UNITED NATIONS UNIVERSITY
UNU-WIDER

WIDER Working Paper 2021/86

A macro–micro analysis of gender segregation and job quality in Latin America

Diksha Arora,[1] Elissa Braunstein,[1] and Stephanie Seguino[2]

May 2021

United Nations University World Institute for Development Economics Research
wider.unu.edu

Abstract: Latin America has seen vast improvements in gender educational and health equality. Favourable supply-side conditions, however, have not translated into greater gender economic equality, a process that also depends on structural economic change and global macroeconomic conditions. In this paper, we assess the role of a variety of macro-level policies and structures in influencing trends in women's access to high-quality jobs for a sample of 15 countries in Latin America over the period 1990–2018. Using micro-level data, we first evaluate women's relative share of good jobs, defined as women's weekly earnings in an industry or occupation relative to the median wage. Further, we econometrically estimate the impact of a variety of macro-level variables on the relative quality of women's jobs. Results indicate that the most significant and robust positive predictor of women's relative access to good jobs is public social spending as a share of GDP. Other important macro-covariates include measures of labour market policy, monetary and fiscal policy, and macroeconomic structure and global orientation, including financial openness. The results suggest that macro-level structures and policies related to globalization that hamper the achievement of greater gender equality can be offset by appropriately targeted government policies.

Key words: gender economic equality, Latin America, macroeconomic structure, structural economic change

JEL classification: J31, N36, E50, O54

[1] Colorado State University, Fort Collins, CO, USA; [2] University of Vermont, Burlington, VT, USA; corresponding author: diksha.arora@colostate.edu

This study has been prepared within the UNU-WIDER project Women's work – routes to economic and social empowerment.

ISSN 1798-7237 ISBN 978-92-9267-026-9

https://doi.org/10.35188/UNU-WIDER/2021/026-9

Typescript prepared by Gary Smith.

United Nations University World Institute for Development Economics Research provides economic analysis and policy advice with the aim of promoting sustainable and equitable development. The Institute began operations in 1985 in Helsinki, Finland, as the first research and training centre of the United Nations University. Today it is a unique blend of think tank, research institute, and UN agency—providing a range of services from policy advice to governments as well as freely available original research.

The Institute is funded through income from an endowment fund with additional contributions to its work programme from Finland, Sweden, and the United Kingdom as well as earmarked contributions for specific projects from a variety of donors.

Katajanokanlaituri 6 B, 00160 Helsinki, Finland

1 Introduction

For international organizations and governments across the globe, the promotion of gender equality has been at the forefront of policy goals for more than two decades. Closing educational gaps was seen as a critical step in achieving gender economic equality. Converting education into livelihoods, however, requires sufficient labour and thus aggregate demand. Further, it requires that women enjoy equitable access to quality jobs. Evidence suggests that these latter two goals have not been met. Although educational gender gaps have narrowed substantially, women's share of employment has not kept pace, and gender job segregation has increased since the early 1990s (Borrowman and Klasen 2020; Seguino and Braunstein 2019).

Job segregation is of particular interest in understanding the impediments to gender economic equality, with research demonstrating its significant role in perpetuating gender wage gaps. Globally, since the 1970s, women have tended to be shunted into lower-paying jobs in industries in which competitive pressures and firm mobility limit women's bargaining power. Thus, with globalization, although women have been incorporated into the labour force in record numbers, it has tended to be under inferior conditions relative to men. In part, this can be explained by the lack of a sufficient number of 'good' jobs—that is, jobs that pay decent wages and provide benefits and safe working conditions. This has led to job competition, with gendered norms and stereotypes as well as gender bias contributing to men's differential access to high-quality jobs. An examination of the macro-structural causes of employment trends and their gender implications is therefore required to fully understand trends in gender job segregation.

A focus on macro-structural constraints on gender equality is a departure from those analyses that focus only on the supply side, especially women's relative labour force participation rates and the factors that may influence those rates (Fabrizio et al. 2020). The implicit assumption in that research is that the demand for labour or bargaining power of workers are not constraints on women's relative employment opportunities and the quality of the jobs they obtain. Labour demand itself is mediated through a variety of macro-level policies and structures. Trade liberalization, for example, has varying effects on women's relative employment, depending on the degree and type of gender job segregation in a country, as well as the structure of production. Regulations on foreign direct investment (FDI), and thus firm mobility, may also impact the quality of employment. Moreover, government policies, such as minimum wage regulations, are likely to affect women's relative pay because such regulations have a greater impact on workers in low-wage jobs.

In this paper, we therefore assess the role of a variety of macro-level policies and structures in influencing trends in women's access to high-quality jobs for a sample of 15 countries in Latin America over the period 1990–2018. To achieve this, we rely on micro-level data that allow us to categorize women's share of good jobs based on their weekly income relative to the national median weekly income. We also assess how these macroeconomic structures and policies influence gender segregation by industry and occupation, focusing on how this segregation sheds light on the distribution of job quality by gender.

The Latin America region is of particular interest for several reasons. This region has a very high ratio of female to male educational attainment, with women's educational attainment exceeding men's in a variety of countries in the region. This region has two other attributes of significance. A large share of non-agricultural jobs in the region are in the informal sector, in part because this region has been hard hit by trade liberalization that has led to intense competition with lower-wage countries, resulting in a decline in industrial output as a share of GDP. Why is industrial output important? Industrial sector jobs tend to be of higher quality than those in agriculture and services (Seguino and Braunstein 2019). The latter can be seen as residual employment in a region with a large informal sector. At the same time,

this region saw a decline in overall inequality (the size distribution of income) in the 2000s, as well as in gender inequality in employment rates (Braunstein and Seguino 2018). These factors suggest that Latin America as a region should be analysed separately from other developing regions of the world.

2 Background and literature review

Gender equitable access to employment is a key to ensuring inclusive economic development. Global improvements in gender educational attainment are a key supply-side condition for attaining this goal (Seguino 2016). But that is not sufficient to achieve gender economic equality. Women must also have equitable access to good jobs that provide decent wages and working conditions. There are two broad factors that influence women's share of good jobs. First, structural changes in the economy and global macroeconomic conditions influence the availability of high-quality jobs. 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 (Akyüz 2018).

Second, the nature and intensity of gender job competition determines the extent to which women have equal access to those jobs. Skill differentials, for example, may explain gender differences in the share of female and male workers employed in good jobs. Ample research, however, demonstrates that gender discrimination influences job access among similarly qualified workers. One strand of this literature points to dual labour markets, whereby race- and gender-subordinated groups are, on average, excluded from primary sector jobs. Jobs in that sector are characterized by good wages, extensive benefits such as health insurance and paid vacation, potential for promotion to higher-wage positions, and relative job security compared to the secondary labour market. The latter is defined by low wages, few—if any—benefits, little opportunity for advancement or training, and job insecurity. The exclusion of subordinated groups from good jobs acts as a form of 'turf maintenance' on the part of the dominant group (in this case, men) in the parlance of stratification economics. Stratification processes then promote and sustain intergroup inequality—in this case, inequality between women and men.

A related factor that explains women's greater likelihood of being excluded from good jobs are gender norms and stereotypes that serve as the infrastructure of stratified economies. This is because gender-disequalizing norms and stereotypes are internalized in all of us, and as such act in an invisible or unconscious way to shape decision-making about who to hire, what wages to pay, and who to promote. Examples of stereotypes that contribute to gender wage and employment inequality are: (1) men are breadwinners and women are caretakers; (2) men are better at science and maths (thus leading to women's exclusion from STEM and related jobs); and (3) women are less committed to their jobs due to caring responsibilities.

Stereotypes contribute to the formation of gender norms—that is, informal rules that shape behaviour and result in negative social consequences if violated. An example of a gender norm is that women have primary responsibility for childcare. Norms shape the perceptions of those who control resources, such as employers. In the case of a dominant norm that women should provide caring labour, women are less likely to be hired for jobs in skill- and capital-intensive industries that require on-the-job training. Based on this norm and the underlying stereotypes, employers 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, and high-turnover jobs. Further, men may resist women's employment in such jobs, seeing women as lower status and therefore reducing the perception of job quality.

The combination of the intentional exclusion of women from good jobs due to discrimination and the stealth effect of gender-unequal norms and stereotypes that influence employers' decision-making

can result in women being crowded into lower-wage, less-secure employment in the secondary sector. Women's wages in this sector are in part a result of 'crowding', whereby women's restricted job opportunities result in their oversupply in this sector, undermining worker bargaining power and driving down wages for all workers employed in that sector (Bergmann 1974).

The extent of the overall effect of stratification processes on women's relative access to good jobs also depends on the structure of the economy and the availability of good jobs, as noted above. There is evidence that gender and racial bias intensify under conditions of economic scarcity, such as high unemployment or, in our case, declines in employment opportunities (Braunstein and Heintz 2006; Darity et al. 2006; Seguino 2003; Seguino and Heintz 2012). This suggests that GDP growth may impact women's relative access to jobs, although the impact on the availability of good jobs and thus women's access to such jobs is not clear.

There is also evidence that as countries move up the industrial ladder to the production of more knowledge- and capital-intensive goods (and away from labour-intensive goods production), women's share of employment in the industrial sector declines (Kucera and Tejani 2014; Tejani and Milberg 2016). This process has been dubbed the 'defeminization of manufacturing employment', and stands in contrast to Guy Standing's 1989 observation of the feminization of employment for countries at earlier stages of development. A shift in a country's structure of industrial production is thus likely to be an additional factor influencing women's relative access to good jobs. This is because, in many developing countries, industrial employment tends to produce higher-quality jobs than the agricultural or services sectors.

While it may be uncontroversial to argue that agricultural jobs are of lower quality in pay and work conditions than industrial sector jobs, that claim must be justified as regards the service sector, where jobs are more heterogeneous in their quality. Some service sector jobs are in the informal sector, especially in developing countries, and act as residual employment for those not able to find a formal sector job. Earnings are typically low and income insecure in informal sector service jobs. However, jobs in the financial sector, for example, or professional and business services, tend to be attractive in terms of employee remuneration, benefits, and opportunities for advancement, as well as job security. The desirability of service sector jobs then turns on the composition of employment in that sector. Using labour productivity as a measure of job quality, Seguino and Braunstein (2019) find that labour productivity is notably higher in the manufacturing sector than the services sector in Latin America, Asia, Europe, and the USA. In those regions, the gap is approximately 30 per cent, suggesting that their service sectors are dominated by low-quality jobs.

