

A Service of

ZBW

Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre for Economics

Heckl, Pia; Lennon, Carolina; Schneebaum, Alyssa

Working Paper

How Is Global Commerce Affecting the Gender Composition of Employment? A Firm-Level Analysis of the Effects of Exposure to Gender Norms via Trade and FDI

CESifo Working Paper, No. 11704

Provided in Cooperation with: Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

Suggested Citation: Heckl, Pia; Lennon, Carolina; Schneebaum, Alyssa (2025) : How Is Global Commerce Affecting the Gender Composition of Employment? A Firm-Level Analysis of the Effects of Exposure to Gender Norms via Trade and FDI, CESifo Working Paper, No. 11704, CESifo GmbH, Munich

This Version is available at: https://hdl.handle.net/10419/314743

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



WWW.ECONSTOR.EU

CESIFO WORKING PAPERS

How Is Global Commerce Affecting the Gender Composition of Employment? A Firm-Level Analysis of the Effects of Exposure to Gender Norms via Trade and FDI

Pia Heckl, Carolina Lennon, Alyssa Schneebaum



Impressum:

CESifo Working Papers ISSN 2364-1428 (electronic version) Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute Poschingerstr. 5, 81679 Munich, Germany Telephone +49 (0)89 2180-2740, Telefax +49 (0)89 2180-17845, email office@cesifo.de Editor: Clemens Fuest https://www.cesifo.org/en/wp An electronic version of the paper may be downloaded • from the SSRN website: www.SSRN.com

- from the RePEc website: <u>www.RePEc.org</u>
- from the CESifo website: <u>https://www.cesifo.org/en/wp</u>

How Is Global Commerce Affecting the Gender Composition of Employment? A Firm-Level Analysis of the Effects of Exposure to Gender Norms via Trade and FDI

Abstract

Global firms have a higher share of female employees than domestic non-exporters. To explain this fact, this paper tests whether international trade and FDI are channels through which norms regarding gender (in)equality are transmitted from customers and investors to firms. We employ pooled cross-sectional data from 2007 - 2016 for around 28,000 firms in 104 different countries. We compare global versus non-global firms in the same market to study the influence of firms' exposure to gender norms in commercial partner countries. The results show a race to the top for low- and mid-level jobs and the opposite for top managerial positions.

JEL-Codes: F660, D220, F420, J160.

Keywords: globalization, international trade, FDI, gender, transmission of social norms.

Pia Heckl ifo Institute – Leibniz Institute for Economic Research at the University of Munich / Germany heckl@ifo.de

Carolina Lennon Alyssa Schneebaum Vienna University of Economics and Business Vienna / Austria office@alyssaschneebaum.com carolina.lennon@gmail.com

February 2025

Most of the research conducted while affiliated with Vienna University of Economics and Business. The authors are grateful for helpful comments from René Böheim, Jesús Crespo Cuaresma, Tuna Dökmeci, Pirmin Fessler, Max Kasy, Carla Rainer, Petra Sauer, Andrea Weber, and participants at seminar presentations at the Vienna Institute for International Economic Studies, the Workshop on Gender and Macroeconomics at the Levy Institute in New York, the AK Wien "Workshop feministischer Ökonominnen," and at the Department of Economics at WU Vienna. This research was supported by the Austrian Science Fund (FWF) under grant number P 32709-G. Isabella Bachleitner and Clémence Taisne provided helpful research assistance.

1 Introduction

Global firms – exporters and multinationals – have been found to have more genderequal employment and wage outcomes than domestically-owned non-exporting firms; examples include Black and Brainerd (2004), Juhn, Ujhelyi, and Villegas-Sanchez (2014), Tang and Zhang (2021), Bøler, Javorcik, and Ulltveit-Moe (2018), and Kodama, Javorcik, and Abe (2018). The literature has relied on three strands of economic theory to explain this phenomenon: Becker's (1957) thinking on discrimination and the role of competition in determining firm mark-ups; the Heckscher-Ohlin application of comparative advantage to female workers in developing countries; and technological upgrading embedded in trade models of heterogeneous firms (Juhn, Ujhelyi, and Villegas-Sanchez, 2014). These three theories have been steady workhorses in the literature explaining women's better outcomes in global firms.

The main contribution of this paper is that it proposes and tests a relatively unexplored explanation for the higher share of female employees in global firms: namely, that the norms of gender (in)equality to which a global firm is exposed to via customer demand for their goods or via the hiring practices and gender norms of their parent companies affects its own gender-specific employment structure. In particular, we study how the *difference* in the share of female employees in global versus non-global firms varies with the degree of gender (in)equality which firms are exposed to via trade and FDI. To identify the causal effect of gender norms transmission via commercial links on exporting and foreign-owned firms, we construct an instrumental variable based on the "attractiveness" of a local market. We measure exposure to gender (in)equality through trade and FDI by means of spatial lags, in which the gender (in)equality in a country's commercial partners is weighted by the strength of bilateral commercial links. Throughout, we control for variables that represent the three existing causal channels between a firm's global status and its share of female employees typically assumed in the literature.

The paper makes three further contributions to the literature. First, we assess the effect of exposure to gender norms on the share of women employed in various classes of jobs. The analysis differentiates the effect of exposure to gender norms for production workers (such as those on assembly lines), non-production workers (such as those in offices), and top managers. The findings in Juhn, Ujhelyi, and Villegas-Sanchez (2013) show why this differentiation is important: trade liberalization in Mexico increased wages and employment for women, but only for those in blue-collar jobs.

Second, we employ firm-level data in our empirical analysis. The paper thus fits into the growing literature on heterogenous firms, which is replacing classical theories of trade by recognizing that firms can fundamentally differ from each other, even in narrowly defined sectors. Global and non-global firms have different characteristics and processes that may be related to their decisions about hiring more or fewer women. Using firm-level data is important to be able to control for the effects of the firm-level characteristics that differ by global status, such as productivity, size, and the use of technology. There is already a literature that uses firm-level data to study the relationship between gender equality in employment and international trade and FDI, but existing studies have thus far only looked at firms in one country at a time.¹ Therefore, the final major contribution of the paper is that it studies firms in more than 100 different countries, observed between 2007 - 2016. By looking at firms in so many countries, the analysis is able to control for institutional characteristics that may impact the link between a firm's global status and the share of women it employs. Moreover, the large sample of countries makes the analysis less prone to concerns about the external validity of the results, as is the case in single-country studies.

Existing literature on the transmission of norms has shown that international trade and FDI are indeed channels through which social norms can be transmitted. Greenhill, Mosley, and Prakash (2009), for example, show that customers abroad demand that sellers meet their own local standards of equality: in that study, exporters adapted their treatment of workers to comply with norms of labor rights in the countries in which

¹Examples include Ozler (2000) for Turkey; Klein, Moser, and Urban (2010) for Germany; Chan (2018) for Italy; Bøler, Javorcik, and Ulltveit-Moe (2015) and Bøler, Javorcik, and Ulltveit-Moe (2018) for Norway; Vahter and Masso (2019) for Estonia; Aguayo-Tellez et al. (2010), Juhn, Ujhelyi, and Villegas-Sanchez (2013), and Juhn, Ujhelyi, and Villegas-Sanchez (2014) for Mexico; Helpman et al. (2017) for Brazil; Dong and Zhang (2009), Chen et al. (2013), and Tang and Zhang (2021) for China; and Kodama, Javorcik, and Yukiko (2016) for Japan.

their customers were located. Those findings echo the idea of Vogel's (1995) "California Effect," in which international car manufacturers were found to conform to the high environmental standards for cars driven in California. Moreover, Harrison and Scorse (2010) find that in the face of activism against sweatshop labor conditions, exporters and multinationals raised employee wages to meet the demands of customers abroad.

The literature on norm transmission further shows that trade and FDI can internationally transmit gender norms specifically. Using a panel of countries, Neumayer and de Soysa (2011) show that in all but the lowest-income countries, trade and FDI serve as links for the transmission of a country's level of women's social and economic rights (they find that FDI acts as a weaker channel than trade).² Using a cross-section of foreign-owned firms in China, Tang and Zhang (2021) also investigate the transmission of norms of gender equality. They find that firms owned by companies in more genderequal countries have a higher share of female employees than those owned by firms in less gender-equal countries.

Given that we have information at the firm level for a large number of countries, we can follow a different identification strategy here. Rather than assessing the effect that gender norms in commercial partner countries have on the *level* of gender equality at home on a country-level (as in Neumayer and de Soysa (2011)) or on the *level* of gender equality of global firms (as in Tang and Zhang (2021)), we instead assess the *differential* response of global versus non-global firms to exposure to gender norms within the same market. Comparing global to non-global firms in this way helps address two potential concerns from the outset.

First, there may be other channels of transmission beyond commercial links – trade and FDI – through which gender norms can be transmitted across countries; bilateral migration and the flows of ideas, for example, can also act as powerful mechanisms. All these channels might be affected by the same set of factors, such as physical and cultural proximity; to the extent that these channels exist and cannot be observed, there would be a problem of identification. Both global and non-global firms are affected by the same set

²Similar to them, we also employ spatial lags to measure exposure to gender norms in commercial partner countries.

of transmission channels in the local market, but global firms might be disproportionally influenced by gender norms in the commercial partner countries with whom they interact. By comparing global to non-global firms in the same market, we can control for other transmission mechanisms and better identify the role that trade and FDI might play on the transmission of gender norms across countries.

The second major concern stems from reverse causality, which may occur at both the macro and micro level. Since the emergence of the New Trade Theories, it has become apparent that north-north transactions represent the bulk of trade and FDI (Helpman and Krugman, 1985). This means that commercial transactions take place between similar countries, sharing similar levels of development and, presumably, similar levels of gender equality. Consequently, the estimated impact of commercial interactions on a country's level of gender equality may reflect the fact that these relations occur between countries with similar gender equality levels. By estimating the *differential* response to gender norms in partner countries for global and non-global firms within the same market, we mitigate the concern of reverse causality at the macro level. This is because it is less likely that the *difference* in gender composition between global and non-global firms influences the commercial partners a country is willing or able to engage with. At the micro level, the concern of reverse causality may arise if a global firm selects its commercial partners based on shared hiring practices or similar levels of gender equality.³

To address the latter point and other types of endogeneity arising from unobserved firm characteristics, we employ an instrumental variables (IV) strategy, wherein we instrument the global status of firms. Our instruments are designed to address unobserved firm heterogeneity that may simultaneously influence a firm's decision to become global and its female share. Specifically, we construct a set of instruments that capture the attractiveness of a narrowly defined market cell based on the distribution of global firms in the local market. The instruments use survey weights to accurately reflect population estimates at the market level and are based on observed firm characteristics that we explicitly control for in our analysis.

³It might also be the case that global firms are only able to establish commercial links with gender-equal countries if they themselves have more gender-equal practices.

