation in developing countries, exploring the role of macro-level policies and structural change. Further, we investigate the impact of gender job segregation on the labour share of income and thus male workers. Anticipating the results, we find that modern processes of structural change and the policies associated with globalization have failed to produce sufficient high-quality jobs, with the result that women more than men are crowded into low-quality employment. The results are consistent with economic stratification processes whereby subordinate groups face exclusion from prized economic assets such as good jobs, a tendency that is exacerbated under conditions of economic scarcity or duress. We also find that that exclusion has a negative effect on the labour share of income. Gender job segregation and inequality thus contribute to class inequality.

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[2] We begin in the early 1990s because gender-disaggregated employment data only became widely available for developing countries beginning in 1991.

[3] Jobs in the industrial sector (rather than agricultural or services sectors) are used as a proxy for 'good' jobs, for reasons outlined in Section III.

THEORETICAL PERSPECTIVES ON GENDERED LABOUR MARKETS

The economics of gender stratification

To understand gender employment dynamics in developing countries in the context of globalization and structural change—in particular, how workers are allocated to various sectors— requires an analytical framework able to explore the determinants of intergroup inequality (also called horizontal inequality). A stratification framework offers this, linking the emphasis on processes of group and identity formation from sociology to economic perspectives on (collective) self-interested behavior motivated by material rewards.

Gender inequality results from systemic conditions that reproduce stratification over time and are embedded in institutions. The system is buttressed by social and psychological processes that construct gender roles in ways that economically advantage men as a group relative to women. There are two primary mechanisms by which gender (and other forms of) stratification is reproduced: exploitation and exclusion (Tomascovic-Devey, 2014). Exploitation is characterized by one group (women) being paid less than the value of what it produces, relative to other workers. Women's unpaid work as carers, which supports the reproduction of human capacities essential to a functioning market economy, is an example. The 'crowding' of women in labour-intensive export industries, where firms' greater mobility, and thus bargaining power, enables them to suppress wages, bolstering profits and export competitiveness, is another example (Bergmann, 1974).

The second mechanism is exclusion or opportunity hoarding, whereby members of the dominant group monopolize valuable positions or resources. In the labour market, this may take the form of women's exclusion from access to 'good' jobs that offer conditions consistent with decent work. Opportunity hoarding intensifies when high-quality jobs are in short supply, leading to rationing on the basis of social forces (Smeeding, 2016). Exclusion is facilitated by *norms* (rules about appropriate behavior) and *stereotypes* (generalizations about the behavior of group members) concerning the

suitability of different types of work for men and women, respectively, based on their gender roles.[4]

Norms and stereotypes work to consolidate perceptions of group differences that justify exclusion. In the case of gender, for example, a widely held norm is men are the primary breadwinners while women should perform the bulk of unpaid caring labor. Individuals tend to internalize norms, under the threat of disapproval or other social consequences if they fail to conform to social expectations. Norms then create boundaries on behavior that can inhibit mobility. They also shape the perceptions of those who control resources, such as employers. In the case of a dominant norm that women should provide caring labour, for example, women are less likely to be hired for jobs in skill- and capital-intensive industries that require on-the-job training, because firms may fear losing the sunk costs of their investments in training. Instead, women are seen as 'secondary' wage earners, more appropriately suited to labour-intensive, low-skill, or high-turnover jobs.

Examples of gender unequal stereotypes include the notion that men make better leaders than women, and that women are more nurturing than men. Stereotypes need not be accurate. Indeed, the creation and perpetuation of stereotypes is a mechanism for perpetuating hierarchy, as these are internalized at the individual level. Widely held gender stereotypes that suggest women are less suited for paid work due to their responsibility for unpaid labour or their presumed lower skills promote structured advantages for men, as women are rendered non-competing by such stereotypes.

Mechanisms of gender stratification provide a foundation for dual or segmented labour markets, which allocate employment in ways that reflect and perpetuate prevailing gender hierarchies both within and outside labour markets.

Dual labor markets

Theories of dual or segmented labour markets help to explain gender (and racial) stratification within labour markets. Dual labour markets are comprised of two technologically and institutionally distinct labour markets: the core and peripheral

[4] Evidence of the universality of such norms can be found in the *World Values Survey*, although there is variation between countries in the extent to which such norms prevail (Seguino, 2011).

sectors.[5] These differ by wage-setting mechanisms and conditions of work. Dual labour markets can be viewed as having a 'glass wall', with institutional practices and social norms making it difficult to move from the peripheral to the core sector (Das, 2013).

Jobs in the core sector are highly coveted. They are more likely to be in the formal sector of the economy where firms offer higher wages, various benefits, greater job security, opportunities for job upgrading, and better-regulated working conditions. Core sector firms often have market power, generating rents that can be shared with workers, and offering higher wages relative to those in the peripheral sector. Higher profitability also enables more investment, boosting productivity, further increasing the gap between workers in the core and peripheral sectors (Gordon and Reich, 1982).

In contrast, jobs in the peripheral labour market are more insecure, intermittent, and generally 'dead-end' with fewer opportunities for on-the-job training and upward mobility. Firms in the peripheral sector tend to have little market power and thin profit margins, which inhibits investments that raise productivity and wages. The peripheral labour market in developing countries is comprised largely of informal service sector jobs (more likely reflecting residual unemployment than remunerative work), as well as work in agriculture and small-scale, often informal, manufacturing (Vanek et al., 2014).

The availability of, and thus access to, good jobs in the core sector depends first and foremost on the structure of an economy. The processes of development linked to industrialization, where economies of scale and scope promote more rapid productivity growth, also hold promise for expanding opportunities in core sectors. While industrial policies can facilitate structural change, macroeconomic conditions and policies also help determine the availability of jobs in the core sector, including the level of demand and a country's trade and investment relations with the rest of the world.

In recent years, patterns of stalled industrialization or premature deindustrialization have been observed in a number of developing countries, thus limiting the growth of industrial sector jobs (UNCTAD, 2016). This suggests a relative

[5] Analyses of segmented labour markets often label the core sector the 'primary' sector, and the peripheral sector the 'secondary' sector. Because the terms 'primary' and 'secondary' sectors more typically refer to the agricultural/raw materials and manufacturing sectors respectively (with 'tertiary' referring to services), we use the terms 'core' and 'peripheral' to differentiate between the primary and secondary sectors of the labour market.

downsizing of the core sector. Research also shows that opportunity hoarding worsens during times of economic hardship and insecurity (Darity et al., 2006). Consequently, competition for the fewer jobs available is likely to intensify, triggering the forces of stratification that influence job access. In well-paid jobs, such as in capital-intensive or information technology industries, opportunity hoarding may be facilitated by stereotypes portraying women as less technically adept than men, and therefore less qualified for such positions.

Employers may also perpetuate stereotypes by 'crowding' women into jobs such as in labour-intensive export manufacturing, as a means of depressing women's wages and lowering export prices. For example, Elson and Pearson (1981) noted that women are portrayed as having 'nimble' fingers, making them uniquely qualified for jobs in assembly operations. It is more likely, however, that the desirability of women for these jobs is related to their perceived docility in a sector where labour constitutes a large proportion of total production costs.

Indeed, the profit motive may induce firms to actively engage in segregating workers by race and gender, as a divided workforce would likely exhibit less solidarity and thus have weaker bargaining power. Moreover, in segregated labour markets, men are less likely to demand higher wages for fear of either losing their jobs or being relegated to peripheral labour markets that offer the lower wages and poor working conditions that women endure (Hartmann, 1979). Insofar as this dynamic is occurring, there are also likely to be negative effects on the labour share of income resulting from women's exclusion from good jobs. This suggests that processes that contribute to gender inequality in employment may also exacerbate class inequality.