It should be noted that mainstream analyses continue to assume that gender differences are simply a supply-side problem, the result of educational differences, unpaid caring labour responsibilities, and possibly gender discrimination in access to jobs. But little attention is paid by organizations such as the World Bank to the impact of macro-level policies and global economic integration. Feminist economists, in contrast, have argued that the macroeconomy acts as a structure of constraint that may impede gender economic equality. A rich body of research has demonstrated that macroeconomic policy is far from gender-neutral, and in fact has notable distributional effects. This suggests that any analysis of the determinants of women's relative access to good jobs should include measures that reflect trends in global economic integration and other relevant macro-level policies. These include trade policies that may differently affect women and men due to gender job segregation, as well as rules on FDI, which, as noted, can expose some workers more than others to mobile capital that reduces worker bargaining power and slows wage growth relative to other industries.

Seguino and Braunstein (2019) studied the determinants of the growth of gender job segregation in a global analysis, focusing on women's relative concentration in industrial employment as a proxy for

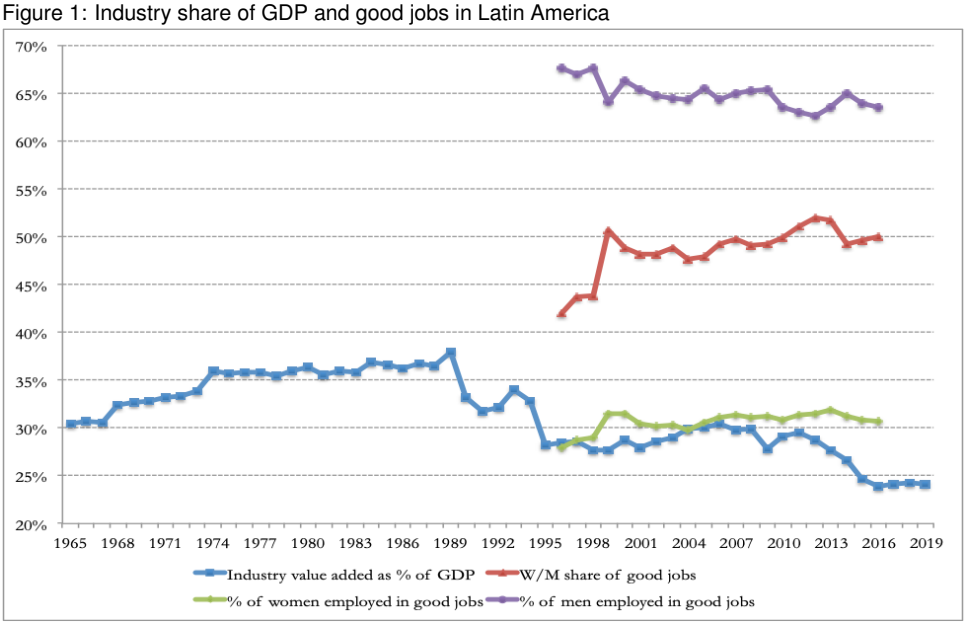
good jobs.[1] Their analysis revealed that, controlling for labour supply factors such as gender differences in educational attainment and labour force participation, several macro-level factors contributed to greater job segregation, with women concentrated in lower-quality employment. These included industrial employment as a share of total employment, the capital–labour ratio (a proxy for industrial upgrading), trade policy, and government consumption spending. The measure of good jobs in that study was highly aggregated because of a lack of a harmonized time series with detailed gender-disaggregated employment data, including wages and other working conditions, by sector and subsector.

Using household and labour market surveys, we construct such a data set for Latin America. This region merits its own assessment of the factors influencing gender differences in access to good jobs for a variety of reasons beyond data availability. First, the region is noted for the high rate of informality in employment. Women generally have higher informalization rates than men in the region (Braunstein and Seguino 2018). Further, unlike the East Asia region, women's unemployment rates tend to be much higher than men's, a factor that can hold down women's wage growth. This disparity cannot be explained by gender differences in educational attainment in Latin America, a region where in fact gender reversals in educational attainment are widespread. And finally, this region is deeply integrated into the global economy and, as such, has been buffeted by the entry of China into the global trading system, resulting in manufacturing job losses in the region. Government policies in the 2000s, including increasing the minimum wage and expanding the social safety net, however, helped to stem the negative effect of external pressures.

It may therefore not be surprising that trends in women's relative share of high-quality jobs follows a different trajectory than other developing regions of the world. Despite the significant decline in industrial value-added as a share of GDP in Latin America since the late 1980s (Figure 1), from 1996 to 2016, the ratio of women's to men's share of good jobs, as well as the share of employed women who hold such jobs, has increased by 8.7 per cent and 2.7 per cent, respectively. (The next section discusses in greater detail the methodology used to categorize jobs as 'good'.) At the same time, the share of men employed in good jobs has fallen by 4.0 per cent. Thus, the gender gap between the share of women compared to men employed in high-quality jobs has narrowed, although a substantial gap remains. The following sections explore in more detail the characteristics of women's and men's access to high-quality jobs, based on the development of new measures of gender job segregation, followed by a macro-level econometric analysis to explore the determinants of the trends noted here.

[1] This was measured as the share of women's employment in the industrial sector relative to the share of men so employed.

Figure 1: Industry share of GDP and good jobs in Latin America



Note: the data are region-wide averages, with incomplete data for some countries for some years. Job shares are measured as three-year moving averages to account for discontinuous data for some countries.

Source: industry value-added data are from the World Development Indicators. Shares of good jobs are based on the authors' calculations.

3 Access to good jobs and gender job segregation

In this section, we build on the work of Seguino and Braunstein (2019) to better understand the nature of gender segregation in labour markets, focusing on the degree to which women have been segregated into less rewarding jobs as measured by pay. We use micro-level labour force and/or household survey data of weekly incomes to build a country-level time series of women's access to what we label 'good' jobs relative to men's or the women/men (W/M) good job share. Good jobs are defined as those whose weekly incomes exceed the national median. We also use standard measures of gender segregation by industry and occupation to generate a time series of Duncan dissimilarity indices, taking advantage of detailed disaggregated sectoral data. Both are used as dependent variables in the regressions that follow. The description of the methodology employed to classify jobs as 'good' is followed by a review of descriptive data that explores the nature of gender job segregation in Latin America using our measure of good jobs.

3.1 Measuring women's relative access to good jobs and gender job segregation

Estimates of women's relative access to good jobs are based on an analysis of weekly incomes of both paid employees and self-employed workers across 27 non-agricultural sectors in industry and services and for nine occupational categories. Weekly incomes are calculated based on hourly wages paid (or net income earned) and hours worked.

The good jobs indicator itself is a fairly simple measure. For each of the nine occupational groups across 27 industries of the economy, those with a median weekly income that is above (below) the overall median income of all paid workers are considered as high-quality (low-quality) employment groups. Therefore, the total number of good jobs by gender is equal to the total employment in a given occupation of an industry group where women's or men's median weekly wage is above the overall median. Women's relative share of good jobs is the ratio of women's share of good jobs, ES_W^G, relative to men's share of good jobs, ES_M^G,

$$\text{W/M good job share} = \frac{ES_W^G}{ES_M^G} \tag{1}$$

We calculate gender-specific employment in good jobs by comparing women's or men's median wage in industry j with the national median wage. Women's total employment in good jobs equals the sum of their employment in industries in which the median wage of female workers exceeds the national overall median wage. The same calculation is made for men, illustrated in Equation (2). E_i^G is gender i's total employment in good jobs. E_i^{jk} is gender i's employment in industry $j = 1 \ldots 27$ and occupation $= 1 \ldots 9$, w_i^{jk} is gender i's median wage in industry j and occupation k, and $\bar{w}$ is the national median wage. We obtain women's and men's shares of good jobs by dividing their respective employment in good jobs by their total employment levels.

$$E_i^G = \sum_{jk}^{JK} E_i^{jk}, \qquad E_i^{jk} = 0 \;\; if \;\; w_i^{jk} < \bar{w} \tag{2}$$

Our main method of computing gender segregation rests on the longstanding literature on measurement of gender occupational segregation using an index of dissimilarity. We compute this index at the industry level (27 groups) and occupation level (nine groups) separately, and at the occupation level within each industry (250 groups).

The index of dissimilarity (ID) summarizes the differences in the distribution of women and men across industries and occupations in the economy. A commonly used measure is the index of segregation developed by Duncan and Duncan (1955). The ID is computed as:

$$\text{ID} = 0.5 \sum_{ij} \left| \frac{F_{ij}}{F} - \frac{M_{ij}}{M} \right| \tag{3}$$

where $[F_{ij}]M_{ij}$ is (fe)male employment in industry i and occupation j, and $[F]M$ is total (fe)male employment. The ID ranges from 0 to 1 and indicates the proportion of women or men that would need to change jobs for the distribution of men and women to be the same across job categories. Higher values indicate greater gender job segregation. The main limitation of the ID is that it is unidimensional—that is, it only presents the extent to which men and women are employed in different industries and occupations. It does not shed light on other dimensions of job inequality associated with gender segregation. The measure of good jobs presented in this paper is broader, accounting for both gender segregation and the relative position of women and men in terms of pay across sectors and occupations.

3.2 Microdata

Important data gaps in gender statistics on labour conditions remain, particularly in developing countries. Comparable cross-country and time series data are even harder to come by. To the best of our knowledge, only gendered employment in aggregate sectors (agriculture, industry, services) is publicly available. Therefore, in this analysis, we use micro-level labour market data from nationally representative labour force and/or household survey data of 15 countries in Latin America to create aggregate economy-wide industry- and occupation-level gender-disaggregated measures of employment structure. The micro-level data comes from a variety of national sources (detailed in Appendix Table A1), and from the International Income Distribution Database (I2D2; World Bank 2013). Due to the infrequent nature of these surveys in many developing countries, and the fact that not all countries report disaggregated sectoral and occupational data, the time periods of data analysis across countries vary. Overall, for the majority of countries in our analysis, the data series starts in the early 1990s and ends between 2014 and 2017, though the full data set ranges between 1990 and 2018.