A key advantage of our instruments is that they allow us to retain the full set of control variables in the main specification. Consequently, the instruments capture the attractiveness of the narrowly defined market while holding constant factors such as local gender norms, firms' skill levels, and country-wide policy changes. Through plausibility checks, we further demonstrate that the instruments do not capture unobserved market cell characteristics that could simultaneously influence a firm's female share of workers and its decision to become global.

The results consistently show that exposure to gender norms through trade and FDI affects the hiring decisions of global versus non-global firms. When looking at the female share of total employment, this exposure leads to a race to the top in gender equality, in which global firms exposed to gender equality have statistically significantly larger female shares than non-global firms in the same market. At the same time, when exposed to gender *in*equality, the female share of total employment in global firms is not statistically different from that in non-global firms. Our IV results show that when exposed to gender equality, the female employment share in multinationals is 17 - 18 percentage points larger than it is in domestic firms, and the female share is 6.6 – seven percentage points larger in exporting firms than in non-exporting firms. Further analysis shows that using industry-level trade exposure confirms our main results.

We identify two limitations to the positive effect of exposure to gender equality via trade and FDI. First, only firms in relatively gender-equal countries respond to this exposure. Second, our results show that firms exposed to gender inequality are less likely to have a female top manager, while exposure to gender equality via trade and FDI does not matter. Thus, the race to the top in gender equality exists only for low- and mid-level jobs; there is instead a race to the bottom for top managerial positions.

2 Data and Methods

2.1 Data

The paper employs a pooled cross-sectional dataset of almost 28,000 firms surveyed in 104 countries between 2007 and 2016 by the Enterprise Analysis Unit of the World Bank. A major advantage of these surveys is that they were carried out using a uniform sampling methodology and the same set of questionnaires across firms, countries, and over time.⁴ The surveys are intended to be representative of the population of firms in the non-agricultural private economy.⁵ The sample scheme consists of a stratified random sample based on sector, firm size, and region. The World Bank administrates the survey each year for a selected number of countries, with some countries being surveyed more than once in the period of analysis.⁶ Although some Northern and Eastern European countries have been surveyed, the surveys have been mainly conducted in developing countries.⁷

Our measure of female employment is the share of full-time, permanent positions held by women. We also use information on female employment shares in full-time, permanent positions for production and non-production workers. Finally, we use an indicator variable of whether a firm's top manager is female. The analysis is limited to firms in the manufacturing sector, since data on several important variables such as the number of individuals employed in production versus non-production work and information on the skill level of the firms' production workers are unavailable for firms in other sectors.⁸ "Global" firms are identified in two ways: first, we identify exporters

⁴We only include surveys adhering to the Enterprise Surveys Global Methodology so that comparability across countries and over time can be ensured.

⁵The surveys are the main source of information for the World Bank to construct indicators on a broad range of topics, such as access to finance, corruption, and firms' performance. These indicators are meant to be representative for a country, the region within the country, as well as at the industry level.

⁶One-third of the observations in the regression sample are in countries that have been surveyed more than once in the period of analysis.

⁷Based on the UN country classification, only 8% of the firms surveyed in our main specification reside in developed economies. The countries and years included in the analysis are shown in appendix section A.1.

⁸Only manufacturing firms were asked to report the shares of employees that were "highly

as firms whose exports make up at least 10%⁹ of total sales, and second, we identify multinationals or foreign-owned firms as those who are completely financed by foreign investment. Appendix section A.1 and table A1 presents descriptive statistics and the top ten industries firms operate in. The mean share of women in firms over all years is 27%. In production work, the average share of female workers is 25% and 33% for nonproduction work. About 13% of firms have a female top manager. We further also shows differences between global and non-global firms. Exporting and foreign-owned firms differ from domestically-owned non-exporters along several dimensions, including firm age, skill intensity, and firm size. Global firms have a higher share of women in production and non-production positions. For female ownership, this holds true for exporting firms, whereas foreign-owned firms are less likely to have women as owners or top managers. Importantly, we control for the observable differences between global and non-global firms in our specification described below.

To account for firms' exposure to gender norms through trade and FDI, we construct a set of spatial lags, which entails two steps. The first step is to measure the norms of gender (in)equality in countries around the world, which is done using data on the Gender Inequality Index (GII) compiled by the United Nation Development Programme (UNDP).¹⁰ The GII measure ranges from 0 to 1, where higher values correspond to higher levels of gender inequality. The next step entails the creation of a firm's exposure to gender (in)equality, which is a weighted measure of the gender (in)equality in the countries with whom a firm interacts and the share of its commerce done with each country. In the firmlevel Enterprise Survey data, there is no direct information on the countries with whom a firm trades or the countries from whom it receives FDI. To supplement this information, country-level data on bilateral trade and FDI are employed to get a measure of the

skilled production workers," "semi-skilled production workers," or "unskilled production workers."

⁹The 10% cut-off is standard in the literature; see e.g. Juhn, Ujhelyi, and Villegas-Sanchez (2014) and Kodama, Javorcik, and Yukiko (2016).

¹⁰The GII is a battery measure of five issues indicating a country's level of gender (in)equality: the share of parliamentary seats held by women; the maternal mortality ratio; the adolescent fertility rate; the share of women with at least a secondary educational degree; and women's labor market participation.

countries with whom a firm interacts, based on its country of residence.¹¹ The resulting exposure indicators vary across countries and over time. Given that we have information on firms in more than 100 countries, we can exploit this variation to identify the impact that the exposure to gender norms has across countries. The spatial lags are constructed as in equation 1, where the exposure to gender (in)equality SL in country c at time tequals the sum across all commercial partner countries P of the gender (in)equality GIIin commercial partner p weighted by the bilateral share w_{cpt} of trade and FDI between countries c and p at time t.

$$SL_{ct} = \sum_{p \neq c}^{P} w_{cpt} * GII_{pt}, \text{ with } \sum_{p \neq c}^{P} w_{cpt} = 1$$
(1)

There are two different sets of weights (w_{cp}) , depending on whether the focus is on identifying exposure to gender norms in final consumer countries $(Trade_SL)$ or in investor countries (FDI_SL) . In the first case, the weights account for the share of exports in country c going to each of its partner countries, while in the second, the weights represent the share of a country's inward FDI stocks originating from partner countries. As such, countries trading and receiving FDI mainly from gender equal countries will be exposed to gender equality, while those having commercial ties mainly with gender unequal countries will be exposed to gender inequality.

Figure A1 in the appendix shows the average gender norms to which countries are exposed via trade and FDI; the ISO country codes for the highest, lowest, and some middle values are highlighted. The Czech Republic, Hungary, Sweden, and Estonia have high exposure to norms of equality; Namibia, Eswatini, Jordan, and Bhutan have high

¹¹The data on FDI come from the United Nations Conference on Trade and Development (UNCTAD). The UNCTAD data give information on the stock of FDI in any country received from each other country. The UNCTAD data come primarily from countries' self-reports and are supplemented with data from partner countries and other international organizations, when available (UNCTAD, 2018). The data on bilateral trade come from the United Nations (COMTRADE), organized into so-called "World Trade Flows" (WTF) data by the Center for International Data (2018). These data give the total value of exports from one country to another. Further details on the construction of the spatial lags can be found in appendix A.2.

exposure to inequality.

2.2 Methods

Our dependent variable in all specifications is the female composition G in firm i in year t and the explanatory variables of interest are the gender norms to which a firm is exposed to via trade and FDI. We start by explaining firms' female share of total employment. We then break down the analysis, investigating the impact on the female share of production and non-production workers as well as whether the top manager is a female.

All specifications throughout the paper include time-varying country effects (Ω_{ct}) and a set of fixed effects for the region within a country in which the firm is located (Γ_l) . The inclusion of region-specific effects ensures that we are comparing global to non-global firms that are geographically close and that are thus likely exposed to a similar level of gender equality and to the same set of gender norm transmission mechanisms. The timevarying country-specific effects further account for any potential policy changes at the country level over time, such as tariff cuts and those regarding labor market conditions. All specifications include industry fixed effects based on the firm's 2-digit ISIC industry code (λ_s) and the same vector of firm characteristics (\mathbf{C}_{it}).

$$G_{it} = \alpha + \beta X_{it} + \gamma M_{it}$$

$$+ \delta X_{it} * Trade_SL_{ct} + \theta M_{it} * FDI_SL_{ct}$$

$$+ \mathbf{C}_{it} \zeta' + \Omega_{ct} + \Gamma_l + \lambda_s + \varepsilon_{it}.$$

$$(2)$$

We employ the spatial lags in two specifications in order to evaluate how the female composition of global versus non-global firms is affected by the exposure to gender norms in commercial partner countries. In the first specification, we interact the spatial lags with the global status of the firms (equation 2). In our second specification, we instead split the sample of firms into two groups – firms exposed to gender equality and those exposed to gender inequality, based on the median values of the spatial lags in the sample. In all specifications, spatial lags are lagged by one year.

As a starting point, it is reasonable to assume that attitudes towards female work in final export markets are relevant only for exporting firms and that the attitudes in source countries of FDI are relevant only to firms that are foreign-owned. The first specification thus interacts the export-weighted spatial lag variable $(Trade_SL_{ct})$ with the export status dummy (X_{it}) , while the FDI-weighted spatial lag variable (FDI_SL_{ct}) is interacted with the foreign-owned dummy variable (M_{it}) . The main coefficients of interest in this specification are δ and θ , which capture how the difference in the female composition in global versus non-global firms operating in the same market varies with the degree of gender inequality to which firms are exposed via trade and FDI, respectively. Since the spatial lags were centered around their means before constructing the interaction terms, the coefficients on the global status (β and γ) are to be interpreted as the difference in the female composition of global versus comparable non-global firms in the same market that face average exposure to gender inequality through trade and FDI.¹²

Throughout the analysis, we control for a host of issues that the literature has identified as linkages between a firm's global status and its share of female employees. Controlling for these items isolates the effect of the exposure to gender norms. The first set of controls relates to Becker's (1957) theory of employers' taste for discrimination, in which firms in non-competitive markets enjoy relatively larger mark-ups and profits that can be used to "purchase" costly discrimination. By increasing market competition and lowering firms' mark-ups, increased international commerce can reduce the scope for discriminatory practices and thus improve female labor outcomes.¹³ Studies that take as their theoretical starting point that globalization may reduce discrimination via greater competition include Artecona and Cunningham (2002), Black and Brainerd (2004), and Ederington, Minier, and Troske (2009). Each of these studies show that an increase in

¹²Notice that the standalone spatial lag variables (*Trade_SL* and *FDI_SL*), which only vary across country and over time, are dropped from equation 2, as they are accounted for by the time-varying country specific effects (Ω_{ct}).

¹³Indeed Weber and Zulehner (2014) show that firms in a competitive market with a preference for discrimination against hiring women have lower survival rates.

trade led to a decrease in discrimination against women in global firms. The vector \mathbf{C} includes information on whether a firm's working capital is financed by credit or advances, which we use as an indicator of the level of monopolistic power held by the firms, since only large firms with strong influence in the final market might ask suppliers for credits in advance.