GENDER TRENDS IN INCLUSION AND EXCLUSION IN EMPLOYMENT

Including women, excluding men?

An important determinant of gender equality in employment is equality in education. Efforts over the past 25 years by national governments and international organizations to close the gender-based education gap have resulted in significant progress (Seguino, 2016). The mean female/male ratio of average years of educational attainment in

developing countries, for example, rose from 71.9 to 86.1 per cent.[6] Educational equality is not sufficient to achieve gender equality in employment. Conditions must exist to convert greater educational equality into comparable improvements in access to paid work.

Employment gaps have narrowed over the past two decades, although they remain significantly wider than educational gaps. Figure 1 displays a kernel density function[7] that shows the distribution of developing countries according to the ratio of women's to men's employment-to-population rate (15 years and older), comparing 1991 and 2010. In developing countries, the mean ratio rose from 57.1 per cent in 1991 to just 64.1 per cent in 2010.

That women's employment rates relative to men's have been rising since 1991 is a positive sign in terms of gender equality. Various push and pull factors have contributed to this phenomenon. Women desire employment on its own merits, and also because earning their own incomes outside the traditional family expands their choices in a wide variety of areas. Indeed, a recent global survey found that 70 per cent of women (and 66 per cent of men) interviewed would prefer that women work at paid jobs, including a majority of the women not currently in paid employment (Gallup and International Labour Organization [ILO], 2017). However, women may also be 'pushed' into employment as a result of the impact of global stagnation and unemployment on men's earnings, economic crises, cuts in public provisioning, or simply the increasing commodification of daily life that accompanies globalization, regardless of level of development. In these cases, women are said to engage in 'distress' sales of labor, to buttress family income as male earnings decline and/or financial pressures increase.

These contradictory forces can be observed in Figure 2, which plots changes in women's employment rates relative to those of men over the period 1991 to 2014. Figure 2A shows this relationship by level of development, and Figure 2B by developing region. In the majority of these countries, women's relative employment rates rose at the same

[6] Authors' calculations using Barro and Lee (2016); also note that country categories follow the United Nations classification standard.
[7] This function is a smoothed histogram that represents a distribution of frequencies, where the units of observation are country averages of the variable in question.

time as men's employment rates fell (the upper left quadrant in each figure), reflecting potentially conflictive gender equality in the sense that improvements for women may have been occurring in the context of declining job opportunities for men.[8]

There are some notable differences by country grouping. Starting with the top panel, 55.9 per cent of the sample is in the gender conflictive quadrant (see upper left), with 64.7, 56.3 and 33.3 per cent of developed, developing, and transition economies, respectively, in that quadrant. The widespread decline of men's employment in developed countries began even before the Great Recession of 2008 but was exacerbated by that crisis. For transition economies, most have experienced declines in both women's and men's employment over the period.

The lower panel shows developing-country differences by region. In the Asia region, which has a large concentration of countries (44.1 per cent) in the 'gender conflictive' quadrant (upper left), women gained at men's expense. The rest of the region shows a roughly even split between the upper right and lower left quadrants. In the Africa region, 55 per cent of countries are located in the gender conflictive upper left quadrant, with nearly two thirds witnessing declines in men's employment. Some of these declines were quite significant (for example, more than 5 percentage points in Kenya, Mauritius, Nigeria, and South Africa). The vast majority of countries in the developing America region (77.3 per cent) are in the upper left quadrant, with increases in women's relative employment as men's employment declined.

While women's employment has been rising in most countries (with some notable exceptions) regardless of level of development, the associated improvement in gender equality – as measured by women's employment relative to men's – has been partly driven by substantial declines in men's employment. And given the push and pull factors driving women's labour force participation, it is problematic that distress sales of labour might be playing a role in what superficially appears to be greater gender equality in employment. That is, women's higher relative employment rates in a number of countries may be due not

[8] One potential problem with using men's employment rates alone (instead of relative to women) is that with development, men tend to stay in school longer and retire earlier, leading to a decline in their employment rates. Although cross-country data limitations prevent restricting the sample to prime working age adults, available data indicate that limiting the sample by age does not undermine the characterization highlighted in the text.

to job competition between women and men, but rather, to women taking on inferior jobs in order to maintain family incomes in response to men's declining job opportunities and slow wage growth. This highlights the importance of achieving inclusive gender equality, in the sense of improvements for women not being at the expense of men. This partly depends on the overall state of an economy. Increasing women's employment participation without addressing demand-side constraints, or acknowledging the widespread failure of growth – when it occurs – to generate good jobs, will merely escalate labour market competition, ultimately to the detriment of both women and men.

Industry and 'good' jobs

Although women's relative employment has been rising in most developing countries, their share of 'good' jobs has been falling. That is, during the past 25 years of growing global integration, women have been increasingly excluded, as compared to men, from prized jobs, even as their educational attainment and labour force participation have risen. We identify jobs in the industrial sector as a proxy for 'good' jobs, as compared to agricultural or services sector employment. The latter, in developing countries in particular, is more likely to be informal work with lower productivity and thus wages.

Measures of decent work, as defined by the ILO, provide a good basis for comparing the quality of employment in services and industry. Decent work is defined as work that is productive, has workplace protections, and offers social protection and prospects for individual development (such as skills upgrading). In the absence of an international dataset on decent work opportunities by sector, a measure of relative job quality can be calculated using the ratio of labour productivity in the services sector to that in the industrial sector (Table 1). The rationale for this comparison is that higher productivity measures are associated with greater remuneration and benefits.[9] The data indicate that services sector labour productivity is lower than industrial labour productivity in developing regions (with ratios less than 1). The median for all non-

[9] This does not imply that industrial workers are more "productive" than services sector workers. Indeed, for the services sector at least, productivity measures can be thought of more as a consequence of wages than a cause.

developed regions is close to 0.75, suggesting that average productivity is roughly 25 per cent lower in the services sector than the industrial sector.

Based on these data, for developing countries, there is a positive association between the services sector's relative productivity and the relative concentration of men in that sector. That is, the higher the aggregate labour productivity in the services sector relative to the industrial sector, the higher too is men's concentration in that sector relative to women's (with a correlation of 0.43 for the developing countries in the sample).[10] To the extent that these measures of relative productivity mirror relative wages, this outcome is in line with the predictions about how gender stratification manifests in dual labour markets: the better the jobs, the more likely it is that members of the dominant group will 'opportunity hoard', and thus the less likely that members of the subordinate group, in this case women, will have those jobs. Given that jobs in the industrial sector are more likely to be part of the core labour market (that is, formal jobs with associated benefits and protections) than jobs in the agricultural or services sectors, we use relative access to industrial jobs as a proxy for gender employment equality.[11]

Women's exclusion from 'good' jobs

The availability of industrial sector jobs has declined since the early 1990s. On average, industrial sector employment as a percentage of total employment declined in all groups of countries (Figure 3), a trend most pronounced in developed countries. Figure 4 shows the distribution of countries in 2013 according to two ratios that compare women to men: women's employment-to-population rate relative to men's, with a sample mean of 61.8 per cent; and the ratio of women's concentration in industrial employment to men's concentration, with a sample mean of 47.2 per cent. The latter measure is referred to as 'women's relative concentration in industrial employment' for the remainder of the article, and it proxies for women's relative access to good jobs.

[10] Authors' calculations. See Table 1 for data sources.

[11] Clearly, not all industrial sector jobs are 'good', especially the ones more likely to be held by women. However, relative to most jobs in the agricultural or services sector, industrial sector jobs are likely to be 'better', even when they are not that 'good'.