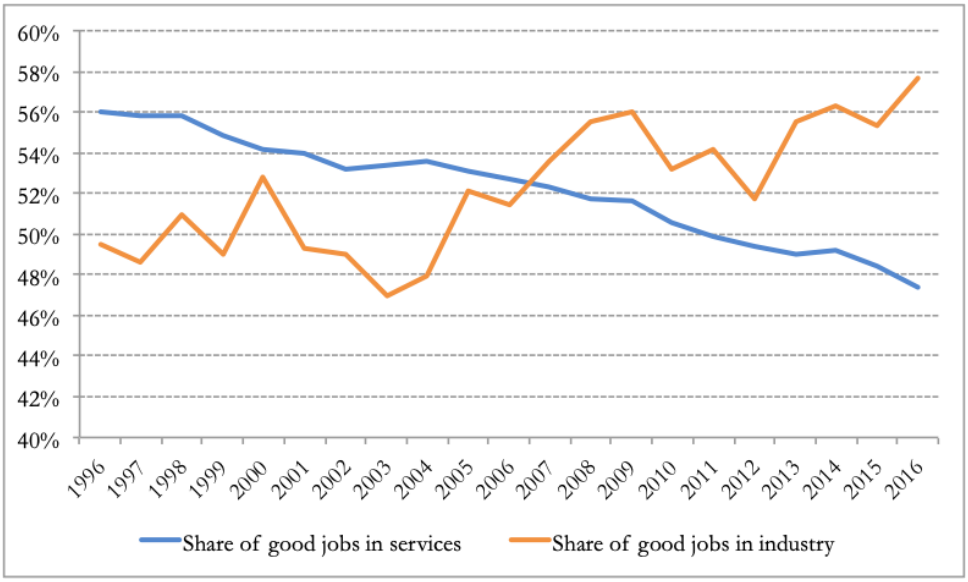
To account for cross-country variations in grouping economic activities, we create a sectoral classification structure with 27 categories of non-agricultural industries (see Appendix Table A2) that is also

harmonized across multiple revisions of national and international systems of industry classification. We base the harmonization of groups on the International Standard for Industry Classification (ISIC), set by the UN Statistics Division.[2]

3.3 Gender job segregation in Latin America

To understand women's relative access to good jobs, it is useful to explore trends in the availability of good jobs by sector. Figure 2 reflects those changes, and points to a declining share of good jobs in the services sector, while good jobs in industry have increased over time in Latin America. The latter trend is consistent with industrial upgrading.

Figure 2: Trends in shares of good jobs by sector in Latin America



Source: authors' calculations.

The gender division of labour—or what we could call gender job segregation[3]—in Latin America is similar to that found in other regions of the world. Table 1 reports data on the industrial and services sectors only. Just 15 per cent of women as compared to 36 per cent of men are employed in the industrial sector, with the remainder of each gender employed in the services sector (again, omitting agricultural sector employment). Gender patterns within sectors are heterogeneous. In the industrial sector, most industries are male-dominated, with the exception of textiles and wearing apparel, which is female-dominated, although this sector employs a very small share of workers (7 per cent of women and 2 per cent of men).

[2] Most countries implement a modified version of ISIC to adapt the international classifications to their local labour market conditions. Furthermore, the ISIC has undergone multiple structural revisions, which makes the aggregated broad industry classifications incomparable over time. To overcome this challenge, first we harmonize country-specific industry and occupational classification systems to the international classifications (i.e. ISIC and ISCO). Next, we attempt to maintain uniformity in industry and occupational groups across time by using disaggregated sectoral and occupation data at the four-, three-, or two-digit level (depending on data availability) to restructure some of the broader categories. A new standardized categorization of industries is created, and the standard nine occupational groups are restructured. In many cases, the challenge of creating a standard system for time series analysis and cross-country comparisons is further exacerbated by lack of such data (i.e. countries reporting industry and occupations at the one-digit or even more aggregated levels). Hence, we exclude the countries and time periods for which disaggregated industry and occupation data are not available.

[3] Gender job segregation is a more accurate term for the gender differences we observe in employment patterns because those patterns are not entirely or even primarily the result of individual choice. Rather, gender norms and stereotypes influence the types of work people obtain, based on their gender. It is difficult, if not impossible, to parse the share of women and men whose employment distinguishes choice from these other factors. Moreover, explicit and implicit discrimination also play a role.

In contrast, in the services sector women comprise the majority of workers in most subsectors. Not surprisingly, education and healthcare are female-dominated subsectors, along with hotels and restaurants and retail trade, as well as community and domestic services. Notable male-dominated subsectors are in the finance, insurance, and real estate (FIRE) sector, as well as transport and travel services.

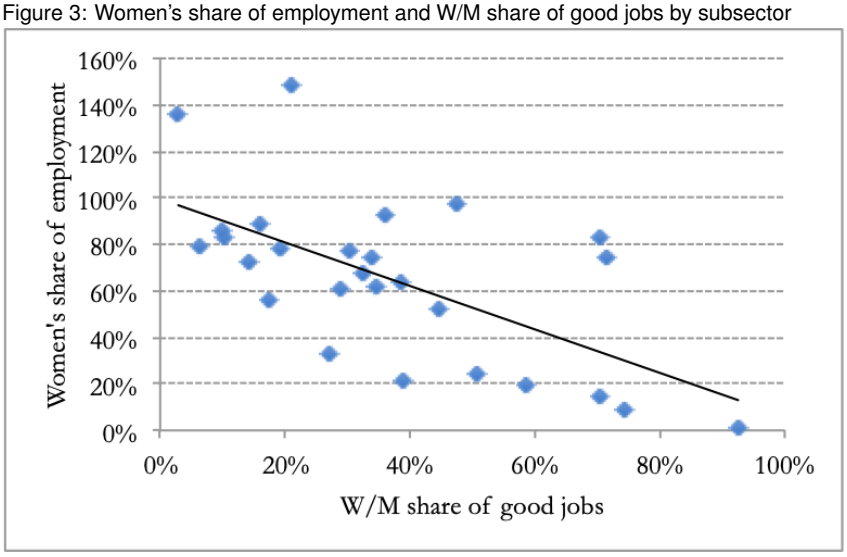
Table 1: Employment by gender across sectors and subsectors of the economy, all countries

Industry group	Women's share of industry-level employment (%)	Industry share of total employment (%)		Industry-level share of good jobs (%)		
		Men	Women	Men	Women	W/M share
1. Industrial sector		**36**	**15**	**61**	**22**	**36**
1.1 Manufacturing sector		*18*	*14*	*70*	*19*	*27*
1.1.1 High-tech manufacturing		*6*	*2*	*93*	*57*	*61*
1.1.1.1 Basic chemicals and chemical products	34	1	1	87	65	74
1.1.1.2 Coke, petroleum, and nuclear fuel	18	0	0	95	84	89
1.1.1.3 Heavy manufacturing	16	4	1	94	53	56
1.1.2 Other manufacturing industries		*12*	*12*	*57*	*12*	*21*
1.1.2.1 Textile and wearing apparel	71	2	7	49	7	14
1.1.2.2 Food, beverage, and tobacco	39	4	4	68	15	21
1.1.2.3 Leather, wood, rubber, and plastic products	27	5	2	55	18	32
1.1.2.4 Minerals and mineral products	14	1	0	42	30	72
1.2 Non-manufacturing industrial sector		*18*	*1*	*52*	*62*	*119*
1.2.1 Utilities (gas, water, electricity, recycling)	19	1	1	72	56	78
1.2.2 Mining and quarrying	10	1	0	76	63	83
1.2.3 Construction	3	15	1	49	66	135
2. Services		**64**	**85**	**69**	**34**	**49**
2.1 Market services		*51*	*61*	*64*	*18*	*28*
2.1.1 Trade activities		*28*	*30*	*52*	*14*	*26*
2.1.1.1 Hotels and restaurants	58	3	8	44	8	19
2.1.1.2 Retail trade and small repairs	51	15	23	39	9	24
2.1.1.3 Wholesale trade	29	3	2	81	49	61
2.1.1.4 Sale and repair of motor vehicles	10	5	1	71	60	85
2.1.1.5 Transport and travel services		9	1	79	69	87
2.1.1.6 Cargo handling and transport services	21	1	0	51	76	148
2.1.1.7 Land, water, and air transport	6	9	1	83	66	79
2.1.2 FIRE services		*10*	*9*	*86*	*64*	*74*
2.1.2.1 Finance and insurance	47	2	2	98	96	98
2.1.2.2 Membership and international org.	45	1	1	73	39	52
2.1.2.3 Professional and administrative services	39	5	4	82	52	64
2.1.2.4 Publishing and IT activities; post and telecom	33	2	2	91	62	68
2.1.2.5 Real estate services	30	1	0	84	65	77
2.1.3 Community and domestic services		*4*	*21*	*45*	*3*	*8*
2.1.3.1 Domestic services	93	1	15	15	0	1
2.1.3.2 Personal services	74	1	4	40	4	9
2.1.3.3 Entertainment and recreation activities	35	2	1	60	38	62
2.2 Non-market services		*13*	*24*	*89*	*73*	*83*
2.2.1 Public administration	36	6	4	89	83	93
2.2.2 Education and healthcare		*6*	*18*	*90*	*72*	*80*
2.2.2.1 Healthcare and social services	72	2	7	90	67	75
2.2.2.2 Education	70	4	10	90	75	83

Source: authors' calculations.

Table 1 also reports the share of women and of men employed in good jobs by sector and subsector, as well as the ratio of the shares of women's and men's jobs that are high quality. In only two subsectors—construction and cargo handling and other transport services—does women's share of good jobs exceed that of men's. Indeed, it is striking that the higher the share of women employed in a subsector (including both industry and services), the lower the ratio of women's to men's concentration in good jobs (Figure 3).