The second set of controls comes out of the traditional trade theories based on comparative advantages and countries' endowments. In particular, the Heckscher–Ohlin model predicts that as an economy opens up to trade, employment and production expand in the sector that uses the most abundant factor of production more intensely. To the extent that unskilled labor by women is relatively abundant in developing economies, the theory predicts that trade liberalization will reduce gender gaps in employment and wages in developing countries while widening them in rich economies (Sauré and Zoabi, 2014).¹⁴ To account for this idea, along with including industry fixed-effects (λ_s), all models also control for the firm's skill intensity based on its share of skilled production workers. These controls ensure that the results are not driven by the concentration of unskilled female labor in particular sectors, such as the apparel sector, which is typically a large employer of unskilled female workers and is a prevalent example of comparative advantage in the developing and transition economies in our data.

The third set of controls shows how the use of firm-level data is crucial to properly identify the link between a firm's global status and the share of women it hires. This set of controls refers to new trade models based on firm heterogeneity and monopolistic competition (Melitz, 2003), which acknowledge that there is heterogeneity across firms even within narrowly defined sectors. Only a handful of firms export, and these exporters are larger, more productive, and invest more in new technology. The latter issue, greater

¹⁴However, the empirical literature does not find full support for this theory. Oostendorp (2009), for example, finds that being more globalized is related to a lower occupational-level gender wage gap only in developed countries – the opposite of what the Heckscher-Ohlin theory predicts. Moreover, the model in Brussevich (2018) predicts that in the US, where trade openness should theoretically increase gender gaps on the labor market, the high cost of switching sectors upon facing import pressure actually disproportionately negatively affected men, not women, thus lowering the gender wage gap.

investment in technology, is one key link between global status and gender equality, as shown in Juhn, Ujhelyi, and Villegas-Sanchez (2014). Their model predicts that new technology reduces the female comparative disadvantage of performing physically demanding tasks. At the same time, as a country opens up to trade, a selection of firms takes place, in which less productive firms exit the market. This process in turn increases the country's average productivity, and subsequently the number of firms in the economy that can afford the fixed costs of exporting and investing in new technology. Thus, trade liberalization leads to an increase in the number of exporting firms as well as in investment in new technology, favoring female workers.¹⁵ This example shows that greater gender equality among exporting firms and multinationals might not stem from their global status per sé, but instead from the fact that those firms tend to be larger and more technology-intensive than domestic and non-exporting firms. To account for firm heterogeneity in general and the heterogeneity in firms' use of new production technologies in particular, the models here control for firm size (measured as the total number of employees three fiscal years ago), firm productivity (sales per worker three fiscal years ago), and whether the firm had invested in any fixed asset in the last year. Finally, to account for firms' use of new production technologies, the models include firms' expenditure in equipment, machinery, and vehicles in the last fiscal year.

Along with the control variables based on the three theories described above, all models include a dummy variable indicating whether the firm is located in a large city. The city variable controls for confounding factors arising from global firms being attracted to large cities, where attitudes towards female work might differ from those in rural areas. The models further control for the firm's age; if at least one of its owners is a woman; its share of temporary employees; and management quality. The latter is proxied by the number of years that the top manager has been working in the sector.¹⁶ Finally, to

¹⁵In the context of developed countries, Weinberg (2000) shows that the increase in computer use in the US between the 1970s and 1980s can explain more than half of the growth of demand for female workers, and Black and Spitz-Oener (2010) show that the adoption of computers can explain 41% of the declining gender wage gap in West Germany between 1979 and 1999.

¹⁶Bloom et al. (2018) show that better-managed firms are more likely to be exporters, and the results in Heyman, Svaleryd, and Vlachos (2013) suggest that more efficiently-

account for stratification structure of the sampling methodology of the survey, we further control for three broad categories of the a firm's size. The list of all control variables and their related survey questions are presented in appendixes A.3 and A.4, respectively.

2.2.1 IV for global status of the firm

Our IV strategy is meant to deal with unobserved firm heterogeneity that might simultaneously influence a firm's decision to become global and its female share. Although we already control for a large set of confounding factors that are external to a firm's operations,¹⁷ there may still be some endogeneity arising from unobserved firm heterogeneity. One example of unobserved firm heterogeneity could be the managerial quality of a firm. This factor might act as a confounder, in that only highly professionalized management teams might have the tools and the skills to engage in exporting and to attract investment from abroad, and at the same time, these teams might be more likely to conduct formal recruitment processes that are less prone to gender-based discrimination.

The models employed in this analysis control for firm size and productivity, both of which might be correlated with the quality of firm management; all models further use the number of years the top manager spent in the industry as a proxy of management quality. However, if these variables do not capture all variation in managerial quality, the models might suffer from omitted variable bias.¹⁸ If the latter is true, then a good instrument would capture factors that are external to a firm's operation, but that can still influence the decision to become global and that do not have a direct effect on female employment.¹⁹

managed firms hire a greater share of women and have a lower gender wage gap.

¹⁷Notice that the set of specific effects and firm-level variables used in our main specification already allow us to control for considerations such as gender norms in the local market, the skill composition, the incidence of temporary employment, and countrywide policy changes, among others.

¹⁸In family-run businesses, for example, managers may have experience spanning generations, but hiring practices may still be informal.

¹⁹Arguably, the quality of the management might be itself the result of a firm's decision to become global. It might be that firms undergo a restructuring process, including of the management, in order to be able to enlarge their market and deal with foreign markets. In this case, one would rather avoid controlling for management quality. At the same time, using instruments that capture factors that are external to a firm's operations

One of the preferred instruments for global status in the trade literature that is external to a firm's operation – namely, geography – cannot be used in this setting, as the exclusion restriction might not be satisfied. This is because not only trade and FDI are strongly influenced by geography, but other transmission channels of gender norms are as well.²⁰

Our strategy here is to find instruments that can account for the attractiveness of a narrowly defined market cell to global firms. Over-representation of exporters and multinationals in a particular market might indicate that the market offers especially advantageous conditions to global firms. Thus, our instruments measure the attractiveness of a market cell via two observed firm characteristics: the employment (in the previous three years) of the firms and whether a firm had invested in fixed assets in the last year. To ensure that these variables are representative of the population of firms in a market, we use the survey weights and include all firms independently of whether or not they belong to the regression sample. The market is defined by the year, sector, and region within a country in which a firm is located.²¹ Using the weights, we construct measures of the market concentration of global firms based on firm characteristics for which we explicitly control in the model. To be more precise, we use the estimated population share of employment in the cell employed by global firms, and the global firms' share of all firms in the cell that invested in fixed assets in the last year as instruments. We calculate the share of exporters and the share of multinationals for each firm characteristic separately. We thus have an over-identified model with four instruments for two endogenous variables.

One important advantage of our instruments is that they allow us to keep the full set

might be, in principle, unproblematic. Compared to OLS estimates, however, instrumenting in this case might lead to less precise estimates and, in case of heterogeneous effects, to results that reflect only the behavior of the complier population, that is, the impact on the gender composition for the group of firms that decided about their global status based on external factors.

²⁰In addition, using instruments based on geography would require dropping the region within a country effects, which were included in our main specification precisely to control for other mechanisms of gender transmission across countries.

²¹We take advantage of the fact that the surveys are conducted in order to create indicators that are representative of a region, year, and sector.

of control variables and specific effects of the main specification. The instruments thus capture the attractiveness of the narrowly defined market, holding constant considerations such as the gender norms in the local market, the skill level, the incidence of temporary employment, as well as country-wide policy changes.²²

However, there are two concerns that might undermine the validity of our instruments. First, our instruments, which vary across market cells, might capture unobserved market characteristics which themselves have a direct impact on the female share of firms. The second concern arises because in order to construct instruments that are representative of the population in a market, we use all firms, including the reference firm i whose female share we want to estimate. This problem does not come from the variables used in the construction of the instruments – total employment and investment of the firm – since these variables are controlled for and thus explicitly taken out from the error term in the reduced form. The problem arises, however, because each firm contributes to the instrument value based on its own global status. We thus conduct a set of checks on the plausibility of the exclusion restriction in appendix A.5. In particular, we conduct regressions controlling for a full set of market-cell characteristics, and regressions in which a firm's own value is discarded in the construction of the instruments. The checks confirm the plausibility that our instruments reflect the attractiveness of the market cell that is not confounded by unobserved market-cell characteristics nor driven by the inclusion of a firm's own values.

One example of an external factor that these instruments might capture is the emergence of Export Processing Zones (EPZ) or Special Economic Zones (SEZ), which aim to attract foreign investors and promote exports.²³ A firm existing in one of these zones

²²Although the instruments are meant to deal with the endogeneity arising from the self-selection of global firms in a market, using instruments that capture conditions external to a firm's operations might indirectly help us reduce concerns about the reverse causality of the exposure to gender equality, at least if one thinks that a firm's characteristics (such as the degree of gender bias of the management) might define the markets with whom the firm interacts.

²³These zones are geographically delimited areas, which are sometimes sector-specific. According to the UNCTAD (WIR 2019), there are 5,400 SEZs, almost one-fifth of which were created within the last five years. These zones are separate customs territories within a country that are free from customs duties and tariffs. Most zones also offer

is much more likely to be global, but there is no reason to think that the zone itself would impact the gender-specific hiring decisions of the firms in it. Other examples include any new regional infrastructure, such as the construction of new air- and seaports within the period of analysis. These infrastructure changes may disproportionately benefit exporting firms, but they are unlikely to influence the firms' gender-specific hiring decisions. Finally, the instruments capture any sectoral/industry clustering that might disproportionately attract global firms.

3 Results

We start by presenting the impact of exposure to gender norms on firms' female share of total employment. We then break down the analysis, investigating the impact of exposure to gender (in)equality on the female share of production and non-production workers as well as whether the top manager is a female.

3.1 Total employment

Table 1 shows OLS regressions, in which the female share in total employment is explained by the global status of the firm and the gender norms to which the firm is exposed. In column (1), the trade and FDI spatial lags (Trade_SL and FDI_SL, respectively) are interacted with their corresponding dummy variables for being an exporter or being foreign-owned. The coefficients on the stand-alone variables for global status show that global firms employ a higher share of female workers than domestic firms and non-exporters, in line with the literature. The female share in exporting firms is 2.7 percentage points higher than it is in non-exporting firms, and the share is 3.2 percentage points higher in multinationals than in domestic firms.²⁴ The coefficient on the interaction terms

fiscal incentives and infrastructure support in order to attract foreign investors, increase exports, and diversify industrial activity.