As illustrated by Figure 4, women's relative concentration in industry is much lower (and more widely dispersed) on average than women's relative employment participation overall. This is evidenced by a decline in women's relative employment concentration in the industrial sector since 1991, from an average of 70.2 per cent in 1991 to 47.2 per cent in 2013 (Table 2). This phenomenon occurred in all developing-country regions, with African countries showing the largest decline. Even in Asia, where industrialization and export-oriented manufacturing have been more substantial, a decline in women's concentration in 'good' jobs in the industrial sector can be observed, despite the increase in their relative share of employment overall.

Figure 5 contrasts trends in women's relative employment and relative concentration in industrial sector jobs for the period 1991 to 2013, using a kernel density function with countries arrayed from lowest to highest shares. The modest progress towards gender equality in employment ratios (illustrated by the mean change of plus 9.2 percentage points) stands in stark contrast to the retrogression in job integration in industrial sector employment (with a mean change of minus 23.0 percentage points). The significant decline in women's relative concentration in industrial employment combined with the decline in industrial sector employment overall (Figure 3) is indicative of a process of job rationing influenced by gender.

Taken together, these figures indicate gender stratification in labour markets has worsened, with women increasingly excluded from good jobs, and instead crowded into work that is less remunerative and secure. Thus, contradictory forces appear to be at work in developing-country labour markets: women's increasing relative share of paid jobs, but their growing exclusion from 'good' jobs, suggesting the crowding of women into poor quality employment. This process has occurred in the context of the industrial sector's weakening role as a generator of high-quality employment, manifested as deindustrialization in developed and middle-income economies and stalled industrialization or premature deindustrialization in developing countries (UNCTAD, 2016).

The decline in women's relative concentration may also be due to the changing structure of the industrial sector itself, coupled with relatively rigid gender-differentiated employment in that sector. As countries upgrade to more skill- or capital-intensive

production and away from labour-intensive production, it has been found that in the manufacturing sector, a process of defeminization of employment has been occurring since the mid-1980s (Kucera and Tejani, 2014; Tejani and Milberg, 2016).

There are several reasons why this maybe occurring. First, low wages are not an important cost factor in capital-intensive industries, reducing the incentive for employers to hire women workers. Second, insofar as firms make significant investments in human capital to complement physical capital upgrading, employers may make hiring decisions on the basis of stereotypes about women's and men's roles in performing unpaid labor, and therefore their long-term attachment to the labor force (with the assumption that women are more likely to have work interruptions due to their disproportionate care burdens). Finally, men may resist women's employment in such jobs, seeing women as lower status and therefore reducing the perception of job quality.

GENDER-BASED EXCLUSION IN THE CONTEXT OF STRUCTURAL CHANGE, GLOBALIZATION, AND GROWTH

The Econometric Model

In this section, we develop an empirical model to better understand the determinants of job competition and exclusion from industrial sector employment based on gender, focusing primarily on developing countries. Our dependent variable is women's relative concentration in industrial sector jobs. Using cross-country time series data, we assess the role of stratification in the context of four sets of structural factors: (i) structural transformation and the inclusiveness of technological change, (ii) the structural and policy consequences of hyperglobalization, (iii) overall growth, and (iv) changing conditions on the supply side of the labour market.

To capture the dynamics of *structural transformation*, the model includes industrial employment as a share of total employment and industrial value-added as a share of GDP. Increases in either represent productivity-enhancing structural changes that are a key source of catch-up development (UNCTAD, 2016). Their effects on employment are, however, contradictory and therefore they need to be assessed independently of each other. Specifically, while the growth of industrial value-added

suggests increased availability of good jobs, the consequent employment generated may be insufficient to move much of the labour force into higher productivity (and paid) work. Given the stratification dynamics discussed above, this sort of employment failure would be expected to affect women more than men. Indeed, analyses of premature deindustrialization and stalled industrialization suggest that it is the failure of the industrial employment channel, and not the share of industrial value-added in GDP, that poses the biggest challenge to inclusive growth (Felipe et al., 2014; UNCTAD, 2016).

The model uses the capital-labour ratio as a proxy for *technological sophistication*; an increase represents a shift towards more capital-intensive production. As noted, a number of studies have linked defeminization of employment in manufacturing in recent decades to processes of technological upgrading, even more so than changes in trade. Given that the model controls for women's education relative to that of men (discussed under labour supply below), a negative association between capital intensity and women's relative concentration in industrial employment would suggest a gender asymmetry in the employment costs of technological change.

The extent of *global integration* is measured by the shares of trade and FDI in GDP. Most econometric studies measure trade by exports plus imports as a share of GDP, but due to the increasing import content of exports among developing countries, such measures can be misleading. What seems to matter more for growth and employment is the value-added aspect of trade. Therefore, this model uses the share of net exports of manufactures (exports less imports) in GDP as a proxy.[12] The traditional association between exports of manufactures and the feminization of industrial employment, at least when the former is more labour-intensive, is often cited as a benefit of export-led growth strategies. Similarly, to the extent that FDI is linked with exporting labour-intensive manufactures, or more industrial activity overall, it could expand women's relative access to industrial employment.

While trade and FDI quantify the extent of an economy's global integration, they are not proxies for trade policy, as a variety of trade policies can coexist with high levels

[12] Many other measures of trade were also tried, including total trade, exports and then imports as shares of GDP, but none were statistically or economically significant.

of trade or FDI. *Trade policy stance* is therefore measured by applied tariffs weighted by the share of product imports, with higher values indicative of less trade liberalization.[13]

Fiscal policy stance is measured as the share of government consumption in GDP. Given the prevalence of austerity in macro policy-making in most countries during the period under study, and associated efforts to limit the size of government, it is important to understand how public spending affects gender equality in employment. In many developed countries, the public sector is a significant source of employment for women, however, much of it in the services sector (Karamessini and Rubery, 2014). From a development perspective, if public spending is associated with either more industrial sector activity (perhaps as a result of implementing industrial policy or crowding in private industrial investment more generally), or an easing of burdens on women's unpaid care through the provision of social or physical infrastructure, one would expect a positive relationship between fiscal policy stance and women's relative access to good jobs.

Per capita GDP growth is included on the assumption that stronger growth should ease job competition, with more women accessing higher quality jobs in industry.[14] The effects of growth, however, depend on its structure and the distribution of its benefits. 'Jobless growth', a challenge associated with recent growth trajectories for both developed and developing countries, implies that growth may not alleviate gender-based job competition.

The last set of variables are *labour supply controls*. Given that industrial sector jobs tend to be more skill-intensive than other types of work, the model controls for gender differences in education, measured as the ratio of women's to men's gross secondary school enrollment rates. An increase in this ratio is expected to promote

[13] Lower income countries tend to have higher tariffs; thus a reasonable challenge to the specification is whether coefficient estimates for tariffs are picking up per capita GDP effects. Per capita GDP is not included in the model because of its high correlation with the capital-labour ratio (0.80 for developed countries and 0.85 for developing countries). At the same time, the correlation between the capital-labour ratio and weighted tariffs is quite low, at -0.17 for developed countries and -0.19 for developing countries. If any variable is picking up the effects of income, it is the capital-labour ratio.

[14] A number of other model variables are also likely to be correlated with growth, but the actual statistical correlation is weak.

women's relative concentration in industrial sector employment. Further, women's relative concentration in industrial sector jobs will be affected by relative labor supply, and we therefore control for the ratio of female to male labor force participation rates for those 15 and over. A rise in that ratio signals an increase in the relative supply of women's labor with potentially positive effects on employment concentration in industry.