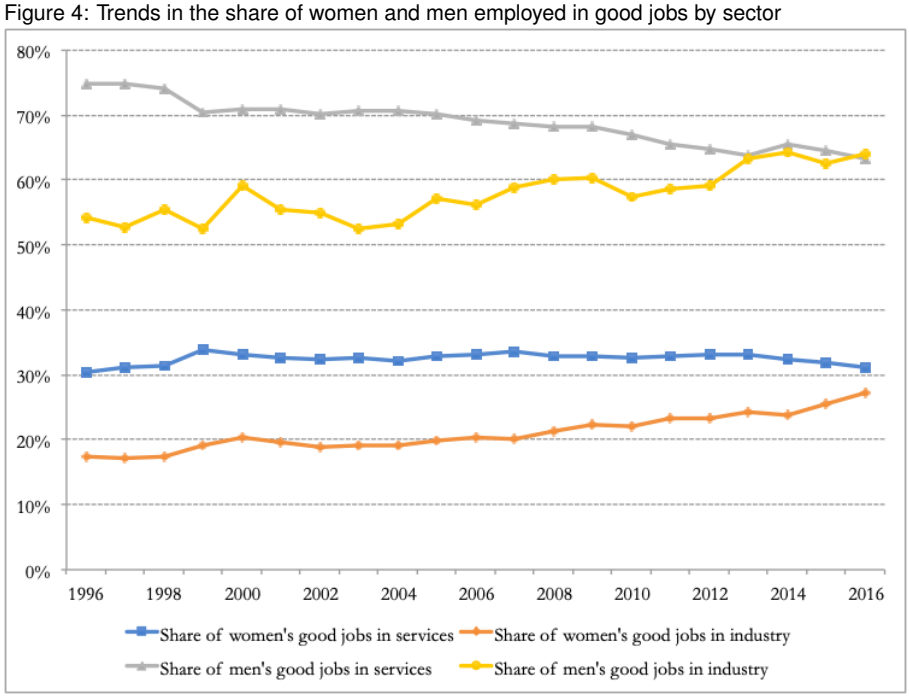
Figure 3: Women's share of employment and W/M share of good jobs by subsector



Source: authors' calculations.

Figure 4 displays trends in the share of women and men employed in good jobs by sector. For men, their share of good jobs in services has declined over time, while the share of women with good jobs in that sector has very marginally increased (by less than 1 per cent). Despite the narrowing differentials, the gender gap in shares of good jobs this sector remains very wide. In contrast, the industrial sector has seen an increase in good job shares for women and men, rising about 10 percentage points for both groups by 2016. Here too, however, the gender gap remains very wide, with about 63 per cent of men in good jobs in that sector compared to just 28 per cent of women in 2016. The data suggest, then, that much of the improvement in women's relative share of good jobs has taken place in the services sector, and is largely attributable to the decline in the share of men with good jobs in that sector. Most noteworthy is that even with gender improvements, by 2016 only about one-third of women have good jobs in both sectors compared to two-thirds of men. In the next section, we econometrically explore the causal factors contributing to these trends.

Figure 4: Trends in the share of women and men employed in good jobs by sector



Source: authors' calculations.

4 Econometric analysis

4.1 The model

The econometric approach combines the insights and strategies of prior work on the macro-structural and policy determinants of gender-disaggregated employment outcomes in Latin America (Braunstein and Seguino 2018) with a global analysis of women's exclusion from the higher-quality employment typically associated with industrial sector jobs in developing countries (Seguino and Braunstein 2019). The first set of regressions analyses the impact of macroeconomic structure and policy on women's access to good jobs relative to men. The second set applies the same model to gender segregation by both industry and occupation. One of the challenges associated with macroeconomic explorations of this sort is the problem of multicollinearity. Many macro variables are associated with one another. For instance, global commodity price booms can induce real exchange rate appreciation and terms of trade improvements for commodity exporters, with parallel consequences for the structure and quantity of exports, imports, and employment. Including both real exchange rates and the terms of trade in a regression analysis of employment structure can result in insignificance of one or both variables. We deal with this issue by using a parsimonious, reduced-form model that focuses on a subset of macroeconomic variables that are most important for gendered employment outcomes, drawing on theory and prior empirical work.

Because gender norms and stereotypes sort women and men into different types of work, economic structure impacts both women's relative access to good jobs and gender segregation more generally. A large literature documents the shift of women's work to labour-intensive manufactures when countries industrialize in ways that also increase labour-intensive export orientation (Benería et al. 2016). Our own data bear out this segregation, with women's industrial sector employment concentrated in low-tech manufacturing. At the same time, there has been a general decline in the availability of industrial sector employment across most of the developing world for both women and men, with women's industrial employment declining much faster than men's (Seguino and Braunstein 2019). And when industrial upgrading occurs, the negative effect on employment can be particularly pronounced for women (Tejani and Milberg 2016). We use two explanatory variables to capture these sometimes contradictory effects. First, the ratio of manufacturing exports to imports reflects industrial structure in a way that emphasizes the global orientation and competitiveness of domestic industry, and is presumed to increase as countries industrialize. To the extent that exporting raises the relative demand for women's labour, we would expect this measure to be positively associated with better jobs for women. However, as women are crowded into lower-paying jobs within the manufacturing sector, that effect may be attenuated. Second, industrial productivity, measured as the ratio of real industrial output to employment, proxies for industrial upgrading. Given the gender dynamics of industrial upgrading documented in the literature, we would expect a negative association between industrial productivity and women's relative access to good jobs.

Rounding out the measures of economic structure is inward FDI as a share of gross fixed capital formation. FDI can be attractive because it brings a promise of technological transfer and access to international markets, as well as potentially adds to the pool of resources available for domestic investment. A growing body of research shows that FDI in developing countries raises the relative demand for skilled labour, thus contributing to increasing wage inequality between skilled and unskilled workers within countries (Cruz et al. 2018). Increased competition in domestic markets can crowd out domestic investment, and the higher global mobility of FDI may suppress labour's power to bargain for better wages (Seguino 2007). To the extent that FDI is concentrated in export-oriented or labour-intensive sectors, however, we would expect it to be positively associated with the relative demand for women's labour, with potentially positive impacts on the gender wage gap. Firm-level studies on the determinants of the gender wage gap in foreign-invested firms in developing countries do find that the impact on women's

wages is positive, but so is the impact on the gender wage gap, perhaps because of the association between FDI and increases in the relative demand for so-called skilled labour (Braunstein and Brenner 2007; Oostendorp 2009).

For macroeconomic policy, we include an index of the real effective exchange rate (REER) and a measure of openness to global financial flows. Both monetary policy and explicit exchange rate policies affect the REER.[4] Developing country monetary policies tend to be characterized by formal and informal inflation targeting (IT) regimes, and Latin America is no exception. IT regimes are designed to maintain stable and low inflation rates, but the policies that sustain them also tend to be associated with appreciation of the real exchange rate. This tendency towards appreciation has been magnified by the commodity price boom that lasted over the course of most of the 2000s. REERs reflect a country's trade competitiveness. Appreciated real exchange rates discourage exports and encourage imports, with negative consequences for development and employment generation (Frenkel and Taylor 2006). Prior work has shown that appreciation of the REER is associated with lower employment for women in Latin America and other regions relative to men (Braunstein and Seguino 2018; Erten and Metzger 2019). We expect that this effect will spill over and affect the relative quality of jobs available to women as well.

Openness to global financial flows refers to national policies that manage international financial transactions, and includes elements like open capital accounts, the absence of restrictions on current account transactions, and the free repatriation of export proceeds. Financial openness lowers labour's bargaining power because it enables capital to relocate production and other economic activities (like financial speculation) more cheaply and easily. This hypothesis has been borne out empirically, as capital account openness has been associated with lower labour shares of national income across a variety of empirical studies (ILO 2011; Jayadev 2007; Kohler et al. 2019). This would lead us to expect that financial openness exerts downward pressure on wages. Whether there are gender-specific impacts depends on the nature and extent of gender segregation across industries and how these align with global capital mobility. Since women are more concentrated in less-tradeable services like education, domestic services, and market trade activities, financial openness may be less likely to have a direct impact on their wages relative to those of men. However, given the importance of lower-tech manufacturing as a source of employment for women, bargaining power effects might spill over into other gender-segregated industries or jobs.

It is useful to pause and also consider how these effects differ from those of FDI. Most importantly, financial openness is a policy stance, one that applies to both domestic and foreign capital. FDI refers to de facto foreign investment of the sort that represents a significant ownership stake in a national firm (usually more than 10 per cent of equity). FDI might be encouraged by greater financial openness, but it need not be. Greater openness to financial flows enables both domestic firms and foreign investors to access alternatives to FDI when seeking or providing finance, so the association could negative.[5]

We use two measures of social and labour market policy: social spending by the central government as a share of GDP, and the statutory minimum wage as a share of the average wage. Public social expenditures can affect women's employment on both the supply and demand sides. On the supply side, social spending can improve women's health and education, as well as the quality of jobs they eventually secure. It can also alleviate the demands of care responsibilities by providing direct care for dependants (e.g. through early childhood education or elder care services) or making it easier to

[4] The REER equals the nominal exchange rate (the amount of domestic currency needed to buy one unit of foreign currency) times the ratio of the price level of a country's trading partners to the domestic price level, so domestic inflation raises the REER, a depreciation.

[5] Notably, the correlation between inward FDI as a share of gross fixed capital formation and financial openness in the regression sample is just 0.10.

provide that care oneself (e.g. by investing in better sanitation, power, or transport). On the demand side, social spending may increase jobs in social infrastructure sectors such as health and education, traditionally an important employment sector for women, as indicated in Table 1. That table also shows that health and education jobs tend to be higher-paying jobs, or, in our parlance, good jobs. However, when social programmes draw on or require contributions from women's unpaid labour, it can dampen their prospects for paid employment. This has been an important critique of conditional cash transfer programmes in the region, with consequences for paid work participation of mothers, especially those with young children (Gammage 2010; Molyneux 2007).

Note that social spending as a share of GDP is a type of fiscal stance, more typically measured as government consumption as a share of GDP. We use social spending because we hypothesize that it has gender-specific effects that may be lost in the larger dynamics of government consumption. To explore this possibility, we will also compare the impact of social spending versus government consumption in the regression analysis.