²⁴Appendix table A4 presents and discusses the results on the impact of global status in a regression that does not account for the exposure to gender norms. The findings there confirm that global firms have a higher share of female employment. Moreover, the table shows that the weaker a firm's global ties (based on the share of its output that is exported or the share of its owners that are abroad), the weaker the relationship

are negative and statistically significant. They indicate that exposure to greater gender inequality via trade and FDI leads to a lower share of female employment in global firms compared to non-global firms in the same market. A one standard deviation increase in a country's exposure to gender inequality through both trade and FDI is associated with a 3.3 percentage point decrease in the share of women employed by a global firm. Evaluated at the average female employment share, which is 27.3% in the sample, this drop represents a 12% decline in the share of female employees. These results indicate a convergence in gender norms: international trade and FDI are associated with either a race to the top or a race to the bottom in gender norms, depending on the level of gender (in)equality in commercial partner countries.

Table 1: OLS estimates of firms' share of female workers, based on their global status and exposure to gender norms

| Dependent variable: share of f | emale worker | `S | | | |
|--------------------------------|---------------|---------------|---------|---------------|---------------|
| | | Export | markets | FDI sourc | ce country |
| | All obs. | Equal | Unequal | Equal | Unequal |
| | (1) | (2) | (3) | (4) | (5) |
| Exporter $(\geq 10\%)$ | 2.746^{***} | 4.315^{***} | 0.824 | 3.216^{***} | 2.770^{***} |
| | (0.498) | (0.783) | (0.539) | (0.676) | (0.949) |
| Foreign (100%) | 3.208*** | 5.208*** | -0.135 | 5.623*** | 0.500 |
| | (0.872) | (1.078) | (1.083) | (1.133) | (1.056) |
| Exporter \times Trade_SL | -37.771*** | | | | |
| | (12.873) | | | | |
| For eign \times FDLSL | -26.307* | | | | |
| | (15.798) | | | | |
| Observations | 27,833 | 13,915 | 13,918 | 13,375 | 14,458 |
| R^2 | 0.475 | 0.454 | 0.465 | 0.464 | 0.463 |

This table shows the relationship between a firm being an exporter and receiving FDI and its share of female workers, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

Columns (2)-(5) in table 1 split the sample into two groups of observations, based on

between these measures and the share of female employment. This result would be in line with the idea that the gender-specific employment structure in global firms is influenced by the gender norms to which the firm is exposed.

whether a country's exposure to gender equality is below or above the sample median.²⁵ Splitting the sample in this way gives a direct assessment of whether the exposure to gender norms through trade and FDI leads to a race to the bottom or rather to a race to the top for the sample at hand. Column (2) shows the firms whose exposure to gender norms via trade is in the upper half of the equality distribution, and column (3) shows the firms whose exposure via trade is in the bottom half of the gender equality distribution. In columns (4) and (5), the sample is split based on the exposure to gender norms from the source countries of FDI.²⁶

When studying the effect of exposure to gender norms through trade, we see that global firms only have a statistically significantly higher female employment share than non-global firms when they are exposed to gender equality. Exporting firms exposed to gender equality via trade have a four percentage point greater female employment share than non-exporters, while multinationals exposed to gender equality via trade have a five percentage point higher female share. On the other hand, the female employment share in exporting and multinational firms exposed to unequal gender norms through trade is not different than it is in domestic and non-exporting firms.

A similar pattern emerges when looking at exposure to gender norms via FDI in columns (4)-(5). Multinationals have a 5.6 percentage points greater share of female employees than domestic firms when exposed to norms of gender equality, while the coefficient on the multinational status is statistically insignificant when exposed to norms

²⁵This exercise is essentially the same as interacting the global status variables, as well as all the other covariates of the model, with the exposure to gender inequality in commercial partner countries when the latter is accounted for by a binary variable.

²⁶One by-product of this approach is that exporters and multinationals are now allowed to be influenced by both types of exposure to gender norms, that is, through both trade and FDI. This approach might be more realistic than assuming that only exporters are influenced by the norms in export markets and that only multinationals are influenced by the norms in FDI source countries, since a large share of multinationals in the manufacturing sector engages in exports (in our data, almost half (49%) of foreignowned firms are also exporters). Thus, gender norms in export markets might have an effect not only on the hiring decisions of exporting firms but also, although to a lesser extent, on the hiring decisions of foreign-owned firms. Exporters, on the other hand, are predominantly domestically owned (89%) and are thus less likely to be influenced by the gender norms in source countries of FDI.

of gender inequality.

Another interesting result from table 1 is that foreign-owned firms are very strongly affected by exposure to gender norms through trade. This result is not surprising, considering that almost half of foreign-owned manufacturers are also exporters. Not as many exporters are foreign-owned, so the effect of exposure through FDI for exporters is weaker than the effect of exposure through trade for multinationals.

We repeat the analysis from columns (2)-(5) in table 2, using our IVs.²⁷ For all specifications, the battery of tests of the quality of the IV suggest that the IV is appropriate. Column (1) shows that while there is a positive relationship between being global and the female employment share, this relationship is only precisely estimated for the effect of being a foreign-owned company. The female employment share in foreign-owned firms is 13.6 percentage points greater than in similar domestically-owned firms, but the coefficient on being an exporter, although positive (2.7 percentage points), is statistically insignificant.

| Dependent variable: share of female workers | | | | | | | | |
|---|----------------|---------------|----------------|----------------|-----------|--|--|--|
| | | Export r | Export markets | | e country | | | |
| | All obs. | Equal Unequal | | Equal | Unequal | | | |
| | (1) | (2) | (3) | (4) | (5) | | | |
| Exporter $(\geq 10\%)$ | 2.657 | 6.594^{***} | -5.445 | 7.013** | 0.532 | | | |
| | (2.146) | (2.517) | (3.329) | (3.186) | (3.139) | | | |
| Foreign (100%) | 13.605^{***} | 17.377*** | 4.816 | 18.052^{***} | 5.916 | | | |
| | (3.642) | (4.109) | (5.695) | (5.246) | (4.522) | | | |
| Observations | 27,833 | 13,915 | 13,918 | $13,\!375$ | 14,458 | | | |
| Hansen J statistic | 1.52 | 1.92 | 1.23 | 0.94 | 1.20 | | | |
| p-value Hansen J stat. | 0.47 | 0.38 | 0.54 | 0.62 | 0.55 | | | |
| Weak IV Kleinbergen-Paap | 162.46 | 89.50 | 107.23 | 84.96 | 94.59 | | | |

Table 2: 2SLS estimates of firms' share of female workers, based on their global status and exposure to gender norms

This table shows the relationship between a firm being an exporter and receiving FDI and its share of female workers, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

 $^{27}\mathrm{The}$ first stage results can be found in table A8 in the appendix.

The IV results further confirm our OLS findings from table 1. Table 2 shows a race to the top in gender norms. The share of female employees in global firms is statistically significantly larger than that in domestic, non-exporting firms, but only when countries are exposed to gender equality through trade or FDI (columns (2) and (4), respectively). The gap is economically important: when exposed to gender equality, the female share of employees in exporting firms is between 6.6-7.0 percentage points larger than in nonglobal firms, and the female share in multinationals is 17.4-18.1 percentage points larger than in non-global firms. Again, these are relatively large numbers, considering that the average female employment share in all firms in the sample is just 27 percent. At the same time, global firms exposed to gender inequality via trade or FDI have female shares that are never statistically different from non-global firms (columns (3) and (5)).

In the next exercise, we investigate whether the response to the exposure to gender (in)equality of global versus non-global firms depends on the level of gender (in)equality in the firm's home country. Some counteracting effects might be in place. On the one hand, if gender norms in gender-unequal countries are so entrenched that global firms are impeded from deviating from the local hiring practices, we will see insignificant effects of being global in gender-unequal countries. On the other hand, since the firms in our sample reside primarily in developing countries, most of the countries in the sample are relatively less gender equal than their commercial partner countries. As such, the distance in gender norms between the country in which a firm resides and its commercial partners is the largest among gender-unequal countries. One might thus expect to find a more pronounced difference in the female employment share of global versus non-global firms within gender-unequal countries.²⁸

To address this question, table 3 further divides the sample according to the median

²⁸Note that most countries in the sample have high GII scores, meaning that they have relatively gender unequal norms. For the years 2005-2015, the average GII was .460 for the countries in the Enterprise Survey data, while the average GII in OECD countries was .233. Moreover, most of the countries are more gender unequal than their commercial partners. Based on countries' own values of GII and their trade and FDI spacial lags, almost all countries in the sample (98.5%) have more gender unequal norms than their investing countries, and almost as many (93%) have more unequal norms than the countries to whom they export.

values of gender inequality index in the countries in which the firms reside. Countries in the top half of the GII distribution are labeled "unequal" and those in the bottom half as "equal." Table 3 shows the IV estimates for each of the four resulting groups. Results for firms in relatively gender-equal countries that are exposed to gender equality are presented in column (1); firms in equal countries that are exposed to inequality are in column (2); firms in unequal countries that are exposed to equality are in column (3); and firms in unequal countries that are exposed to inequality are in column (4). The top panel of the table shows the impact of firms' exposure to gender norms through trade, while the bottom panel shows the impact of firms' exposure to gender norms through trade, FDI.

As in our previous results, we find signs of a race to the top in gender norms. Only global firms exposed to gender equality have statistically significantly higher female shares than non-global firms. At the same time, the female share in global firms exposed to gender inequality is never statistically significantly different from the female share in non-global firms in the same market. However, the table further shows that the race to the top in our sample is driven by firms in relatively equal countries. This might suggest that for norms of equality to spread across countries, there must already be some common ground of norms or values in place. For firms in countries with relatively unequal gender norms, we observe neither a race to the top nor a race to the bottom in gender norms.

Finally, we notice that countries exposed to gender equality tend to be themselves more gender equal relative to countries exposed to gender inequality. In principle, this imbalance in gender equality at home might not be a source of concern in our analysis as, by comparing global to non-global firms, we are already controlling for the level of gender equality of the market. However, one cannot rule out that gender norms at home might be confounded with the different ways in which global versus non-global firms respond to exposure across countries. Sub-sampling firms by their own level of (in)equality as in table 3 improves balance for the sample of firms in gender-unequal countries, but not for those in gender-equal countries. We thus replicate table 3 for a trimmed sample, which ensures balance in the level of own gender norms across comparison groups. The balance

Table 3: 2SLS estimates of firms' share of female workers, split by level of gender equality in own country and by level of exposure to partner countries' gender equality

| Dependent variable: share | of female work | cers | | |
|---------------------------|----------------|--------------|----------------|-------------|
| | (1) | (2) | (3) | (4) |
| | Equal and | Equal and | Unequal and | Unequal and |
| | exposed to | exposed to | exposed to | exposed to |
| | equality | inequality | equality | inequality |
| Panel A: Exposure to gene | der norms from | export mark | \mathbf{ets} | |
| | | | | 1 2 6 2 |
| Exporter ($\geq 10\%$) | 8.317*** | 3.734 | 3.967 | -4.368 |
| | (2.625) | (3.611) | (5.919) | (3.496) |
| Foreign (100%) | 19.736*** | 12.523 | 6.053 | -0.732 |
| | (4.829) | (7.823) | (5.313) | (6.762) |
| Observations | $9,\!117$ | $4,\!487$ | 4,276 | $9,\!417$ |
| Hansen J statistic | 0.99 | 2.30 | 0.30 | 0.16 |
| p-value Hansen J stat. | 0.61 | 0.32 | 0.86 | 0.92 |
| Weak IV | 60 71 | 50.01 | 61 15 | 54 95 |
| Kleinbergen-Paap | 00.71 | 09.01 | 01.10 | 04.20 |
| | | | | |
| Panel B: Exposure to gene | ler norms from | FDI source o | countries | |
| Exporter (>10%) | 9.809*** | 2.120 | -3.154 | 4.514 |
| (()) | (2.799) | (3.201) | (7.472) | (4.735) |
| Foreign (100%) | 20.398*** | 7.046 | 0.589 | 0.939 |
| | (5.587) | (5.593) | (7.187) | (6.083) |
| Observations | 8,587 | 5,017 | 4,266 | 9,427 |
| Hansen J statistic | 2.50 | 0.60 | 0.90 | 2.09 |
| p-value Hansen J stat. | 0.29 | 0.74 | 0.64 | 0.35 |
| Weak IV | FC OC | 47.07 | 10 70 | 96.09 |
| Kleinbergen-Paap | 00.80 | 47.97 | 40.72 | 80.02 |
| Kleinbergen-Paap | 56.86 | 47.97 | 46.72 | 86.02 |

This table shows the relationship between a firm being an exporter and receiving FDI and its share of female workers, divided by the level of gender equality in the firm's own country and the level of exposure to gender equality in its partner countries. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

check and the results of this exercise are presented in appendix A.9. The results are very similar to those found in table 3, leaving the main message unchanged.