Econometric Strategy and Results

Based on the above discussion, our estimated model, using fixed effects on a panel data set that spans the time period 1991 to 2014 is:

$$wind_{it} = \alpha + \mu_i + \beta_1 indemp_{it} + \beta_2 indva_{it} + \beta_3 kl_{it} + \beta_4 netx_{it} + \beta_5 FDI_{it} + \beta_6 wt_{it} + \beta_7 gov_{it} + \beta_8 gr_{it} + \beta_9 rlf_{it} + \beta_{10} red_{it} + \varepsilon_{it} \quad (1)$$

where *wind* is women's relative concentration in industrial sector jobs in country *i* at time *t*, μ is the country fixed effect, *indemp* is industrial employment as a share of all employment, *indva* is industry value-added as a share of GDP, *kl* is the capital-labour ratio, *netx* is net manufactured exports as a share of GDP, *FDI* is net inward FDI flows as a share of GDP, *wt* is weighted tariff rates, *gov* is government consumption as a share of GDP, *gr* is per capita GDP growth, *rlf* is relative female/male labour force participation rates, *red* is the ratio of female to male gross secondary school enrollment rates, and ε is the error term. (Detailed data descriptions and sources are in the data appendix.) All variables passed unit root tests except for employment variables, which could not be tested because of gaps in the time series; therefore the specification has been modified to include deterministic drift via the intercept term.

Table 3 presents the results of the analysis for the period 1991−2014, which includes a set of three specifications each for developing and developed countries separately as a number of the results differ significantly for the two groups.[15] Columns (1) and (2) include all the variables discussed above; columns (3) and (4) exclude per

[15] A statistical (Chow) test of the two models confirms that the two groups should be evaluated separately. For the developing country group, many countries are missing a number of years; this is particularly the case for the 1990s, so caution should be exercised in interpreting results.

capita GDP growth; and columns (5) and (6) exclude industrial value-added as a share of GDP as well. The discussion focuses on developing countries, with the developed-country results used primarily as a contrasting reference, and it takes the full model (columns (1) and (2)) as the basis for calculating the magnitude of effects.

Because the variables are taken in log-log form, coefficient estimates can be interpreted as the percentage change in women's relative concentration in industrial employment as a result of a one per cent increase in the independent variable in question, with two exceptions: coefficients on per capita GDP growth and net manufacturing exports as a share of GDP give the percentage change in women's relative concentration in industrial employment as a result of a one percentage point increase in either variable. The discussion below focuses on the *economic significance* of the estimates by assessing the impact of a variable's average or mean change on women's relative concentration in industrial employment. Table 4 shows sample means and standard deviations; these will be used, in combination with the coefficient estimates, to assess economic significance.

Beginning with structure, industrial employment – as opposed to industrial value-added – is a statistically and economically significant positive correlate of women's relative concentration in industrial employment in developing countries. This association holds across all models, regardless of whether a control for industrial value-added is included. A one standard deviation increase from the mean in industrial employment as a share of total employment (6.7 percentage points) is associated with a roughly 11 per cent increase in women's relative industrial employment. The coefficient on industrial value-added in contrast is insignificant, underscoring the declining job yield associated with current forms of industrialization that compromises the gender inclusiveness of growth and development.

The strong cross-sample results on the capital-labour ratio confirm the point that increases in capital intensity (and, by extension, improvements in average job quality) are associated with relative employment losses for women in industry in both developing and developed countries.[16] For developing countries, a one standard deviation increase in the

[16] This association remains even if per capita GDP is included.

capital-labour ratio, which almost doubles it, is associated with a 22.5 per cent decline in women's relative concentration in industrial employment.[17]

On the effects of global integration, estimates indicate FDI is not important in influencing women's relative access to good jobs. On the other hand, the extent of trade, as measured by net exports of manufactures, is positive and statistically and economically significant, but only for developing countries. This is in line with the trade-related links between export-oriented manufacturing and women's employment. If an economy moves one standard deviation above a zero trade balance on manufactures (plus 8.8 percentage points), women's relative concentration in industry increases 5.5 per cent. Other measures of trade (total trade, or taking imports and exports separately) are not correlated with significant changes in women's relative access to industrial employment. What seems to be more important is the extent of domestic value-added in trade in manufactures. This casts doubt on the popularity of using participation in global value chains (GVCs) as a proxy for successful globalization, or simply targeting women's involvement in GVCs as evidence of their greater inclusiveness in the benefits of trade.

Regarding weighted tariffs, this is one of the more robust positive correlates of women's relative concentration in industry. Increasing weighted tariffs by one standard deviation from the mean (5.1 percentage points) is associated with a 4 per cent increase in women's relative concentration in industry. That less trade liberalization seems to be associated with employment gains for women is not the same as saying trade *per se* is not good for inclusive development. The extent of trade or global integration is distinct from the policy environment that manages it. Less trade liberalization, especially in developing countries, may in fact promote the expansion of domestic manufacturing, and thereby women's industrial employment. In contrast, unfettered import competition can compromise local manufacturing and the job opportunities that go with it, with negative consequences for gender equality.

[17] Including services sector productivity relative to industrial sector productivity in the regressions does not substantially affect the estimates for developing countries; the coefficient estimate is actually positive and statistically significant in the developed-country specifications. The likely intuition is instructive: when services sector productivity is high, so is relative job quality, attracting *both* women and men to that sector.

The results show that, in developing countries, a stronger fiscal policy stance is also associated with a higher share of women's employment in industry relative to men's. If the developing country with the lowest value for government consumption as a share of GDP (at 5 per cent) were to increase its government spending to reach the mean of the developing-country sample (to 13.1 per cent), the associated increase in women's relative concentration in industrial employment would be 9.7 per cent. Running regressions separately for the numerator and denominator, we find that relative shifts are driven by gains for women, and not losses for men, when fiscal policy is expansive. This suggests that government spending not only encourages more demand for labour in the industrial sector, but does so in ways that reduce job competition for jobs in that sector. These relationships are only apparent in the developing-country sample.

Economic growth, on the other hand, is not a significant correlate nor does it affect the magnitude and significance of the rest of the model's coefficients when dropped [see columns (3)–(6)]. Thus, growth does not appear to be an economically important factor in determining women's relative access to high-quality employment based on its record over the past couple of decades. This result indicates that the failure of growth to produce sufficient employment is also a failure for gender equality, and confirms that simply targeting growth in the current global/macro context will not, on its own, bring about inclusive development.

Regarding controls for labour supply, women's relative secondary school enrollment rates result in their higher relative concentration in the skilled work associated with industrial sector jobs. The relationship is significant only for developed countries, however. In contrast, the higher the ratio of women's to men's labour force participation rates, the lower is women's relative concentration in industrial sector employment. This result is consistent with the segregation and crowding hypotheses discussed above: as women's participation in the labour force increases, they tend to be crowded into services sector employment because their access to industrial sector jobs is blocked. Even though only the developed-country specification achieves statistical significance, the result for developing countries is economically significant: moving the sample average ratio of 61.0 per cent up by one standard deviation (plus 17.2 percentage points) is associated with a decline of 13.2 per cent in women's relative concentration in industrial

employment. This finding highlights the problem of exclusively supply-side oriented calls for increasing women's labour force participation as a source of both growth and inclusivity. Increasing women's labour force participation on its own – without complementary policies that extend and structure aggregate demand in ways that spark the growth of good jobs – tends to compromise women's relative access to quality employment.

In sum, the economically 'largest' factors explaining women's relative concentration in industrial employment are those relating to structural change and technology. These offer evidence of a gender component to the literature on premature deindustrialization: as the availability of 'good' industrial sector jobs declines, the consequent competition tends to be more costly for women's industrial employment than for men's. Technological change and the increasing capital intensity of production are particularly problematic for women, after controlling for gender differences in education. An increase in employment opportunities in the industrial sector (as opposed to industrial value-added) offers a gender inclusive alternative, but requires a sustainable expansion of demand for industrial goods.