The statutory minimum wage is measured as a share of the average wage to reflect whether it is an important or binding wage floor. In line with the adoption of more progressive social policies beginning in the early 2000s, statutory minimum wages increased faster than average wages for most countries in the region, though at varying rates. Its impact on access to good jobs is likely to vary by gender. Gender segregation and the concentration of women in low-wage and informal work suggest minimum wages are a more important wage floor for women than for men, as minimum wages have been found to be more binding in the informal than formal sectors in Latin America (Cunningham 2007).[6] There is also increasing evidence that minimum wages have played an important role in declining wage inequality overall, elevating wages for low-skilled workers (Messina and Silva 2021). These laws might be particularly important for female workers, as gender norms and stereotypes can reduce women's bargaining power in the labour market relative to that of men. Still, there is the question of compliance with the law, a substantial problem even in the formal sector (Messina and Silva 2021), and one that may be more likely to prevail in women's sectors than men's. For instance, statutory minimum wages can serve as a baseline for wage bargaining even in the informal sector (Cunningham 2007). Female workers are likely to have weaker bargaining power to press for either employers' legal compliance or to take advantage of using the minimum wage as a bargaining floor provided by social norms on what is a fair wage.

Though we are primarily interested in how macroeconomic structure and policy affect gender segregation and the availability of good jobs for women and men, we also control for per capita GDP growth. Higher growth should be associated with greater availability of better jobs, though this connection is far from automatic, as evidenced by the United Nations' Sustainable Development Goal 8, which specifies the desirability of a certain type of economic growth—one paired with decent work. In terms of gender, there is a two-way causality between gender equality in labour markets and economic growth, relationships that depend on both macro structure and policy, a point we return to in the regressions by making growth endogenous to the model (Seguino 2020).

Lastly, we include two labour supply controls: women's average years of education and labour force participation relative to men's. The higher women's education relative to men's, the greater their relative access to higher-paying jobs, all else being equal. The impact of increasing women's labour force participation relative to men's is less clear. It depends on how that increased participation is distributed across industries. If increased participation distributes women more evenly across industries, women

[6] The minimum wage also functions as a social norm in Latin America, on both the supply and demand sides (Cunningham 2007: 2). On the supply side, the minimum wage is considered a fair wage, something that workers expect employers to offer regardless of sector. On the demand side, even informal sector employers find they must offer a fair wage to attract workers and minimize turnover.

could gain more access to better jobs. If it is associated with greater concentration, then we would expect the opposite case, due to the crowding effect.

4.2 Data and estimation strategy

The time period of our analysis, 1990–2018, spans that for which we have microdata to calculate the two sets of dependent variables: (1) women's share of good jobs in their total paid employment (women's good job share), men's share of good jobs in their total paid employment (men's good job share), and the ratio of the two (W/M good job share); and (2) the Duncan index of dissimilarity by occupation within each industry (ID), the Duncan dissimilarity index by occupation (OID), and the Duncan dissimilarity index by sector or industry (SID).[7] Table 2 lists descriptive statistics for these and other sample variables used in the regression analysis, and Table A3 in the Appendix gives more detail on their sources and calculation.

Table 2: Descriptive statistics for sample variables

Variable	Mean	Std dev.	Min.	Max.
W/M good job share	0.49	0.13	0.18	0.80
Women's good job share	0.31	0.06	0.12	0.45
Men's good job share	0.64	0.08	0.43	0.84
ID	0.54	0.04	0.47	0.66
OID	0.33	0.06	0.16	0.51
SID	0.46	0.04	0.39	0.57
Social spending/GDP	0.10	0.30	0.03	0.17
Minimum/average wage	0.41	0.16	0.16	1.13
Mfg X/M	0.39	0.27	0.04	1.51
Industrial productivity	354.89	151.99	72.81	790.94
Inward FDI/investment	0.17	0.13	–0.27	0.64
REER	94.98	16.13	46.08	155.40
Financial openness	0.65	0.29	0.00	1.00
Per capita GDP growth	2.23	3.06	–11.85	9.65
W/M education ratio	1.02	0.09	0.79	1.14
W/M labour force participation ratio	0.63	0.09	0.43	0.84

Notes: REER is an index (2005 = 100), and industrial productivity is in chained PPP US$2017. For details on data sources and computational notes, see Table A3 in the Appendix.

Source: authors' calculations.

Equation (4) is the reduced-form model applied to the panel data set. The dependent variable $Gender_{it}$ refers to the six dependent variables for country i in year t noted above. The matrix X_{it} includes the covariates discussed above: per capita GDP growth, social spending/GDP, the minimum to average wage, manufacturing exports/manufacturing imports, industrial productivity, inward FDI as a share of investment, the REER, and financial openness. Financial openness is measured using the Chinn and Ito (2006) index, which ranges between 0 and 1, with higher values indicating greater openness:

$$Gender_{it} = \alpha + \beta_{it} + \mu_i + T_t + \varepsilon_{it} \tag{4}$$

A Hausman-type statistical test with standard errors clustered by country indicates that the fixed effects model is preferred, and μ_i refers to time-invariant country fixed effects. Fixed effects models are useful in that one can evaluate whether there are common effects of the independent variables across this group of countries.

Time period effects T_t that correspond to the region's major economic cycles are included as well, covering 1990–97, 1998–2002, 2003–07, 2008–09, and 2010–18 (the excluded period). The panel is unbalanced due to occasional gaps in the time series, so all variables were tested for stationarity using

[7] To smooth some of the annual variance in these data, and to enable the use of time series operators where we have an occasional missing year of data, three-year moving averages of our microdata-derived dependent variables were used in the regressions.

a Fisher-type panel unit root test with an augmented Dickey–Fuller specification.[8] All variable tests rejected the null that all panels contain unit roots.

Because GDP growth is influenced by gender equality as well as macro policy and structure, we use a two-stage-least-squares (2SLS)/instrumental variable (IV) approach to account for endogeneity. Excluded instruments for the estimations on good jobs shares include per capita growth lagged one period and current, as well as lagged gross fixed capital formation as a share of GDP, and first-stage regressions include the remaining independent variables as instruments.[9] For the second set of regressions on dissimilarity indices, these instruments did not pass the over-identification test, so per capita growth lagged one and then two periods was used instead. To further account for endogeneity, all the other macroeconomic structure and policy variables are lagged one period, except for financial openness. For the latter we preferred contemporaneous correlation, and it is unlikely to be endogenous to the dependent variables.

4.3 Results

Table 3 gives the regression results for W/M good job share, and women's and men's good job shares separately. These are all fixed effect IV models with robust standard errors in parentheses; first-stage results for growth are reported in Appendix Table A4. All variables are in logs except for GDP growth, FDI, and financial openness. Table 3 also reports diagnostic test results. The first-stage F-statistic for excluded instruments is applied to the null hypothesis that the model is under- or weakly identified, which we can reject. The p-values for the Hansen J test of over-identifying restrictions all indicate a failure to reject the null hypothesis, indicating that the instruments are valid in the sense of being uncorrelated with the error term and correctly excluded from the second-stage equation.

Column 1 in Table 3 lists regression results for the dependent variable W/M good share job, column 2 for women's good job share, and column 3 for men's good job share. Starting with social spending as a share of GDP, it is strongly associated with women's good job share relative to men's in column 1. A one standard deviation change in this ratio (an increase of 3 percentage points) is associated with a 4.7 per cent increase in women's relative good job share. Referencing columns 2 and 3, we can see that this is primarily driven by gains in the proportion of good jobs for women (though there is a negative coefficient estimate for men, it is not statistically significant). Looking back at our hypotheses around this relationship, these results suggest that on net, public social spending is an important determinant of women's job quality in the region, in line with what we would predict given patterns of sectoral segregation and the quality of public sector jobs.

We can also consider the question of whether this type of spending may discourage women's labour force participation when it draws on women's unpaid labour, such as when conditional cash transfer-type programmes draw on women's unpaid labour. For our sample, the correlation between public social spending as a share of GDP and women's labour force participation is 0.15, casting doubt on this association, at least at the aggregate level (such spending then might encourage some groups of women to engage in paid work and discourage others). Substituting government consumption for social spending, the coefficient estimates are the same sign, but much smaller and no longer statistically significant. Public social spending in particular has afforded Latin American women greater access to good jobs.

---

[8] These tests also included the drift option as the variable means for any country are non-zero, as well as the demean option to minimize the impact of cross-sectional dependence.

[9] Though growth regressions typically include lots of other variables, our interest is not in specifying growth but rather to account for its endogeneity in our gender regressions.

Table 3: 'Good jobs' regression results

	Dependent variables		
	W/M good job share	Women's good job share	Men's good job share
Social spending/GDP ($t-1$)	0.158***	0.079*	–0.083
	(0.061)	(0.045)	(0.053)
Minimum/average wage ($t-1$)	–0.101**	0.046	0.153***
	(0.051)	(0.057)	(0.047)
Mfg X/M ($t-1$)	0.072**	0.0231	–0.046**
	(0.030)	(0.024)	(0.023)
Industrial productivity ($t-1$)	–0.226***	–0.091**	0.133***
	(0.056)	(0.038)	(0.038)
Inward FDI/inv ($t-1$)	0.0762	0.0641	–0.0165
	(0.066)	(0.055)	(0.056)
REER ($t-1$)	0.0174	0.0478	0.0224
	(0.067)	(0.045)	(0.057)
Financial openness	–0.034	–0.095**	–0.069*
	(0.048)	(0.038)	(0.042)
Per capita GDP growth	–0.006	–0.003	0.004
	(0.005)	(0.003)	(0.003)
W/M education	3.379***	2.538***	–0.799**
	(0.453)	(0.407)	(0.407)
W/M labour force participation	–0.158	0.276**	0.462***
	(0.158)	(0.125)	(0.133)
Observations	263	263	263
Countries	15	15	15
R-squared	0.446	0.405	0.257
F-stat	12.91	8.04	5.97
F-stat for excluded instruments	32.65	32.65	32.65
p-value, Hansen J	0.469	0.490	0.818

Note: robust standard errors in parentheses: *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$. All regressions are IV/2SLS with country and time period fixed effects; the endogenous variable is per capita GDP growth and excluded instruments include lagged per capita growth and current and lagged investment as a share of GDP; first-stage results are given in Table A2 in the Appendix. All variables except for per capita GDP growth, inward FDI/inv, and financial openness in logs; ($t-1$) indicates the variable is lagged one period.