The results presented up through this point use as their outcome variable the female share of *all* jobs. Below, we replicate table 2 for the female employment share in production and non-production jobs as well as whether the top manager is female. All estimates are based on our IV specification.²⁹

3.2 Production jobs

Table 4 shows the results for production workers. The results are similar to the overall results for all worker types in section 3.1. In particular, column (1) shows that the female share of production employees in foreign-owned firms is higher than it is in domestic firms. However, the share of female production workers employed by exporters is not statistically significantly different than it is in non-exporting firms.

Columns (2)-(5) show the effect of being a global firm on the female share of production workers based on the gender norms to which a firm is exposed through trade or FDI. Similar to our previous results, we find a race to the top for production workers. Exposure to gender inequality never statistically significantly affects the hiring practices of global firms versus non-global firms. At the same time, coefficients on the global status of the firms are positive and statistically significant only when firms are exposed to gender equality.

3.3 Non-production jobs

Table 5 shows that the race to the top persists in non-production jobs as well. Only exposure to gender equality statistically significantly affects the female employment share in global firms, while exposure to gender inequality never does. However, the size of the effects of being a global firm are smaller compared to those found for the female share in total employment and production workers. For example, in multinationals exposed to

²⁹Appendix tables A5 - A7 present the results using OLS. They show a race to the top in gender equality for production workers and a race to the bottom for top managers. The results for non-production workers lie in between.

| Dependent variable: female share of production workers | | | | | | | | |
|--|----------------|----------------|---------------|--------------------|---------|--|--|--|
| | | Export r | narkets | FDI source country | | | | |
| | All obs. | Equal | Equal Unequal | | Unequal | | | |
| | (1) | (2) | (3) | (4) | (5) | | | |
| Exporter $(\geq 10\%)$ | 1.836 | 5.289 | -6.024 | 8.467** | -2.031 | | | |
| | (2.643) | (3.602) | (4.147) | (3.817) | (3.687) | | | |
| Foreign (100%) | 12.596^{***} | 16.029^{***} | 4.243 | 15.754** | 6.077 | | | |
| | (4.256) | (4.885) | (7.554) | (6.410) | (5.393) | | | |
| Observations | 27,795 | 13,891 | 13,904 | $13,\!352$ | 14,443 | | | |
| Hansen J statistic | 0.33 | 1.03 | 0.75 | 0.24 | 1.02 | | | |
| p-value Hansen J stat. | 0.85 | 0.60 | 0.69 | 0.89 | 0.60 | | | |
| Weak IV Kleinbergen-Paap | 163.12 | 89.68 | 107.00 | 85.92 | 94.90 | | | |

Table 4: 2SLS estimates of firms' female share of production workers, based on their global status and exposure to gender norms

This table shows the relationship between a firm being an exporter and receiving FDI and its female share of production workers, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

equality through FDI, the coefficient on foreign status in the analysis of all employees is 18, while it is 15.8 for production workers and just nine for non-production workers.

3.4 Top manager positions

Finally, table 6 shows the results of the analysis studying the probability that a firm's top manager is female. The striking result is that we now find a statistically significant *negative* relationship between being global and the probability of having a female top manager. Exporters are four percentage points less likely to have a female as a top manager and multinationals are 6.7 percentage points less likely to have a female top manager (column (1)). This negative effect is driven by firms' exposure to gender inequality. Exporters exposed to gender inequality are between 4.5-6.1 percentage points less likely than non-global firms to have a female top manager, and multinationals exposed to inequality are between 11-13 percentage points less likely to do so (columns (3) and (5)). However, when exposed to gender equality, results are never statistically significant.

| Dependent variable: female share of non-production workers | | | | | | | | | |
|--|----------|---------|---------|--------------------|---------|--|--|--|--|
| | | Export | markets | FDI source country | | | | | |
| | All obs. | Equal | Unequal | Equal | Unequal | | | | |
| | (1) | (2) | (3) | (4) | (5) | | | | |
| Exporter $(\geq 10\%)$ | 2.312 | 5.111** | -1.651 | 4.078^{*} | 0.695 | | | | |
| | (1.902) | (2.349) | (2.433) | (2.462) | (2.874) | | | | |
| Foreign (100%) | 4.902 | 6.208 | 1.293 | 9.043** | 0.961 | | | | |
| | (3.344) | (4.013) | (5.401) | (4.420) | (5.038) | | | | |
| Observations | 26,056 | 12,980 | 13,076 | 12,401 | 13,655 | | | | |
| Hansen J statistic | 1.54 | 0.51 | 4.16 | 1.43 | 0.73 | | | | |
| p-value Hansen J stat. | 0.46 | 0.77 | 0.12 | 0.49 | 0.70 | | | | |
| Weak IV Kleinbergen-Paap | 151.37 | 82.17 | 100.74 | 74.40 | 94.66 | | | | |

Table 5: 2SLS estimates of firms' female share of non-production workers, based on their global status and exposure to gender norms

This table shows the relationship between a firm being an exporter and receiving FDI and its female share of non-production workers, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

Therefore, the race to the top that we have observed so far is flipped. When considering top management positions, there is instead a race to the bottom. For these jobs, global commercial links never serve as a catalyst to spread equality, but they do spread norms of inequality. One possible explanation for multinationals having a lower probability of having a female manager may be connected to their foreign ownership structure, namely through the appointment of managers from the firm headquarter's country.³⁰ If the sending country is more gender unequal, they may prefer to appoint male managers for these positions. However, in cases when the headquarter country is more gender equal they may not use the option to appoint a female manager.

³⁰Gaur, Delios, and Singh (2007), Baik and Park (2015), and Rickley and Karim (2018) point towards a positive association of parent country nationals in manager positions and increasing institutional distance.

| Dependent variable: indicator of whether the top manager is female | | | | | | | | |
|--|----------|---------|----------|--------------------|----------|--|--|--|
| | | Export | markets | FDI source country | | | | |
| | All obs. | Equal | Unequal | Equal | Unequal | | | |
| | (1) | (2) | (3) | (4) | (5) | | | |
| Exporter $(\geq 10\%)$ | -0.040** | -0.033 | -0.061* | -0.036 | -0.045* | | | |
| | (0.019) | (0.024) | (0.031) | (0.028) | (0.024) | | | |
| Foreign (100%) | -0.067* | -0.030 | -0.131** | -0.050 | -0.110** | | | |
| | (0.038) | (0.049) | (0.062) | (0.055) | (0.047) | | | |
| Observations | 25,523 | 13,129 | 12,394 | 12,320 | 13,203 | | | |
| Hansen J statistic | 0.59 | 1.01 | 0.36 | 1.96 | 1.06 | | | |
| p-value Hansen J stat. | 0.74 | 0.60 | 0.83 | 0.38 | 0.59 | | | |
| Weak IV Kleinbergen-Paap | 146.01 | 84.52 | 90.72 | 88.43 | 69.04 | | | |

Table 6: 2SLS estimates of the probability that a firm's top manager is female, based on firms' global status and exposure to gender norms

This table shows the relationship between a firm being an exporter and receiving FDI and its indicator of whether the top manager is female, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

3.5 Robustness checks

Based on specifications using the female share in total employment as the dependent variable, we conduct a set of robustness tests in this section.

3.5.1 Falsification check

One issue that can undermine the credibility of our results is that our measure of exposure to gender equality might be reflecting the level of economic development in commercial partners countries rather than their degree of gender equality. To test whether it is economic development instead of gender norms that are driving the results, we construct a new set of spatial lags, in which we replace the gender inequality index (GII) in equation 1 by the GDP per capita at constant prices in commercial partner countries. The new spatial lags are meant to reflect firms' exposure to wealth through trade and FDI.

We conduct two exercises based on the new spatial lags. We first conduct a falsification

test in table 7, in which instead of splitting the sample according to the exposure to gender (in)equality in partner countries, we split the sample based to the exposure to wealth in commercial partner countries. In the first two columns the sample is split according to the median value of the exposure to wealth in export markets and in the last two columns according to median value of the exposure to wealth in source countries of FDI. The first noticeable difference in the falsification results is that the coefficients on the global status in columns 3 are very similar to those in column 4, both in magnitude and in significance level. As such, the female share in global versus non-global firms does not depend on whether countries are receiving FDI from relative richer or poorer countries. The results on the exposure to wealth through trade in columns 1 and 2, however, seem to indicate that the exposure to gender equality might be confounded with the fact that more gender-equal export markets tend to be richer markets as well. The correlation of the exposure to gender equality and the exposure to wealth is indeed relatively high in the sample.³¹ To gain more insight, we thus conduct a second exercise in table 8. In this table, we come back to our main specification (that is, that found in table 2), where the sample of firms is split according to the exposure to gender norms, but where we further control for the exposure to wealth in commercial partners. This is done by adding the interaction terms between the new spatial lags and the global status of the firm.^{32, 33} The results are reassuring: after controlling for the exposure to wealth, only global firms that are exposed to gender equality have a significantly larger female share than non-global firms, while the coefficients on the global status are either insignificant or negative for firms exposed to gender inequality, confirming our main results.

³¹The sample correlation is 0.61 based on export market weights and 0.52 based on source country of FDI weights.

³²Notice that the stand-alone spatial lags are accounted for in all specifications by the time-varying country effects.