A similar point can be made with regard to globalization: higher net exports of manufactures improve industrial job prospects for women, as do public policies that provide some protection against import competition. An expansive fiscal policy also contributes to inclusion by increasing labour demand in ways that reduce job competition, thereby increasing women's industrial employment but not at the expense of men. Conversely, economic growth on its own is shown to have little impact on women's relative access to better jobs. Increasing women's labour force participation without supportive demand-side policies and structures to productively absorb these new market entrants tends to worsen gender segregation and encourages the crowding of women into low value-added informal service sector activities.

GENDERED EXCLUSION AND THE LABOUR SHARE OF INCOME

An important question is whether job segregation by gender has a negative impact on all workers as reflected in the labour share of income. A number of studies point to the

negative impact of globalization and financialization on the labour share of income.[18] The question of how job segregation by gender – or its obverse, job integration by gender – affects the functional distribution of income, however, has received relatively little attention in the inequality, growth, and development literature, with the exception of a handful of studies that have produced ambiguous results (Zacharias and Mahoney, 2009).

Given global evidence of gender wage gaps, an increase in women's share of employment in a sector may depress average wages in that sector.[19] This suggests that men may benefit from job segregation that excludes women from better-paid, male-dominated sectors, providing an economic incentive for occupational hoarding. Job segregation by gender, however, can also influence labour's bargaining power overall. Poor working conditions and remuneration associated with women's jobs in the peripheral sector may demonstrate to men of the 'cost' of job loss if they lose their privileged positions in the core sector. This effectively weakens their fall-back positions and bargaining power in the industrial sector, depressing wages and making it difficult for workers to capture the benefits of any increase in productivity growth. These dynamics can exert downward pressure on the labour share of income even though some subgroups of workers maintain privileged positions relative to others.

This section provides an aggregate test of this latter proposition for developing countries over the period 1991−2014. It follows the panel data frameworks found in the few studies that econometrically evaluate the determinants of the labour share of income for developing countries,[20] and adds women's relative concentration in industrial employment as a variable that influences labour's bargaining power. The analysis also includes the ratio of women's to men's labour force participation rates to control for the potential wage effects of the changing structure of the labour force as women (who are systematically paid less than men) enter the labour market.

Control variables include the set used in the previous analysis to measure structural transformation and the gender inclusivity of increasing capital intensity

[18] See, for example, Stockhammer (2017).
[19] Indeed, one of the stylized facts of the literature on gender wage gaps in the United States and in many other countries is that the higher the proportion of women in a sector, the lower is the average wage (Lansky et al., 2016).
[20] See, for example, Jayadev (2007) and Stockhammer (2017).

(industrial value-added as a share of GDP, industrial employment as a share of total employment, and the capital-labour ratio), as well as those used to measure the structural and policy consequences of globalization (trade and FDI as shares of GDP, weighted tariffs, and government consumption as a share of GDP). Real interest rates are a standard in most specifications, and reflect the ability or willingness of governments to maintain low interest rates in the context of the liberalization of global capital flows.[21] The estimated equation is:

$$LS_{it} = \alpha + \mu_i + \beta_1 wind_{it} + \beta_2 rlf_{it} + \beta_3 indemp_{it} + \beta_4 indva_{it} + \beta_5 kl_{it} + \beta_6 trade_{it} + \beta_7 FDI_{it} + \beta_8 wt_{it} + \beta_9 gov_{it} + \beta_{10} rir_{it} + \varepsilon_{it} \quad (2)$$

where *LS* is the labour share of income, *trade* is exports plus imports as a share of GDP, *rir* is the real interest rate, and all other variables are as defined in equation (1).

Table 5 presents results and includes two specifications: fixed effects in column (1) and two-stage least squares (2SLS) (also run with fixed effects) in column (2). The latter specification accounts for the endogeneity of women's relative concentration in industrial employment; the excluded instruments used for the first stage are the lagged value for women's relative concentration and net manufacturing exports as a share of GDP.[22]

Because the emphasis is on the relationship between gender equality in the labour market and the labour share, the discussion is largely limited to these estimates. Many of the regressors also determine women's relative concentration in industrial employment, and therefore the results in column (2), which account for this endogeneity, are used as the basis for discussion. As with Table 3, all the variables (except for real interest rates)

[21] Variables used by other studies that we do not incorporate, largely because of paucity of data, include controls for labour market institutions and financial liberalization. Their absence is likely taken up in the country fixed effects; however, including the Chinn-Ito index, a measure of financial openness, gives negative but statistically insignificant correlations with the labour share, and does not impact the other results (Chinn and Ito, 2008).

[22] Further diagnostics for the 2SLS specification include the first stage F-statistic for excluded instruments, which is applied to the null hypothesis that the model is under- or weakly identified; this statistic surpasses commonly applied critical values. The P-value for the Hansen J test of over-identifying restrictions indicates a failure to reject the null, implying that the instruments are valid in the sense of being uncorrelated with the error term and correctly excluded from the second stage equation.

are taken in logs, so that the coefficient estimates can be interpreted as the percentage change in the labour share of income that is associated with a one per cent increase in the independent variable in question.

In both specifications listed in Table 5, women's relative industrial concentration (that is, increased job integration in the industrial sector) has a positive and statistically significant effect on the labour share of income. Thus, efforts to improve women's access to high-quality jobs in the industrial sector (and by extension reduce their crowding into lower quality jobs) can be a win-win for both women and men. It can thereby reduce gender conflict as women's relative employment rises. To gain a sense of magnitude, and using the estimates in column (2), between 1991 and 2013 the sample mean of women's relative concentration decreased from 67.2 to 48.4 per cent (as illustrated in Figure 5), which was associated with a 3.8 per cent decline in the labour share. Considering that the sample mean of the labour share of income declined by about 4 per cent between the early 1990s and the late 2010s, the potential impact of changes in women's relative share of industrial employment was economically very significant by comparison.

Interestingly, the same change in the female-to-male (F/M) labour force participation ratio (which increased by about 7 percentage points between 1991 and 2010) was associated with a decline in the labour share of about one per cent (which is statistically insignificant). So while there is weak evidence of a negative association between women's increasing entry into the labour market and the labour share, when that entry is associated with 'good' jobs, there is a net positive effect on the labour share of income.

Among the controls for structural transformation, the only variable with a substantial and statistically significant impact on the labour share of income is the share of industrial value-added in GDP, which is strongly negative. A 10 per cent increase in the share of industrial value-added in GDP (which would typically be a modest increase from say 20 per cent to 22 per cent of GDP) is associated with a 2.6 per cent decline in the labour share of income. The implication is industrialization on its own has not been associated with better aggregate outcomes for workers in terms of the labour share in national income. It is not enough for countries to industrialize; it has to be accompanied by good jobs in order to improve overall conditions for labour. This highlights the

employment challenges associated with current processes of industrialization in developing countries, and the increasing inequality that results.

By contrast, more expansive fiscal policies along with less trade liberalization are associated with higher labour shares. And while none of the other measures of globalization appear to be significant, it is worth noting that if one runs the regressions including either exports or imports as shares of GDP, exports exert the negative correlation that appears for trade in column (1), and this persists if it is included on its own in column (2), while imports as a share of GDP show no effect. These results are in line with how one might expect global competition in export markets to exert downward pressure on labour shares. [23]

In sum, this analysis indicates that occupational hoarding by gender – as reflected in women's exclusion from industrial sector jobs and their crowding into lower quality jobs – has a significant negative impact on the labour share of income. This class dynamic is gender cooperative in that what is good for women workers is also good for labour overall, including men.

CONCLUSIONS

This article illustrates how gender exclusion in the current global era follows prevailing social norms and economic structures. In many countries, women's employment participation is increasing as that of men declines, and what appears to be more gender equality is partly due to men's loss of employment. Because the current era of growth and globalization has failed to produce sufficient high-quality jobs, women have been increasingly integrated into the labour market only on inferior terms, with gender becoming one of the ways that economic opportunity and security are rationed. This worsens overall inequality by lowering labour's share of income, with negative consequences for aggregate demand and, ultimately, growth.