Source: authors' calculations.

Somewhat surprisingly, the minimum to average wage ratio is significantly and negatively associated with the W/M good job share, but looking across columns 2 and 3 shows that this relationship is driven by the strong positive association for men's good job share, with much smaller (and statistically insignificant) effects for women. A one standard deviation or 16 percentage point increase in minimum/average wage results in a 6.0 per cent increase in men's good job share, and a 4.0 per cent decline in W/M good job share. Given the other controls included in the model, that the aggregate impact of minimum wage policies is more important for men's access to good jobs than for women's is not surprising. Legal compliance coupled with binding minimum wage floors is likely higher in sectors dominated by men, including high-tech manufacturing, construction, and transport and travel services. Even in lower-tech manufacturing industries, where the industry share of employment is more equal for women and men, men are much more likely to have good jobs than are women (see Table 1). This may also be due to men's greater concentration in formal sector employment, where there is greater compliance with minimum wage standards.[10]

Looking deeper into our microdata, even though men and women show similar rates of self-employment (both averaging over 30 per cent for the entire sample), men's self-employment is only weakly correlated with their good job share, with a bivariate correlation coefficient of –0.09. The correlation between self-

[10] This finding on the minimum wage contrasts with Braunstein and Seguino (2018), where the same measure was positively associated with women's employment relative to men. The combination of the two findings suggests that women do see positive employment effects from minimum wage increases, but these jobs are not necessarily very good ones.

employment and good job shares for women is –0.67, a much stronger relationship. Adding women's and men's self-employment shares to the regressions in columns 2 and 3 of Table 3, respectively, these results are borne out: women's self-employment has a significantly negative association with women's good job share, while men's is slightly positive but not significant. Hence, women's self-employment, a type of employment not subject to minimum wage laws, is also much more likely to be lower-wage work than men's self-employment. Though we cannot get at the question of legal compliance using our data, there is evidence that minimum wages are indeed more binding or important in men's sectors of employment than in women's. Self-employment is associated with less access to good jobs for women, but not for men.

Moving on to industrial structure, the ratio of manufacturing exports to imports is positively and significantly associated with the W/M good job share, a relationship driven primarily by its negative association with men's good job share, as indicated in column 3 of Table 3, with the positive coefficient estimate for women (column 2) about half the magnitude of men's negative coefficient. For every standard deviation increase in this ratio—an increase of 27 percentage points—women's relative good job share (column 1) increases by 4.9 per cent. Recall that $mfgX/M$ emphasizes the export orientation and global competitiveness of domestic manufacturing. Controlling for other factors, then, more export-oriented manufacturing sectors are associated with lower access to good jobs for men. At the same time, $mfgX/M$ are a large and statistically significant driver of per capita GDP growth, as indicated by the first-stage results in Table A4 in the Appendix.

The results on industrial upgrading are consistent with those found elsewhere in the literature. Industrial productivity is negatively associated with women's good job share, and strongly positively associated with men's good job share. The consequence of a one standard deviation increase in industrial productivity (US$152 or 42.9 per cent) is a 9.7 per cent decline in W/M good job share. Controlling for other factors, industrial upgrading is connected to good job loss for women and gains for men. Changes in women's and men's shares of industrial employment as industrial productivity increases seem to drive these results. To get a sense of this relationship, note that the bivariate correlation between industrial productivity and women's employment is –0.36, while it is 0.39 for men's in the sample.

The last variable on economic structure, inward FDI as a share of investment, is positively associated with women's good job share, but is not statistically significant in any of the regressions.[11] It is more economically significant (and positive) in the first-stage regressions for growth, but standard errors are large and estimates not statistically significant.

Turning to macroeconomic policy, though none of the REER coefficient estimates are statistically significant, they are positive for both women and men, with a larger magnitude for women. Leaving out the control for the ratio of manufacturing exports to imports (a likely vector for the impact of the REER on women's employment quality), the magnitude of the coefficient estimate increases over 50 per cent, but is just short of statistical significance. Like $mfgX/M$, REER coefficient estimates are positive, large, and statistically significant in the first-stage regression for growth. This is in line with the prediction that appreciated real exchange rates (lower values of the REER) discourage growth.

Financial openness is negatively associated with both women's and men's good job shares, with larger impacts on women's good job shares, though the coefficient for W/M good job share is not statistically significant. Given a one standard deviation change in the financial openness index, 0.29 for an index that ranges between 0.0 and 1.0, women's and men's good job shares decline by 2.7 and 2.0 per cent, respectively. As found in the literature on financial openness and the wage share, we too find evidence that it compresses access to good jobs through the wage channel.

[11] This is not affected by changing the measure to inward FDI as a share of GDP (instead of gross fixed capital formation).

Turning to other controls, per capita growth does not have a significant effect on good job access for either women or men, consistent with the point of Sustainable Development Goal 8 that one cannot presume growth leads to better employment opportunities. For labour supply-side factors, average years of education among female workers relative to male workers is a strong positive predictor of women's relative access to good jobs. (It is also interesting to note from Table 2 that the sample mean on this variable is 1.02, so on average female workers have slightly more education than male workers). W/M labour force participation is negatively associated with women's good job share relative to men (though positive for both women and men, the coefficient estimate is smaller for women than for men). This somewhat surprising result makes more sense if one considers how the good job share is constructed. If increasing women's labour force participation relative to men's increases women's representation among lower-paying jobs, it will lower the economy-wide median wage, increasing the share of men's employment that is higher than the median. This impact is attenuated and more complex for women, as it reflects the distribution of women's increased labour force participation across and within more female-dominated sectors and occupations, an issue to which we now turn.

Table 4 applies the same regression model to examine the determinants of gender segregation using the three Duncan indices of dissimilarity derived above: (1) by occupation within each industry (ID); (2) by occupation only (OID); and (3) by industry or sector (SID). As discussed previously, there are nine occupational and 27 industrial groups in our sample. Table 1 illustrates the distribution of women and men across industries and relates them to their share of good jobs. Table A5 illustrates the distribution of women and men across the nine occupational categories. This analysis was inspired in part by the work of Borrowman and Klasen (2020), who conduct a global analysis of OID and SID at a more aggregate level for sectors (ten groups each for industry and occupation).[12] Gender segregation is typically more pronounced the more disaggregated the occupation or industry. In addition to having a finer measure of sector groups, we took advantage of the microdata to construct ID, an intersection between industrial and occupational segregation. Because we are primarily interested in providing additional insights into the relationships in Table 3, we will comment more briefly and in terms that focus on the discussion of good jobs.

Starting with social and labour market policies, public social spending as a share of GDP is negatively and significantly associated with occupational segregation, as shown in column 2. This suggests that the positive association between women's good job share and public spending manifests partly as women gaining greater access to more traditionally male-dominated occupations, likely within the public sector. This relationship is borne out by the results in column 1 of Table 4 for ID, which captures both industrial and occupational segregation. A one standard deviation increase in public spending as a share of GDP (3.0 percentage points) is correlated with a 1.3 point increase in the ID index. More diverse occupational opportunities are concentrated within women's traditional sectors. The minimum wage as a share of the average wage is negatively and significantly associated with segregation by industry (SID) as well as industry-occupation (ID). In light of the evidence above that minimum wages are more binding in men's industries, these dynamics may draw women into more male-dominated sectors like high-tech manufacturing, but in ways that magnify their concentration in female-dominated occupations like service and sales workers.

[12] Borrowman and Klasen's (2020) time series approach (comparable to our own) includes 48 developing countries for the sectoral analysis, and 28 for the occupational analysis.

Table 4: Dissimilarity indices regression results

	Dependent variables		
	(1)	(2)	(3)
	ID	OID	SID
Social spending/GDP ($t-1$)	0.045***	–0.066**	0.003
	(0.016)	(0.031)	(0.015)
Minimum/average wage ($t-1$)	–0.018*	0.010***	–0.039***
	(0.009)	(0.024)	(0.012)
Mfg X/M ($t-1$)	–0.016***	0.021	–0.008
	(0.006)	(0.017)	(0.007)
Industrial productivity ($t-1$)	–0.011	0.088***	0.037***
	(0.011)	(0.034)	(0.013)
Inward FDI/inv ($t-1$)	0.010	0.188***	0.061***
	(0.014)	(0.052)	(0.020)
REER ($t-1$)	–0.047**	–0.144***	–0.027
	(0.019)	(0.045)	(0.025)
Financial openness	–0.003	0.044*	0.035***
	(0.012)	(0.024)	(0.014)
Per capita GDP growth	0.006**	–0.006	–0.002
	(0.002)	(0.006)	(0.003)
W/M education	–0.401***	0.847**	–0.395***
	(0.114)	(0.347)	(0.103)
W/M labour force participation	–0.170***	–0.285***	–0.257***
	(0.041)	(0.100)	(0.050)
Observations	263	263	263
Countries	15	15	15
R-squared	0.277	0.323	0.263
F-stat	14.45	5.93	8.82
F-stat for excluded instruments	6.09	6.09	6.09
p-value, Hansen J	0.391	0.86	0.613

Note: robust standard errors in parentheses: *$p < 0.10$, **$p < 0.05$, and ***$p < 0.01$. All regressions are IV/2SLS with country and time period fixed effects; the endogenous variable is per capita GDP growth and excluded instruments include per capita growth lagged once and then twice; first-stage results are shown in Table A4 in the Appendix. All variables except for per capita GDP growth, inward FDI/inv, and financial openness in logs; ($t-1$) indicates the variable is lagged one period. ID refers to dissimilarity index by industry and occupation; OID to occupational index; SID to sectoral index.

Source: authors' calculations.