³³The interaction terms are treated as endogenous variables and instrumented using the interaction of the spatial lags based on the GDP per capita and the instruments for the global status of firms.

| Dependent variable: share of female workers | | | | | | | | |
|---|----------------|----------------|----------------|------------|--|--|--|--|
| | Export n | Export markets | | e country | | | | |
| | Rich | Rich Poor | | Poor | | | | |
| | (1) | (2) | (3) | (4) | | | | |
| Exporter ($\geq 10\%$) | 8.361*** | -5.372* | 3.115 | 4.671 | | | | |
| | (2.672) | (3.076) | (2.690) | (3.524) | | | | |
| Foreign (100%) | 12.501^{***} | 10.869 | 13.604^{***} | 15.131** | | | | |
| | (3.999) | (8.956) | (4.740) | (5.932) | | | | |
| Observations | 13,946 | 13,887 | $14,\!375$ | $13,\!458$ | | | | |
| Hansen J statistic | 2.01 | 1.34 | 0.07 | 4.84 | | | | |
| p-value Hansen J stat. | 0.37 | 0.51 | 0.96 | 0.09 | | | | |
| Weak IV Kleinbergen-Paap | 94.25 | 79.73 | 65.90 | 117.61 | | | | |

Table 7: 2SLS estimates of firms' share of female workers, based on their global status and exposure to wealth

This table shows the relationship between a firm being an exporter and receiving FDI and its share of female workers, based on its exposure to wealth via commercial links. Rich and poor mean that the exposure is in the bottom or top half of the GDP per capita spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

3.5.2 Sectoral exposure to gender norms

For our main analyses, we measure a firm's exposure to gender norms via commercial links based on trade and FDI relationships at a country level. The gender norms transmitted from one country to another are weighted by the strength of the country's trade or FDI relationship (see equation 1). However, global relationships at the national level may not apply to all firms within this country equally. In particular, the exposure of a firm to global norms may be characterized by a firm's industry. While there is no suitable FDI data available for the countries we are studying, we can use more disaggregated trade data to test whether country-wide global relationships appropriately portray a firm's global exposure.³⁴ To do so, we modify the spatial lag from equation 1 to portray exposure at a country, year, and industry level:

³⁴The UNCTAD database only provides country-level data for FDI. Eurostat contains more detailed information for FDI but only offers data for under 10% of our dataset, including countries for which we only have observations in one year which does not make an analysis feasible. While the OECD offers datasets containing industry level FDI data, they do not contain information on bilateral flows but only at a more aggregated level.

| Dependent variable: share of female workers | | | | | | | |
|---|----------------|----------|----------------|-----------|--|--|--|
| | Export r | narkets | FDI source | e country | | | |
| | Equal | Unequal | Equal | Unequal | | | |
| | (1) | (2) | (3) | (4) | | | |
| Exporter $(\geq 10\%)$ | 7.311*** | -7.742** | 7.177** | -0.030 | | | |
| | (2.742) | (3.715) | (3.371) | (3.165) | | | |
| Foreign (100%) | 21.204^{***} | 3.459 | 18.149^{***} | 5.263 | | | |
| | (4.745) | (6.401) | (6.156) | (4.539) | | | |
| Exporter \times Trade_SL (GDPcp) | -0.000 | -0.001* | | | | | |
| | (0.000) | (0.000) | | | | | |
| Foreign \times Trade_SL (GDPcp) | -0.001* | -0.000 | | | | | |
| | (0.001) | (0.001) | | | | | |
| Foreign \times FDLSL (GDPcp) | | | -0.000 | -0.000 | | | |
| | | | (0.001) | (0.000) | | | |
| Exporter \times FDLSL (GDPcp) | | | -0.000 | -0.001** | | | |
| | | | (0.000) | (0.000) | | | |
| Observations | 13,915 | 13,918 | $13,\!375$ | 14,458 | | | |
| Hansen J statistic | 2.54 | 2.83 | 2.78 | 2.52 | | | |
| p-value Hansen J stat. | 0.64 | 0.59 | 0.59 | 0.64 | | | |
| Weak IV Kleinbergen-Paap | 14.38 | 28.94 | 34.97 | 38.75 | | | |

Table 8: 2SLS estimates of firms' share of female workers: controlling for exposure to wealth

The results in this table replicate those from table 2. Here, we additionally control for the interaction terms between the global statuses and the spacial lags based on the wealth (GDP per capita) in commercial partner countries. The models include the full set of control variables and fixed effects listed in appendix A.3. The interaction terms are treated as endogenous and are themselves instrumented based on interaction of our instruments for the global statuses and the spatial lags based on GDP per capita. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

$$SL_{sct} = \sum_{p \neq c}^{P} w_{scpt} * GII_{pt}, \text{ with } \sum_{p \neq c}^{P} w_{scpt} = 1,$$
(3)

where the exposure to gender (in)equality SL in industry s and country c at time t equals the sum across all commercial partner countries P of the gender (in)equality GII in commercial partner p weighted by the bilateral industry-level share w_{scpt} of trade between countries c and p at time t. The weights w_{scpt} portray exports from country c in industry s going to each of its partner countries for year t. Thus, a firm will be more

exposed to a partner country p's gender norms, if they operate in industries which export large amounts from country c to p.

The trade data come from the CEPII BACI database, which includes bilateral industrylevel trade data. The industry are defined based on the Harmonized System (HS) of tariff nomenclature (HS02) which we match to 2-digit ISIC industry codes.

Table 9: 2SLS estimates of firms' share of female workers, based on their global status and exposure to gender norms (industry exposure)

| Dependent variable: share of female workers | | | |
|---|----------------|----------------|---------|
| | | Export 1 | narkets |
| | All obs. | Equal | Unequal |
| | (1) | (2) | (3) |
| Exporter $(\geq 10\%)$ | 2.684 | 8.010** | -0.343 |
| | (2.159) | (3.203) | (2.716) |
| Foreign (100%) | 13.658^{***} | 24.941^{***} | -2.318 |
| | (3.668) | (5.634) | (4.017) |
| Observations | 27,792 | 13,728 | 14,064 |
| Hansen J statistic | 1.29 | 2.96 | 0.09 |
| p-value Hansen J stat. | 0.52 | 0.23 | 0.96 |
| Weak IV Kleinbergen-Paap | 158.97 | 71.48 | 53.22 |

This table shows the relationship between a firm being an exporter and receiving FDI and its share of female workers, based on its exposure to gender norms in its commercial partner countries at the sectoral level. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

2SLS estimates using the industry-level trade exposure measure are presented in table 9. Columns (2) and (3) once again split the sample in two groups of observations based on spatial lag median values, and in this case the latter is the industry-level exposure measure. These results once again confirm our analysis using the original trade exposure measure as shown in table 2. Overall, the results are qualitatively and also quantitatively similar. The results show that the share of female workers is statistically significantly higher in exporting and multinational firms when they are exposed to gender equality through global relationships compared to non-global firms. There are no differences between global and non-global firms when they are exposed to gender inequality via trade. The magnitudes are slightly more pronounced when differentiating between equal and unequal export markets based on industry-level exposure compared to country-level exposure. The female share of employees in exporting firms is 8.0 percentage points larger than in non-global firms, and the female share in multinationals is 24.9 percentage points larger than in domestic firms when exposed to gender equality via exporting markets. Thus, we conclude that industry-level exposure does not significantly alter our results and that they are in line both qualitatively and also quantitatively with results from using the country-level exposure measures.

3.5.3 Sensitivity checks

As a sensitivity test we drop China and India from the specifications. Excluding these countries can be important, because firms from these two large countries are overrepresented in the sample – the sample size for India is around 18 times larger than the average sample size per country, and 5 times larger in the case of China. The main message once dropping these countries, shown in table 10, is unchanged. Global firms hire relatively more women than non-global firms, but only if they are exposed to gender equality. One difference found here is that the coefficient on the exporter status for all firms in column 1 becomes now positive and highly statistically significant. Further results in appendix A.10, where we drop one country at a time, show that this result is mainly driven by the exclusion of India from the sample.

Next, we add firms in the service sector, where results can be found in table 11. In this specification, however, we cannot control for the skill level of production workers, as this variables is not available for services firms. The results are comparably similar: the share of female workers in global firms is statistically significantly larger than that of non-global firms when firms are exposed to gender equality. Further, the coefficients on the global status are always larger for firms exposed to gender equality than for firms exposed to gender inequality.

In a last check, we test whether our results are sensitive to the global status cutoffs, as shown in appendix table A15. Overall, our results are confirmed. For some specifications, there is a weakly statistically significant negative effect on a firm's female

| Dependent variable: share of female workers | | | | | | | | |
|---|----------------|----------------|---------------|--------------------|---------|--|--|--|
| | | Export r | narkets | FDI source country | | | | |
| | All obs. | Equal | Equal Unequal | | Unequal | | | |
| | (1) | (2) | (3) | (4) | (5) | | | |
| Exporter $(\geq 10\%)$ | 5.894^{***} | 8.223*** | -0.474 | 9.452** | 3.445 | | | |
| | (2.281) | (2.955) | (4.219) | (3.722) | (2.703) | | | |
| Foreign (100%) | 13.259^{***} | 18.149^{***} | 4.596 | 19.151^{***} | 5.704 | | | |
| | (3.741) | (4.451) | (5.330) | (5.817) | (4.145) | | | |
| Observations | 21,667 | 12,621 | 9,046 | 12,081 | 9,586 | | | |
| Hansen J statistic | 0.90 | 1.40 | 1.47 | 0.69 | 1.07 | | | |
| p-value Hansen J stat. | 0.64 | 0.50 | 0.48 | 0.71 | 0.59 | | | |
| Weak IV Kleinbergen-Paap | 135.63 | 78.03 | 94.15 | 76.26 | 84.13 | | | |

Table 10: 2SLS estimates of firms' share of female workers, based on their global status and exposure to gender norms, without India and China in sample

This table replicates the results from table 2. Here, the observations related to India and China have been dropped. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 11: 2SLS estimates of firms' share of female workers, based on their global status and exposure to gender norms, including firms in the service sector.

| Dependent variable: share of female workers | | | | | | | | | |
|---|----------------|---------------|----------------|----------------|-----------|--|--|--|--|
| | | Export r | Export markets | | e country | | | | |
| | All obs. | Equal Unequal | | Equal | Unequal | | | | |
| | (1) | (2) | (3) | (4) | (5) | | | | |
| Exporter $(\geq 10\%)$ | 3.686^{**} | 4.467** | 0.824 | 4.058^{*} | 3.726 | | | | |
| | (1.680) | (1.863) | (2.490) | (2.224) | (2.793) | | | | |
| Foreign (100%) | 12.575^{***} | 14.031*** | 9.028** | 16.321^{***} | 7.030** | | | | |
| | (2.836) | (3.247) | (4.519) | (4.076) | (3.485) | | | | |
| Observations | 49,265 | 24,053 | 25,212 | 24,074 | 25,191 | | | | |
| Hansen J statistic | 1.52 | 4.43 | 4.92 | 3.29 | 0.90 | | | | |
| p-value Hansen J stat. | 0.47 | 0.11 | 0.09 | 0.19 | 0.64 | | | | |
| Weak IV Kleinbergen-Paap | 150.95 | 91.38 | 60.93 | 71.85 | 125.53 | | | | |

This table replicates the results from table 2. Here, we also include information on firms in the service sector. The specification do not control for the skill level of production workers, as this information in not available for firms in this sector. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

share if exposed to gender inequality through trade for exporting firms. Also, when foreign ownership status is less stringent (10% foreign-owned) or exporting status more stringent (100% of sales exported), the positive impact of exposure to gender equality on the share of female workers through FDI is not as pronounced. Global firms have a larger share of female workers when they are exposed to gender equality through exports and there is no difference between global and non-global firms when exposed to gender inequality via FDI, independent of how large the export share of total sales or how large the foreign ownership share.