This connection reveals how inequality can breed more inequality. The expanding reach of markets, increasing global integration, and the structural changes that have accompanied them have worsened conditions for labour. And gender has become an

[23] Full econometric results from disaggregating trade into exports and imports, not reported here, are available on request.

unfortunate aspect of how inequality manifests and persists. The employment losses associated with structural and technological change have been especially costly for women's access to the higher quality jobs associated with industrial sector work in developing countries.

Policy can play a major role in reversing this development, however. On its own, growth has not done much to improve gender inclusion in employment, partly because of its failure to generate sufficient employment overall. On the question of trade, more is not necessarily better. What matters is the extent of domestic value-added, at least in manufacturing. Trade policy stances involving less liberalization of imports appear to support women's relative access to industrial work in ways that preserve men's access to employment as well, suggesting that managing trade can improve the gender inclusivity of development.

Combating gender stereotypes and otherwise fostering and facilitating women's access to core sector employment, especially through social infrastructure investments that better enable women to combine paid work and their responsibilities for care, are important interventions to consider. Pairing such efforts with demand-side interventions, including through more expansive fiscal stances, can increase the demand for labour and make growth more gender inclusive. This would also improve economic prospects for men.

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Table 1. Ratio of services sector to industrial sector labour productivity

Region	***Mean***	***Median***
Full sample	0.89	0.87
Developed countries	1.04	1.05
Developing countries	0.79	0.75
Africa	0.83	0.75
America	0.72	0.74
Asia	0.82	0.74
Transition economies	0.83	0.75

Notes: Sectoral productivities are calculated as the value-added of sectoral output relative to the number of employees in that sector; unweighted averages for country groups are for the period 1991−2015.
Source: Authors' calculations using the World Bank *World Development Indicato*rs (*WDI*) and *Penn World Tables* databases.

Table 2. Female to male employment rate ratios, and women's relative concentration in industrial employment, by developing region, 1991 and 2010 (per cent)

Developing region	***Ratio of women's to men's employment rates***		***Relative concentration of women in industrial employment***	
	1991	2010	1991	2010
Africa	53.0	57.2	91.8	47.9
America	48.0	61.1	67.9	53.1
Asia	46.3	51.0	59.3	47.2
South Asia	42.0	46.7	63.8	40.8
East Asia	62.2	73.2	75.9	33.1
West Asia	25.2	28.0	22.1	36.5
South-East Asia	62.8	66.9	87.9	66.1

Note: The data are based on three-year averages.
Source: Authors' calculations, based on ILO data, extracted from the World Bank, WDI database (accessed 15 February 2017).

Table 3. Determinants of women's relative access to 'good' jobs, developing and developed countries

Dependent variable: Women's relative concentration in industrial employment

	Developing (1)	Developed (2)	Developing (3)	Developed (4)	Developing (5)	Developed (6)
Industrial emp./total emp.	0.350*	-0.148	0.350*	-0.166	0.372**	-0.012
	(0.180)	(0.171)	(0.180)	(0.168)	(0.164)	(0.127)
Industry value-added/GDP	0.099	0.217	0.101	0.229		
	(0.138)	(0.143)	(0.133)	(0.138)		
Capital-labour ratio	-0.283**	-0.198***	-0.284**	-0.200***	-0.297***	-0.218***
	(0.110)	(0.063)	(0.111)	(0.063)	(0.098)	(0.064)
Net manufacturing exports/GDP	0.006*	-0.001	0.006*	-0.001	0.0067**	-0.001
	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)	(0.002)
Inward FDI/GDP	-0.001	0.0035	-0.001	0.006	-0.003	0.005
	(0.024)	(0.005)	(0.025)	(0.004)	(0.024)	(0.005)
Weighted tariff	0.062**	0.087***	0.062**	0.087***	0.064**	0.081***
	(0.028)	(0.018)	(0.029)	(0.018)	(0.028)	(0.019)
Government consumption/GDP	0.156*	0.046	0.153*	0.003	0.144*	-0.051
	(0.080)	(0.115)	(0.079)	(0.101)	(0.079)	(0.084)
Per capita GDP growth	0.0003	0.003				
	(0.003)	(0.002)				
Female/male labour force participation	-0.468	-0.952**	-0.468	-0.984**	-0.437	-0.947**
	(0.334)	(0.404)	(0.333)	(0.401)	(0.335)	(0.351)
Female/Male secondary school enrollment	0.191	0.387**	0.190	0.395**	0.200	0.379**
	(0.295)	(0.185)	(0.293)	(0.189)	(0.268)	(0.176)
Observations	437	599	437	602	443	653
R-squared	0.267	0.728	0.267	0.728	0.277	0.742
F-stat	8.41	66.24	9.35	54.51	9.16	56.84
Number of countries	61	33	61	33	62	34

Notes: All variables except for net exports of manufactures as a share of GDP and per capita GDP growth are measured in logs. All regressions are based on annual observations for the period 1991−2014, and include country fixed effects; constants are not reported. Robust standard errors, all of which are clustered by country, are shown in parentheses. Including time dummies for the Asian financial crisis and the most recent global financial crisis of 2008-2009 does not affect the results. Further details on data are provided in the data appendix. Statistical significance is indicated as follows: *10 per cent; ** 5 per cent; *** 1 per cent.

Table 4. Sample mean and standard deviations, developing and developed countries

	Developing countries		***Developed countries***	
	Mean	Standard deviation	Mean	Standard deviation
Relative female/male industrial emp.	56.85	25.92	42.50	12.80
Industrial emp./total emp.	21.72	6.65	28.06	5.79
Industry value-added/GDP	32.63	11.62	29.12	5.40
Capital-labour ratio	$90,796	$72,191	$275,771	$96,748
Net exports of manufactures/GDP	-8.70	8.81	-2.03	8.58
Inward FDI/GDP	3.13	2.80	4.94	7.43
Weighted tariffs	7.85	5.05	2.44	1.73
Government consumption/GDP	13.13	3.61	19.50	2.91
Per capita GDP growth	2.74	3.56	2.21	3.39
Female/male labour force participation	61.01	17.19	81.88	8.30
Female/male secondary school enrollment	101.57	12.88	101.34	4.93

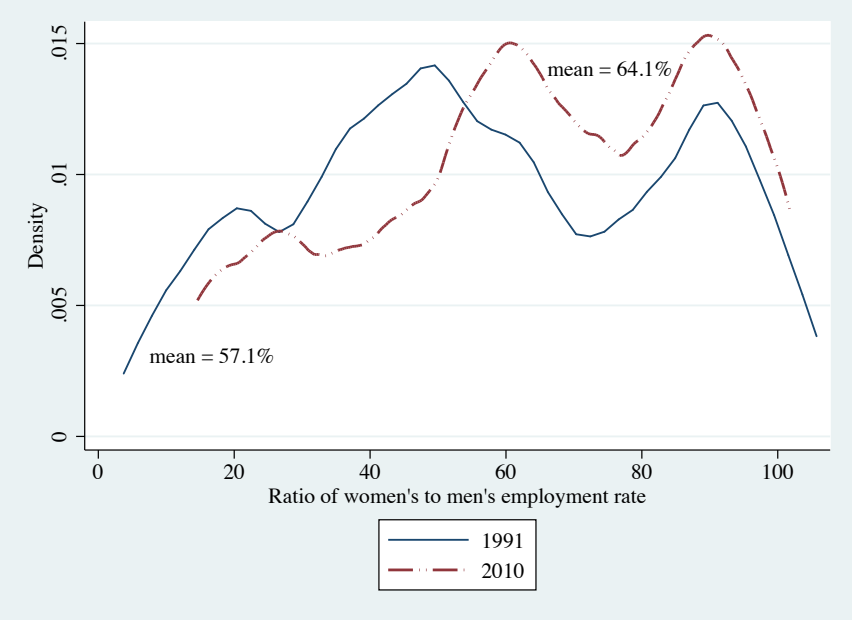
Source: See the data appendix.