Measures of industrial structure are also correlated with gender segregation in predictable ways. Stronger manufacturing export performance is associated with lower sectoral segregation, and industrial productivity with more concentration by both industry and occupation. These findings are in line with the connection between export-oriented manufacturing and women's employment outlined above, as well as how women tend to lose these (higher paying) jobs as industries upgrade. That inward FDI is also associated with more gender segregation by both occupation and industry is interesting, and likely connected to the fact that a significant share of FDI into Latin America is aimed at resource extraction (UNCTAD 2019). Natural resource-seeking FDI in countries like Colombia, Argentina, Brazil, and Chile concentrate in male-dominated industries like mining, as does FDI in sectors that support natural resource extraction, like transportation. Though spillover effects from these sectors may create jobs for both women and men, they do so in ways that increase gender segregation.

Greater global competitiveness as reflected in the REER is associated with both lower industrial and occupational segregation, with the negative impact on occupational segregation particularly strong. Increasing the REER 17 per cent, or one standard deviation, is associated with a 2.5 point decline in the occupational segregation index. This change is also associated with better-paying jobs, though that effect is attenuated by the other regressors in the model. Leaving out the manufacturing exports to imports variable, the REER coefficient estimate for SID doubles in size and becomes significant. Financial openness, on the other hand, increased both industrial and occupational gender segregation in a way that also lowers women's good job share.

Growth appears to be positively and significantly correlated with the ID measure of segregation, though the magnitude of this effect is quite small. The supply-side controls suggest that, in general, greater gender equality in education and labour force participation are associated with lower gender segregation. The one exception to the pattern is that women's relative education is strongly associated with more occupational concentration, suggesting that more dispersion across sectors is partly achieved by concentration within occupations.

5 Conclusion

Global trends in gender economic equality have been contradictory. Educational gaps have narrowed and women's share of employment has risen since the early 1990s. But women's integration into paid work has been on inferior terms relative to men. Previous research has shown that a primary factor in gender inequality is gender job segregation, which has been worsening even as educational and employment gaps have narrowed (Seguino and Braunstein 2019).

The goal of this paper is to examine gender job segregation trends in Latin America to assess how they compare to global trends. A specific focus is to understand not only trends in gender job segregation but also to investigate the quality of jobs that women do get. We do this by using detailed microdata on 15 Latin American countries to account for the share of 'good' jobs held by women as compared to men. Good jobs are those whose median weekly earnings exceed the national median. We also investigate the determinants of gender job segregation, using occupational and industry-level dissimilarity indices.

In Latin America, as elsewhere, women are concentrated in sectors with the lowest shares of good jobs. This phenomenon is attributable to several factors. The forces of globalization have contributed to a declining labour share of income, resulting in a shortage of good jobs, in part through the threat effect of firms relocating to other countries should workers bargain for higher wages. This can exacerbate gender job competition for the now more limited 'good' job slots, where gender norms and stereotypes reflect a gender hierarchy and result in women's exclusion from those jobs.

That said, Latin American outcomes appear to differ from trends in other regions in that women's relative share of good jobs has risen over the last 25 years. Interestingly, the data show that the proportion of jobs that are 'good' has increased in the industrial sector but declined in the services sector for both women and men. This departure from global trends and several aspects of Latin American economies make this region of interest to study independently from other developing regions. The high rate of informality in employment, women's high rate of educational attainment relative to men's, economic integration policies, and progressive social policies in the 2000s are important structural factors that are likely to have influenced gender outcomes. Assessing the impact of these factors on women's relative share of good jobs and on job segregation is the goal of the econometric analysis.

To summarize the key results, and starting with social and labour market policies, public social spending is strongly and robustly associated with drawing women into better jobs. This connection is accompanied by declines in occupational segregation. The statutory minimum wage is important for men's good job share but not for women's, suggesting that either legal compliance or the impact of the minimum wage as a fair wage norm impacts men but not women. Part of this likely relates to women's higher concentration in self-employment and the informal sector, where minimum wage laws are less likely to bind.

Moving to industrial structure, a higher ratio of manufacturing exports to manufacturing imports, a measure that emphasizes the global orientation and competitiveness of domestic industry, improves women's good job share relative to men's. This advancement for women happens in ways that are also associated with women moving into more traditionally male-dominated sectors, lowering gender

segregation by industry. By contrast, men's good job share increases with improvements in industrial productivity, while women's declines. Higher industrial productivity is also associated with more gender segregation by industry. This is consistent with an emergent stylized fact that women tend to lose jobs in manufacturing as industries upgrade (Tejani and Milberg 2016).

Macroeconomic policies that lead to real exchange rate appreciation are associated with lower good job shares for women. This vector appears to be closely tied to the negative effects of appreciated real exchange rates on manufacturing competitiveness and the consequences for demand for women's labour in these industries. That real exchange appreciation is also tied to greater gender segregation by both industry and occupation is aligned with these results. Macro policies that promote financial openness are associated with lower good job shares for both women and men, as well as higher indices of gender segregation by both industry and occupation. These patterns confirm other research that financial openness is associated with lower wage shares in national income across a variety of countries (e.g., ILO 2011; Jayadev 2007; Kohler et al. 2019).

Taken together, the main story that emerges from the analysis provided in this paper is that, despite global and other forces that may have resulted in worsened wage outcomes for women relative to men, the major contributors to increases in women's share of good jobs is government policy.

References

Akyüz, Y. (2018). 'Inequality, Financialization, and Stagnation'. *The Economics and Labor Relations Review*, 29(4): 428–45. https://doi.org/10.1177/1035304618812572

Benería, L., G. Berik, and M. Floro (2016). *Gender, Development, and Globalization: Economics as if All People Mattered*, 2nd edition. New York: Routledge. https://doi.org/10.4324/9780203107935

Bergmann, B. (1974). 'Occupational Segregation, Wages and Profits when Employers Discriminate by Race or Sex'. *Eastern Economic Journal*, 1(2): 103–10.

Borrowman, M., and S. Klasen (2020). 'Drivers of Gendered Sectoral and Occupational Segregation in Development Countries'. *Feminist Economics*, 26(2): 62–94. https://doi.org/10.1080/13545701.2019.1649708

Braunstein, E., and M. Brenner (2007). 'Foreign Direct Investment and Gendered Wages in Urban China'. *Feminist Economics*, 13(3–4): 213–37. https://doi.org/10.1080/13545700701439432

Braunstein, E., and J. Heintz (2006). 'Gender Bias and Central Bank Policy: Employment and Inflation Reduction'. *International Review of Applied Economics*, 22(2): 173–86. https://doi.org/10.1080/02692170801889643

Braunstein, E., and S. Seguino (2018). 'The Impact of Economic Policy and Structural Change on Gender Employment Inequality in Latin America, 1990–2010'. *Review of Keynesian Economics*, 6(3): 307–32. https://doi.org/10.4337/roke.2018.03.02

Chinn, M., and H. Ito (2006). 'What Matters for Financial Development? Capital Controls, Institutions, and Interactions'. *Journal of Development Economics*, 81(1): 163–92. https://doi.org/10.1016/j.jdeveco.2005.05.010

Cruz, M., G. Nayyar, G. Toews, and P.-L. Vézina (2018). 'FDI and the Skill Premium: Evidence from Emerging Economies'. World Bank Policy Research Working Paper 8613. Washington, DC: The World Bank. https://doi.org/10.1596/1813-9450-8613

Cunningham, W. (2007). *Minimum Wages and Social Policy: Lessons from Developing Countries*. Washington, DC: World Bank. https://doi.org/10.1596/978-0-8213-7011-7

Darity, W., P. Mason, and J. Stuart (2006). 'The Economics of Identity: The Origin and Persistence of Racial Identity Norms'. *Journal of Economic Behavior and Organization*, 60(3): 283–305. https://doi.org/10.1016/j.jebo.2004.09.005

Duncan, O.D., and B. Duncan (1955). 'A Methodological Analysis of Segregation Indexes'. *American Sociological Review*, 20(2): 210–17. https://doi.org/10.2307/2088328

Erten, B., and M. Metzger (2019). 'The Real Exchange Rate, Structural Change, and Female Labor Force Participation'. *World Development*, 117: 296–312. https://doi.org/10.1016/j.worlddev.2019.01.015

Fabrizio, S., A. Fruttero, D. Gurara, L. Kolovich, V. Malta, M. Tavares, and N. Tchelishvili (2020). 'Women in the Labor Force: The Role of Fiscal Policies'. IMF Staff Discussion Paper 20/03. Washington, DC: IMF. https://doi.org/10.5089/9781513529134.006

Feenstra, R., R. Inklaar, and M. Timmer (2015). 'The Next Generation of the Penn World Table'. *American Economic Review*, 105(10): 3150–82. https://doi.org/10.1257/aer.20130954

Frenkel, R., and L. Taylor (2006). 'Real Exchange Rate, Monetary Policy and Employment: Economic Development in a Garden of Forking Paths'. UNDESA Working Paper 19. New York: UNDESA.

Gammage, S. (2010). 'Time Pressed and Time Poor: Unpaid Household Work in Guatemala'. *Feminist Economics*, 16(3): 79–112. https://doi.org/10.1080/13545701.2010.498571

ILO (2011). *World of Work Report: Making Markets Work for Jobs*. Geneva: ILO. https://doi.org/10.1002/wow3.30

Jayadev, A. (2007). 'Capital Account and the Labour Share of Income'. *Cambridge Journal of Economics*, 31(3): 423–43. https://doi.org/10.1093/cje/bel037

Kohler, K., A. Guschanski, and E. Stockhamme (2019). 'The Impact of Financialisation on the Wage Share: A Theoretical Clarification and Empirical Test'. *Cambridge Journal of Economics*, 43(4): 937–74.

Kucera, D., and S. Tejani (2014). 'Feminization, Defeminization and Structural Change in Manufacturing'. *World Development*, 64: 569–82. https://doi.org/10.1016/j.worlddev.2014.06.033

Messina, J., and J. Silva (2021). 'Twenty Years of Wage Inequality in Latin America'. *World Bank Economic Review*, 35(1): 117–47. https://doi.org/10.1093/wber/lhz029

Molyneux, M. (2007). 'Change and Continuity in Social Protection in Latin America: Mothers at the Service of the State?' Gender and Development Programme Paper 1. Geneva: UNRISD.