4 Discussion and Conclusions

This paper has studied how trade and FDI transmit gender norms across countries and impact the female employment share in global firms. The paper has contributed to the literature by using firm-level data for a large number of countries. We assessed how the impact of exposure to gender norms depends on the class of worker in question – production, non-production, or top manager. Finally, the paper introduced a new IV for a firm's global status into the literature.

The central finding of the paper is that the gender norms to which a firm is exposed via trade and FDI impact its female share of employees. We find a race to the top in gender norms when looking at total employment. The results show that global firms exposed to norms of gender equality employ a higher share of women than non-global firms. When global firms are exposed to inequality, on the other hand, their female employment share does not differ from that of non-global firms in the same market.

However, the paper has identified two clear limitations to global trade and FDI as a conveyor of norms of gender equality across countries. First, moving up the occupational ladder from production to non-production to top managerial positions, the positive effect of exposure to gender equality fades and is even reversed. While there was a race to the top in the employment of women in production and non-production positions, there is instead a race to the bottom when it comes to top manager positions. One reason for the asymmetry in the findings regarding production and non-production versus top manager positions may be that even in developed and relatively gender-equal countries, women are much less likely to hold top managerial jobs. Until firms in these circumstances can break their own glass ceilings, there is no gender equality norm regarding top managers to transmit abroad.

The second important limitation to the ability of trade and FDI to spread gender equality is that global firms only react to their exposure to equality if they themselves are in relatively gender-equal countries. These findings imply that for norms of equality to spread across countries, there must already be some common ground of norms or values in place.

The paper has been silent on the issue of potential spillover effects onto non-global firms. If these firms imitate the hiring practices of their global counterparts in the same market, the global firms' exposure to gender norms might also indirectly affect female employment in non-global firms. Considering this type of spillover would be a fruitful area for future research.

A Appendix

A.1 Further details on the data

| | Table A1: | Summary | y Statistic | s & Top 10 | Industr | les | |
|-----------------|--------------------|-------------|-------------|-------------|---------|-------------|-------------|
| Characteristic | All | Non- | Exp. | E-NE | Domes | tic Foreign | F-D |
| | | Exp. | | | | | |
| Age of Firm | 19.0 | 18.2 | 23.0 | 4.8*** | 19.1 | 17.8 | -1.3*** |
| Skill intensity | 70.4 | 70.6 | 69.1 | -1.5*** | 70.5 | 68.2 | -2.3*** |
| Firm Size | 1.1 | 0.7 | 2.9 | 2.1*** | 1.1 | 2.5 | 1.4^{***} |
| | | | | | | | |
| Female | | | | | | | |
| - Share | 27.3 | 25.9 | 33.3 | 7.4^{***} | 26.8 | 34.1 | 7.2^{***} |
| - Share Prod. | 24.7 | 23.0 | 31.4 | 8.3*** | 24.3 | 31.2 | 6.9^{***} |
| - Share Non-pro | d. 32.6 | 31.7 | 36.1 | 4.4*** | 32.1 | 38.5 | 6.4^{***} |
| - Owner | 32.7 | 31.7 | 37.1 | 5.4^{***} | 33.1 | 25.2 | -7.9*** |
| - Top Manager | 13.3 | 13.3 | 13.3 | 0 | 13.4 | 10.9 | -2.5*** |
| ISIC2 Code De | escription | | | | | | |
| 15 Fo | od product | s and bev | erages | | | | |
| 18 W | earing appa | rel; fur | | | | | |
| 28 M | anufacture | of fabricat | ted metal | products | | | |
| 24 Cł | nemicals & | chemical j | products | | | | |
| 26 Ot | ther non-me | tallic min | eral prod | ucts | | | |
| 17 Te | \mathbf{x} tiles | | | | | | |
| 25 Ru | ubber and p | lastics pr | oducts | | | | |
| 50 M | otor Vehicle | es | | | | | |
| 29 M | achinery an | d equipm | ent | | | | |
| 36 Fu | rniture; ma | nufacturi | ng | | | | |

This table shows descriptive statistics of the firm level sample. The first part of the table shows summary statistics for all firms, exporters, non-exporters, domestic, and foreign-owned firms. E - NE indicates the difference in means between exporters and non-exporters, and F - D shows the difference in means between foreign-owned and domestic firms, both according to a two-sample t test. The second part of the table shows the top ten industries. * p<0.10, ** p<0.05, *** p<0.01.

Table A1. Summary Statistics & Top 10 Industri

| Table A2: | Country | and Year | Coverage |
|-----------|---------|----------|----------|
|-----------|---------|----------|----------|