Table 5. Determinants of labour share of income

Dependent variable: Labour share of income	Fixed effects (1)	Two-stage least squares (2)
Women's relative concentration in industrial employment	0.080**	0.137**
	(0.037)	(0.055)
Female/male labour force participation	-0.154	-0.091
	(0.100)	(0.107)
Industrial emp./total emp.	-0.021	0.042
	(0.051)	(0.052)
Industrial value-added/GDP	-0.183*	-0.258***
	(0.092)	(0.086)
Capital-labour ratio	0.033	0.071
	(0.064)	(0.066)
Trade/GDP	-0.037	-0.004
	(0.024)	(0.004)
Inward FDI/GDP	-0.005	-0.025
	(0.004)	(0.024)
Weighted tariffs	0.036**	0.039**
	(0.016)	(0.016)
Government consumption/GDP	0.157***	0.173***
	(0.055)	(0.058)
Real interest rates	0.0003	0.0002
	(0.001)	(0.001)
Observations	469	421
R-squared	0.446	0.481
F-stat	4.9	4.7
F-stat for excluded instruments		95.07
P value, Hansen J		0.280
Number of countries	48	48

Notes: All variables except for real interest rates are measured in logs; see Table 6 for additional notes. Statistical significance is indicated as follows: *10 per cent; ** 5 per cent; *** 1 per cent.

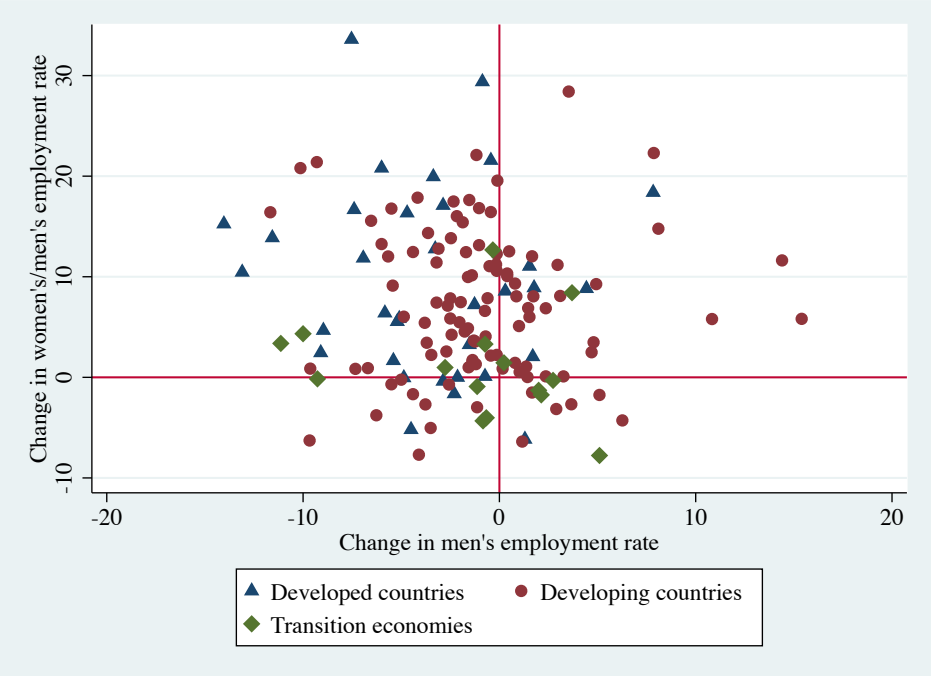
Figure 1. Distribution of women's to men's employment-to-population rates in the population 15 years and older



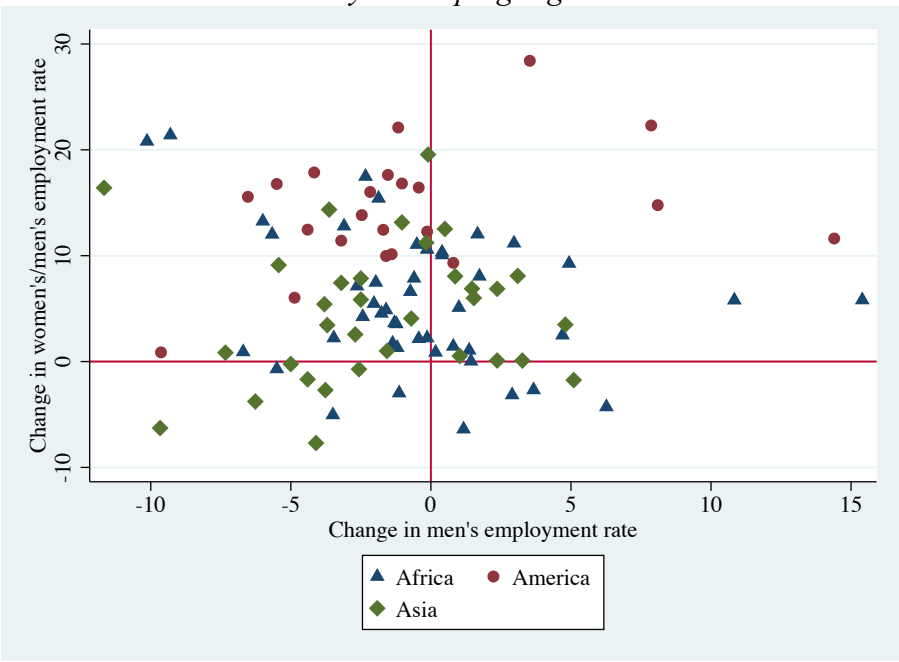
Note: See Figure 1A.
Source: Authors' calculations, based on ILO modelled employment data.

Figure 2. Changes in women's/men's employment rates versus men's employment rates, 1991-2014 (percentage points)