Oostendorp, R. (2009). 'Globalization and the Gender Wage Gap'. *World Bank Economic Review*, 23(1): 141–61. https://doi.org/10.1093/wber/lhn022

Seguino, S. (2003). 'Why Are Women in the Caribbean So Much More Likely Than Men to Be Unemployed?'. *Social and Economic Studies*, 52(4): 83–120.

Seguino, S. (2007). 'Is More Mobility Good? Firm Mobility and the Low-wage–Low Productivity Trap'. *Structural Change and Economic Dynamics*, 18(1): 27–51. https://doi.org/10.1016/j.strueco.2005.10.002

Seguino, S. (2016). 'Global Trends in Gender Equality'. *Journal of African Development*, 18(1): 1–30.

Seguino, S. (2020). 'Engendering Macroeconomic Theory and Policy'. *Feminist Economics*, 26(2): 27–61. https://doi.org/10.1080/13545701.2019.1609691

Seguino, S., and E. Braunstein (2019). 'The Costs of Exclusion: Gender Job Segregation, Structural Change and the Labour Share of Income'. *Development and Change*, 50(4): 976–1008. https://doi.org/10.1111/dech.12462

Seguino, S., and J. Heintz (2012). 'Monetary Tightening and the Dynamics of Race and Gender Stratification in the US'. *American Journal of Economics and Sociology*, 71(3): 603–38. https://doi.org/10.1111/j.1536-7150.2012.00826.x

Standing, G. (1989). 'Global Feminization Through Flexible Labor'. *World Development*, 17(7): 1077–95. https://doi.org/10.1016/0305-750X(89)90170-8

Tejani, S., and W. Milberg (2016). 'Global Defeminization? Industrial Upgrading, Occupational Segmentation and Manufacturing Employment in Middle-Income Countries'. *Feminist Economics*, 22(2): 24–54. https://doi.org/10.1080/13545701.2015.1120880

UNCTAD (2019). *World Investment Report 2019*. New York: United Nations.

World Bank (2013). 'International Income Distribution Database (I2D2)'. Database. Washington, DC: World Bank.

Appendix A

Table A1: Microdata sources and coverage

Country	Time period*	Household/Labour Force Survey
Argentina	1996–2014 (18)	Encuesta Permanente de Hogares (1996–2003); Encuesta Permanente de Hogares Continua (2004–14)
Bolivia	1992–2016 (16)	Encuesta Integrada de Hogares (1992); Encuesta Continua de Hogares (1997–2000); Encuesta de Hogares (2001–16)
Brazil	1993–2015 (18)	Pesquisa Nacional por Amostra de Domicílios (PNAD)
Chile	1994–2017 (10)	Encuesta de Caracterización Socioeconómica (CASEN)
Colombia	2001–17 (15)	Encuesta Continua de Hogares (2001–06); Gran Encuesta Integrada de Hogares (GEIH) (2007–17)
Costa Rica	1990–2012 (22)	Encuesta de Hogares Propósitos Múltiples (EHPM) (1990–2010); La Encuesta Nacional de Hogares (2011–12)
Dominican Republic	1996–2015 (16)	Encuesta de Fuerza de Trabajo (ENFT)
El Salvador	1991–2014 (15)	Encuesta de Hogares Propósitos Múltiples (EHPM)
Ecuador	1991–2016 (22)	Encuesta Nacional de Empleo, Desempleo y Subempleo (ENEMDU)
Guatemala	2002–14 (6)	Encuesta Nacional de Condiciones de Vida (ENCV)
Honduras	2001–16 (16)	Encuesta Permanente de Hogares Propósitos Múltiples (EHPM)
Mexico	1992–2016 (12)	Encuesta Nacional de Ingresos y Gastos de Hogares (ENIGH)
Peru	1997–2015 (19)	Encuesta Nacional de Hogares (ENAHO)
Paraguay	1997–2010 (9)	Encuesta Permanente de Hogares (EPH)
Uruguay	1992–2015 (20)	Encuesta Continua de Hogares (ECH)

Note: * number of years of data in parentheses.

Source: authors' compilation.

Table A2: Harmonized industry classification

Broad sector	Industry category
Agriculture	• Agriculture & hunting; Forestry & logging; Fishing & aquaculture
Industry	• Mining & quarrying • Manufacture of food & beverage products and tobacco • Manufacture of textile, textile products & wearing apparel • Manufacture of leather & leather products; footwear; Manufacture of wood products & furniture; Manufacture of paper products; Manufacture of rubber & plastic products; Other manufacture n.e.c. • Manufacture of basic chemicals & chemical products • Manufacture of minerals & mineral products • Manufacture of basic metals, fabricated metals; Manufacture of machinery & equipment; Manufacture of vehicles and transport equipment • Public utilities (gas, water, electricity, sanitation & street maintenance, recycling) • Construction
Services	• Sale, maintenance & repair of motor Vehicle & its parts; Sale of automotive fuel • Wholesale trade • Retail trade & repairs of household goods, office & computing goods • Hotels & restaurants • Land, water & air transport • Cargo handling & storage; Transport services; Travel agency services • Financial intermediation; Insurance & related services • Professional, business, administrative services; R&D activities • Membership organizations and associations; Activities of international organizations • Public administration • Education • Healthcare & social services • Information services—publishing, printing, software consultancy, database activities; Post & telecommunications • Entertainment & recreation activities including rental services of transport & other goods • Personal services such as salon services, laundry services, funeral services, etc. • Domestic services or activities of individuals employed in households

Source: authors' compilation.

Table A3: Regression variables and data sources

Variable	Explanation	Source
W/M good job share	Women's good job share/men's good job share, three-year moving average	Authors' calculations based on micro survey data. See Section 3 for more detail.
Women's good job share	The number of jobs in which women earn greater than median wages as a share of women's total employment, three-year moving average	Authors' calculations based on micro survey data. See Section 3 for more detail.
Men's good job share	The number of jobs in which men earn greater than median wages as a share of men's total employment, three-year moving average	Authors' calculations based on micro survey data. See Section 3 for more detail.
Dissimilarity index, Ind. + Occ. (ID)	Duncan dissimilarity index subdivided by both industry and occupation, three-year moving average.	Authors' calculations based on micro survey data. See Section 3 for more detail.
Occupational index of dissimilarity (OID)	Duncan dissimilarity index by occupation (total = 9), three-year moving average	Authors' calculations based on micro survey data. See Section 3 for more detail.
Sectoral index of dissimilarity (SID)	Duncan dissimilarity index by industry (total = 27), three-year moving average	Authors' calculations based on micro survey data. See Section 3 for more detail.
Per capita GDP growth	Annual per capita GDP growth based on real local currency	World Development Indicators (WDI) database.
Social spending/GDP	Central government social spending as a share of GDP	Authors' calculations based on data from ECLAC-CEPALSTAT.
Minimum/average wage	Statutory minimum wage as a share of the average wage	Authors' calculations based on data from ECLAC-CEPALSTAT.
REER	Real effective exchange rate index (2005 = 100): a decrease is equivalent to an appreciation, an increase to a depreciation	ECLAC-CEPALSTAT, except for Argentina, which the authors calculated by multiplying Argentina's nominal exchange rate by the ratio of the US GDP deflator to that of Argentina's
Mfg X/M	Ratio of manufacturing exports to manufacturing imports	Authors' calculations based on WDI data.
Inward FDI/inv	Three-year moving average of inward FDI as a share of gross fixed capital formation	Authors' calculations based on WDI data.
Industrial productivity	Real industrial output (in chained PPPs 2017 US$) divided by industrial labour force.	Authors' calculations based on data from Penn World Tables 10.0 (Feenstra et al. 2015) and WDI database.
Financial openness	Range between 0 and 1, with 1 indicating greater openness. First principal component of reported restrictions on current and capital account transactions, the presence of multiple exchange rates, and requiring surrender of export proceeds. Reflects policy (de jure) openness.	Chinn and Ito (2006).
W/M education ratio	Female/male workers' average years of education, three-year moving average	Authors' calculations from microdata.
W/M labour force participation ratio	Female/male labour force participation rate	Authors' calculations based on WDI data; ILO modelled estimates

Source: authors' compilation.

Table A4: First-stage regression results

	Dependent variables	
	Per capita GDP growth	Per capita GDP growth
Social spending/GDP ($t-1$)	1.406	–0.310
	(1.117)	(1.271)
Minimum/average wage ($t-1$)	1.510*	1.314
	(0.796)	(1.271)
Mfg X/M ($t-1$)	1.335**	1.360**
	(0.529)	(0.565)
Industrial productivity ($t-1$)	–1.217	0.665
	(1.03)	(1.238)
Inward FDI/inv ($t-1$)	1.627	1.891
	(1.21)	(1.380)
REER ($t-1$)	4.420***	6.679***
	(1.189)	(1.563)
Financial openness	1.24	2.682*
	(1.066)	(1.539)
W/M education	11.01	6.630
	(8.18)	(8.294)
W/M labour force participation	–5.29*	9.079**
	(3.155)	(3.861)
Per capita GDP growth ($t-1$)	0.125**	0.224***
	(0.051)	(0.069)
Per capita GDP growth ($t-2$)		0.048
		(0.063)
Investment/GDP	21.10***	
	(2.43)	
Investment/GDP ($t-1$)	–17.08***	
	(2.25)	
Observations	263	263
Countries	15	15

Note: column (1) is the first-stage regression results for Table 3, and column 2 for Table 4.

Source: authors' calculations.

Table A5: Occupations by gender, all countries

Occupation group	Women's share of occupation-level employment (%)	Occupation share in total employment (%)		Occupation-level share of good jobs(%)		
		Men	Women	Men	Women	W/M share
Service and market sales workers	60	14	28	57	3	5
Clerks	57	6	11	83	59	70
Elementary occupations	53	16	24	15	3	19
Professionals	51	9	12	97	95	98
Technicians	42	9	9	95	77	80
Senior officials/owners	37	6	4	95	79	84
Others	31	0	0	49	20	41
Skilled agricultural	30	1	0	46	65	142
Machine operators	22	14	4	85	8	9
Craft workers	17	26	9	54	4	8

Source: authors' calculations.