A. By developed, developing, and transition economies

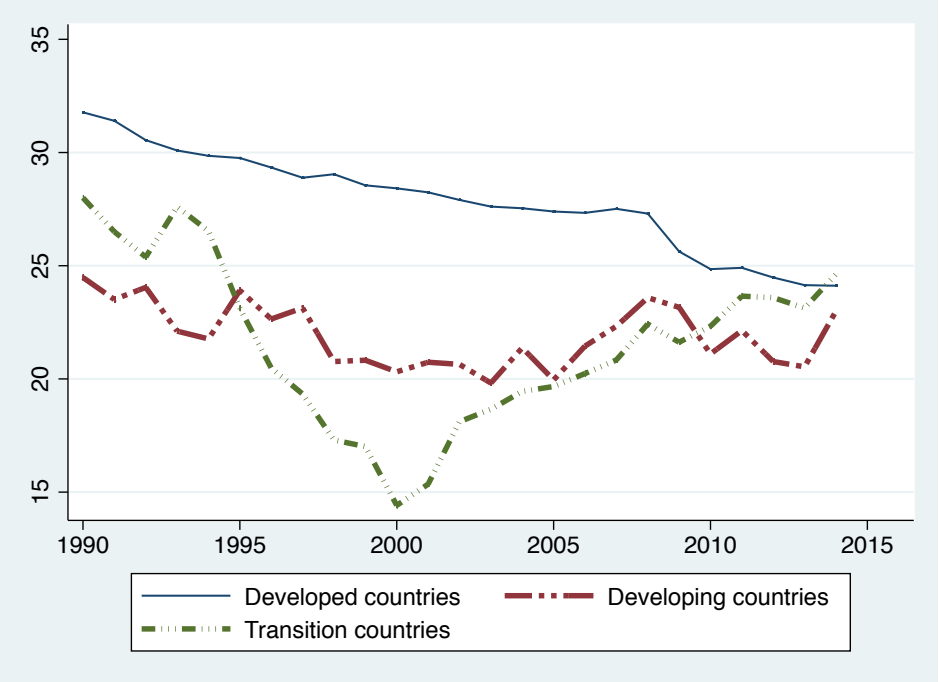


B. By developing region



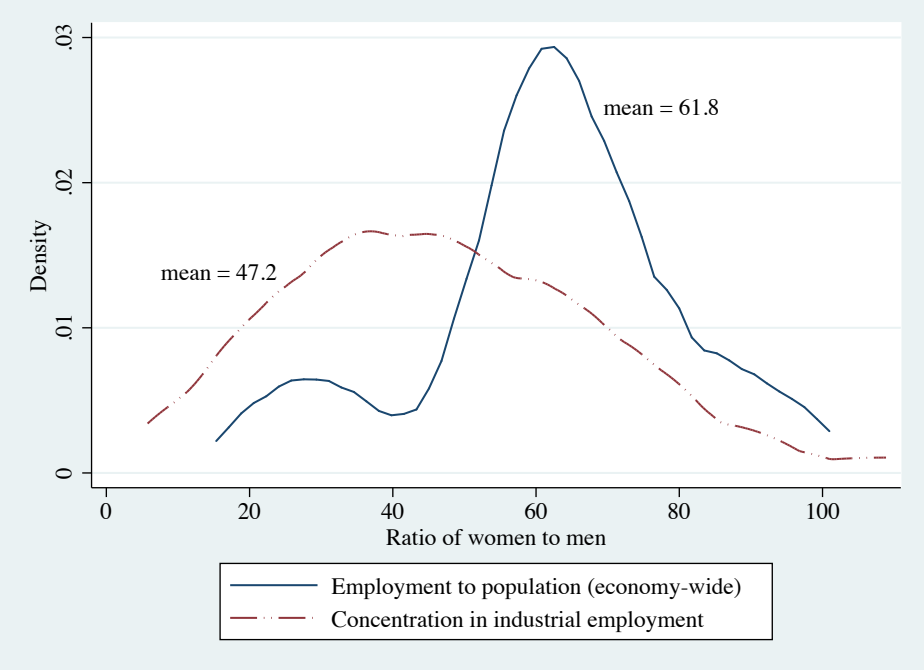
Note: Employment rates refer to the proportion of the wage-earning population, aged 15 years and older. Changes are percentage point changes in 3-year average values. The horizontal axis in Panel B figure is different than that used on Panel A to better illustrate regional differences.
Source: Authors' calculations, based on ILO modelled employment rates.

Figure 3. Trends in industrial employment as a share of total employment, 1991-2014



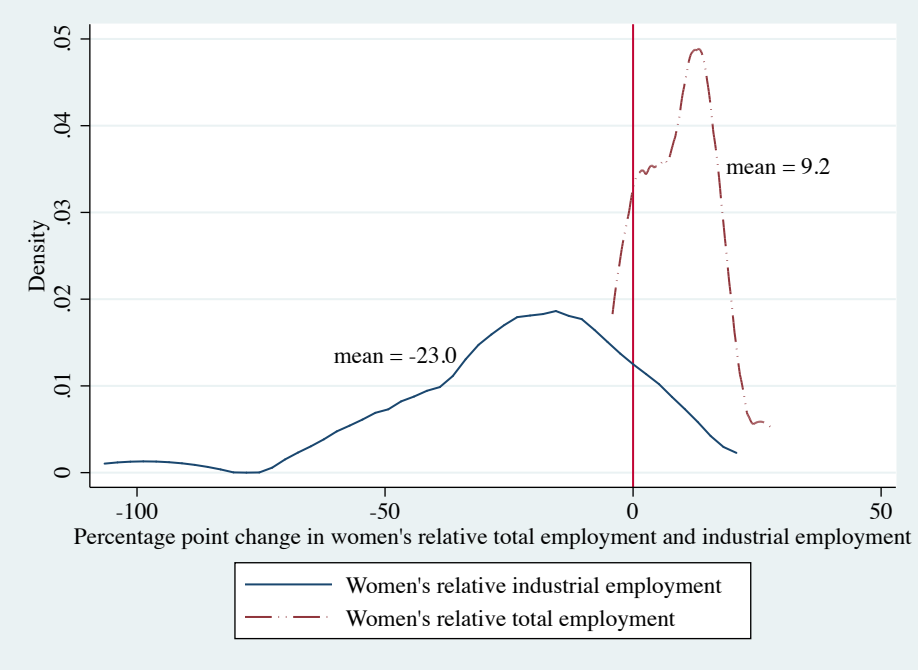
Note: Values refer to the unweighted average by year for country group, which is consistent across years.
Source: Same as Figure 2.

Figure 4. Distribution of developing countries by women's to men's economy-wide employment rates and shares of industrial sector jobs, 2013



Note: Women's relative concentration is calculated as three-year average of the share of women employed in the industrial sector relative to men's share.
Source: Same as Figure 2.

Figure 5. Change in women's relative concentration in industrial employment and total employment in developing countries, 1991- 2013



Note: Women's relative concentration is calculated as three-year average of the share of women employed in the industrial sector relative to men's share. Developing country group is consistent across Figures 4 and 5, and differs from the (larger) group illustrated in Figure 1, as the current group is limited to countries for which there is data on women's industrial share of employment across in the particular years considered.
Source: Same as Figure 2.

DATA APPENDIX

Variable	Code	Explanation	Source
Relative women's/men's industrial emp.	*wind*	Women's relative concentration in industrial employment, which equals (women's industrial employment/women's total employment)/(men's industrial employment/men's total employment)	Calculations based on WDI database and ILO modelled estimates.
Industrial emp./total emp.	*indemp*	Industrial employment as a share of total employment (per cent)	Calculation based on *WDI* database
Industry value-added/GDP	*indva*	Industry value-added as a share of GDP (Percent)	*WDI* database
Capital-labour ratio	*kl*	Capital stock at constant 2011 national prices (in 2011 dollars) divided by total employment	Calculated based on *Penn World Tables* 9.0
Per capita GDP growth	*gr*	Annual per capita GDP growth based on real local currency (per cent)	*WDI* database
Net manufacturing exports/GDP	*netx*	Manufacturing exports less manufacturing imports as a share of GDP (per cent)	Calculation based on UN *Comtrade* and *WDI* databases.
Trade/GDP	*trade*	Exports plus imports as a share of GDP.	Calculation based on UN *Comtrade* and *WDI* databases.
Weighted tariff	*wt*	Weighted mean of applied tariff rate, all products (per cent), taken at the 2-digit HS level.	Calculated based on the UNCTAD Trade Analysis Information System (*TRAINS)* database
Inward FDI/GDP	*FDI*	Net FDI inflows as a share of GDP (per cent)	*WDI* database
Government consumption/GDP	*gov*	General government final consumption expenditure as a share of GDP (per cent)	*WDI* database

Variable	Code	Explanation	Source
F/M labour force participation	*rlf*	Ratio of women's to men's labour force participation rates, in the population aged 15-64 years (per cent)	Calculation based on *WDI* database and modelled ILO estimates
F/M secondary school enrollment	*red*	Ratio of women's to men's gross secondary school enrollment rates (per cent)	Calculation based on *WDI* database
Labour share of income	*LS*	Share of labour compensation, including estimates for the self-employed, in national income	*Penn World Tables* 9.0
Real interest rate	*rir*	Real interest rate (percent)	*WDI* database

Note: WDI database accessed December 2016.