| Country Teal Country Teal Afghanistan 2014 Myanmar 2014, 2016 Albania 2006, 2014 Myanmar 2014, 2016 2016, 2014 Myanmar 2009, 2013 Negral 2009, 2013 Nigeria 2009, 2013 Myanmar 2007, 2014 Argentina 2007, 2013 Paguay 2006, 2010 Nigeria 2007, 2013 Paguay 2006, 2010 Paguay 2006, 2010 2015 Bahamas 2010 Panauna 2006, 2010 2015 Barbados 2010 Paraguay 2006, 2010 2016, 2010 Belarus 2008, 2013 Peru 2006, 2010 2009, 2015 Romania 2009, 2015 Bonia and Herzegovina 2009, 2013 Bolixia 2009, 2013 2006, 2010 Russia 2009, 2013 Bolixia 2009, 2013 2006, 2011 Bosnia and Herzegovina 2009, 2013 Scrbia 2009, 2013 Scrbia 2009, 2013 2007, 2014 Bugaria 2007, 2013 Scrbia 2009, 2013 2006, 2010 Scrbia 2009, 2013 2006, 2010 2014 2016, 2014 | Country | Voor | Country | Voor |
|---|--------------------------|---------------------|---------------------------|--------------------------|
| Alginalistan 2014 Nyaninar 2006, 2010 Nyaninar Angola 2006, 2010 Nepal 2006, 2010, 2016 Antgua and Barbuda 2000 Nicaragua 2006, 2010, 2016 Argentina 2009, 2013 Nigeria 2007, 2014 Azrebajan 2009, 2013 Panama 2006, 2010, 2016 Barbados 2010 Panama 2006, 2010 Barbados 2010 Panama 2006, 2010 Belize 2010 Panama 2006, 2010 Belize 2010 Philippines 2009, 2015 Benin 2009, 2015 Romania 2009, 2013 Butan 2006, 2010 Russia 2009, 2013 Butan 2006, 2010 Russia 2009, 2013 Butan 2006, 2010 Russia 2009, 2013 Butan 2006, 2014 Stowata 2009, 2013 Butan 2006, 2014 Stowata 2009, 2013 Butan 2007, 209, 2013 Serbia 2009, 2014 Bugaria< | Afrikanistan | 1011 | Marana | 1014 0016 |
| Albama 2007, 2013 Namibia 2006, 2013 Antigua and Barbuda 2010 Nicaragua 2009, 2013 2009, 2013 Argentina 2009, 2013 Nigeria 2007, 2014 Azerbaijan 2009, 2013 Pakistan 2007, 2014 Azerbaijan 2007, 2013 Pakistan 2007, 2013 Bahamas 2010 Paraguay 2006, 2010 Barbados 2010 Paraguay 2006, 2010 Belize 2010 Philippincs 2009, 2013 Bohina 2009, 2015 Romania 2009, 2013 Bohivia 2006, 2010 Russia 2009, 2013 Bohivia 2006, 2011 Russia 2009, 2013 Bosia and Herzegovina 2006, 2014 Samoa 2009, 2013 Bulgaria 2007, 2009, 2013 Serbia 2009, 2013 Burkina Faso 2009 Slovalk Republic 2009, 2013 Cambodia 2016 South Africa 2010 Cantal African Republic 2011 Sri Lanka 2011 <td>Alghamstan</td> <td>2014</td> <td>Myanmar</td> <td>2014, 2010</td> | Alghamstan | 2014 | Myanmar | 2014, 2010 |
| Angiga 2000, 2010 Nepal 2009, 2013 Antigua and Barbuda 2000, 2013 Nigeria 2006, 2010, 2016 Argentina 2009, 2013 Nigeria 2007, 2014 Azerbaijan 2009, 2013 Pakistan 2007, 2013 Bahamas 2010 Panama 2006, 2010 Barbados 2010 Paraguay 2006, 2010 Belize 2010 Paraguay 2006, 2010 Belize 2010 Philippines 2009, 2015 Benin 2009, 2015 Romania 2009, 2013 Bolivia 2006, 2010 Russia 2009, 2013 Bolivia 2006, 2010 Russia 2009, 2013 Bosnia and Horzegovina 2009 Senegal 2007, 2014 Bulgaria 2007, 2009, 2013 Serbia 2009, 2013 Burundi 2006, 2014 Solown Islands 2015 Cameroon 2009, 2016 South Marica 2010 Chile 2006, 2010 St Lucia 2010 Chile | Albania | 2007, 2013 | Namibia | 2000, 2014 |
| Antegua and Barbuda 2010 Nicaragua 2009, 2010, 2010 2009 Armenia 2009, 2013 Nigeria 2007, 2013 2009, 2013 Pakistan 2007, 2013 Azerbaijan 2009, 2013 Pakistan 2007, 2013 Pakistan 2007, 2013 Bahamas 2010 Panama 2006, 2010 2006, 2010 2006, 2010 Barbados 2010 Philippines 2009, 2015 Romania 2009, 2013 Belize 2010 Philippines 2009, 2013 Bolivia 2006, 2010 Bosnia and Herzegovina 2009, 2013 Rwanda 2006, 2011 Russia 2009, 2013 Burkina Faso 2009 Stovak Republic 2009, 2013 Scrbia 2009, 2013 Burkina Faso 2009 Slovak Republic 2009, 2013 2011 2014 Cameroon 2009, 2016 South Africa 2001 2014 Chia 2010 St Kitts and Nevis 2010 2010 Chia 2010 St Vincent and Grenadines 2010 | Angola | 2006, 2010 | Nepal | 2009, 2013 |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | Antigua and Barbuda | 2010 | Nicaragua | 2006, 2010, 2016 |
| Armenia 2009, 2013 Nigeria 2007, 2013 Barbaijan 2000, 2013 Panama 2007, 2013 Bangladesh 2010 Panama 2006, 2010 Barbados 2010 Paraguay 2006, 2010 Belarus 2008, 2013 Peru 2006, 2010 Belize 2010 Philippines 2009, 2013 Benin 2009, 2015 Romania 2009, 2013 Buttan 2009, 2013 Rwanda 2006, 2011 Bosnia and Herzegovina 2009, 2013 Rwanda 2006, 2011 Bosnia and Herzegovina 2009, 2013 Samoa 2009, 2013 Burkina Faso 2009 Slovak Republic 2009, 2013 Burkina Faso 2009 Slovak Republic 2009, 2013 Cameoon 2009, 2016 Solomon Islands 2010 Carbe Verde 2009 Sol tiks and Nevis 2010 Chile 2006, 2010 St Lucia 2010 Colombia 2007, 2013 Swaziland 2014 Coto | Argentina | 2006, 2010 | Niger | 2009 |
| Azerbaijan 2009, 2013 Pakistan 2007, 2013 Bahamas 2010 Panama 2006, 2010 Barbados 2010 Paraguay 2006, 2010 Belarus 2008, 2013 Peru 2006, 2010 Belize 2010 Philippines 2009, 2015 Benin 2009, 2015 Romania 2009, 2013 Bolivia 2006, 2010 Russia 2009, 2013 Bosnia and Herzegovina 2006, 2010 Russia 2009, 2013 Bosnia and Herzegovina 2006 Samoa 2009 Brazil 2009, 2013 Senegal 2007, 2014 Burgaria 2007, 2009, 2013 Serespal 2009, 2013 Burundi 2006, 2014 Slovenia 2009, 2013 Cameroon 2009, 2016 Solemon Islands 2011 Cameroon 2009, 2010 St Kitts and Nevis 2010 Chiha 2010 St Vincent and Grenadines 2010 Chiha 2010 St Vincent and Grenadines 2010 <t< td=""><td>Armenia</td><td>2009, 2013</td><td>Nigeria</td><td>2007, 2014</td></t<> | Armenia | 2009, 2013 | Nigeria | 2007, 2014 |
| Bahamas 2010 Panama 2006, 2010 Bangladesh 2007, 2013 Papua New Guinea 2015 Barbados 2010 Paraguay 2006, 2010 Bclarus 2009, 2016 Poland 2009, 2013 Benin 2009, 2015 Romania 2009, 2013 Bolivia 2006, 2010 Russia 2009, 2013 Bosnia and Herzegovina 2009, 2013 Rwanda 2009, 2012 Bosnia and Herzegovina 2009, 2013 Rwanda 2009, 2013 Burkina Faso 2009 Slovak Republic 2009, 2013 Burkina Faso 2009, 2014 Slovak Republic 2009, 2013 Burundi 2006, 2014 Slovak Republic 2009, 2013 Cameroon 2009, 2016 South Africa 2010 Cameroon 2009, 2016 South Africa 2010 Chila 2009, 2013 Sweatand 2014 Colombia 2006, 2010 St Lucia 2010 Cameroon 2009, 2013 Swaziland 2010 | Azerbaijan | 2009, 2013 | Pakistan | 2007, 2013 |
| $\begin{array}{l c c c c c c c c c c c c c c c c c c c$ | Bahamas | 2010 | Panama | 2006, 2010 |
| $\begin{array}{l c c c c c c c c c c c c c c c c c c c$ | Bangladesh | 2007, 2013 | Papua New Guinea | 2015 |
| Belarus 2008, 2013 Peru 2006, 2010 Belize 2010 Philippines 2009, 2015 Benin 2009, 2015 Romania 2009, 2013 Bhutan 2009, 2013 Romania 2009, 2013 Bosnia and Herzegovina 2009, 2013 Rwanda 2006, 2011 Bosnia and Herzegovina 2009, 2013 Seregal 2009, 2013 Bulgaria 2007, 2009, 2013 Serebia 2009, 2013 Burkina Faso 2009 Slovak Republic 2009, 2013 Burundi 2006, 2014 Slovenia 2007, 2014 Cameroon 2009, 2016 South Africa 2007 Cameroon 2009, 2016 South Africa 2010 Chia 2010 St kitts and Nevis 2010 Chia 2010 St vincent and Grenadines 2010 China 2010, 2013 Sweden 2014 Costa Rica 2010, 2013 Swaziland 2006, 2010 Cote d'Ivoire 2009, 2016 Tajkistan 2006, 2011 < | Barbados | 2010 | Paraguay | 2006, 2010 |
| Belize 2010 Philippines 2009, 2015 Benin 2009, 2016 Poland 2009, 2013 Bolivia 2006, 2010 Russia 2009, 2013 Bosnia and Herzegovina 2006, 2010 Russia 2009, 2013 Bosnia and Herzegovina 2006 Samoa 2009 Brazil 2009, 2013 Serbia 2009, 2013 Burgaria 2007, 2009, 2013 Serbia 2009, 2013 Burundi 2006, 2014 Slovenia 2009, 2013 Cambodia 2016 Solomon Islands 2014 Cameroon 2009, 2016 Solomon Islands 2014 Chad 2009 South Africa 2007 Cape Verde 2009 South Sudan 2014 Chad 2006, 2010 St Lucia 2010 Chia 2010 Sudan 2010 Colombia 2006, 2010 Sudan 2010 Costa Rica 2010 Sudan 2016 Cote d'Ivoire 2009, 2013 Swazilan | Belarus | 2008, 2013 | Peru | 2006, 2010 |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | Belize | 2010 | Philippines | 2009, 2015 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Benin | 2009, 2016 | Poland | 2009, 2013 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Bhutan | 2009, 2015 | Romania | 2009, 2013 |
| Bosnia and Herzegovina 2009, 2013 Rwanda 2006, 2011 Botswana 2009 Samoa 2009 Brazil 2009, 2013 Senegal 2007, 2014 Bulgaria 2007, 2009, 2013 Serbia 2009, 2013 Burkina Faso 2006, 2014 Slovak Republic 2009, 2013 Cambodia 2016 Solomon Islands 2015 Cameroon 2009, 2016 South Africa 2007 Cape Verde 2009 St Kitts and Nevis 2010 Chile 2006, 2010 St Lucia 2010 Chile 2006, 2010 St Vincent and Grenadines 2010 Colombia 2009, 2013 Swaziland 2006, 2010 Costa Rica 2010 Suriname 2010 Cote d'Ivoire 2009, 2013 Swaziland 2006, 2013 DRC 2006, 2010, 2013 Tanzania 2006, 2013 DRC 2006, 2010, 2016 Tajikistan 2006, 2013 Dibouti 2010 Timor-Leste 2006, 2015 | Bolivia | 2006, 2010 | Russia | 2009, 2012 |
| Botswana 2006 Samoa 2009 Brazil 2009 Senegal 2007, 2014 Bulgaria 2007, 2009, 2013 Serbia 2009, 2013 Burkina Faso 2009 Slovak Republic 2009, 2013 Burundi 2006, 2014 Slovak Republic 2009, 2013 Cambodia 2016 Soluth Africa 2007 Cameroon 2009, 2016 South Africa 2007 Cambrodia 2009 Stutts and Nevis 2011 Chad 2009 St Kitts and Nevis 2010 Chile 2006, 2010 St Lucia 2010 China 2010 St Vincent and Grenadines 2010 Colombia 2007, 2013 Sweden 2014 Costa Rica 2010 Suriname 2010 Croatia 2007, 2013 Sweden 2014 Cote d'Ivoire 2009, 2016 Tajikistan 2006, 2013 Dibuti 2013, 2016 Togo 2006, 2013 Dominica 2010, 2016 < | Bosnia and Herzegovina | 2009, 2013 | Rwanda | 2006, 2011 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Botswana | 2006 | Samoa | 2009 |
| Bulgaria 2007, 2009, 2013 Serbia 2009, 2013 Burkina Faso 2009 Slovak Republic 2009, 2013 Burundi 2006, 2014 Slovak Republic 2009, 2013 Cambodia 2016 Solomon Islands 2015 Cameroon 2009, 2016 South Africa 2007 Cape Verde 2009 South Sudan 2014 Chila 2009 St Kitts and Nevis 2010 Chila 2006, 2010 St Lucia 2010 Chila 2007, 2013 Swalan 2014 Costa Rica 2010 St Lucia 2010 Croatia 2007, 2013 Swaland 2006, 2010 Croatia 2007, 2013 Swaland 2006, 2010 Costa Rica 2010 Suriname 2010 Croatia 2007, 2013 Swaziland 2006, 2013 DRC 2009, 2016 Tajikistan 2006, 2013 Dibiouti 2013 Thailand 2016 Exeuador 2006, 2010, 2016 | Brazil | 2000 | Seneral | 2007 2014 |
| Burkina Faso 2007, 2005, 2019 Storak Republic 2009, 2013 Burundi 2006, 2014 Slovak Republic 2009, 2013 Cambodia 2016 Solowak Republic 2007 Cameroon 2009, 2016 South Africa 2007 Cape Verde 2009 South Africa 2007 Cape Verde 2009 South Africa 2011 Chad 2009 St Kitts and Nevis 2010 China 2012 St Vincent and Grenadines 2010 China 2010 Suriname 2010 Costa Rica 2010 Suriname 2014 Costa Rica 2007, 2013 Swaziland 2006, 2010 Cote d'Ivoire 2009, 2013 Tanzania 2008, 2013 DRC 2006, 2010, 2013 Tanzania 2006, 2014 Dominica 2010 Timor-Leste 2009, 2016 Dominica Republic 2010, 2016 Togo 2009, 2016 Euador 2006, 2010, 2016 Tonga 2013 Dominica< | Bulgaria | 2005 2007 2009 2013 | Serbia | 2007, 2014 |
| Burundi 2009, 2014 Solvar Republic 2009, 2013 Cambodia 2016 Solomon Islands 2009, 2013 Cameroon 2009, 2016 South Africa 2007 Cape Verde 2009 South Sudan 2014 Central African Republic 2011 Sri Lanka 2010 Chile 2006, 2010 St Kitts and Nevis 2010 Chile 2006, 2010 St Vincent and Grenadines 2010 Colombia 2006, 2010 St Vincent and Grenadines 2010 Colombia 2007, 2013 Swaziland 2006, 2010 Croatia 2007, 2013 Swaziland 2006, 2010 Cacch Republic 2009, 2016 Tajikistan 2006, 2013 DRC 2006, 2010, 2013 Thanzania 2006, 2013 Dijbouti 2013 Thailand 2016 Dominican Republic 2010, 2016 Tonga 2009 Ecuador 2006, 2010, 2016 Tonga 2009 Estonia 2009, 2013 Uganda 2006, 2013 </td <td>Burking Faco</td> <td>2001, 2005, 2015</td> <td>Slovak Bopublic</td> <td>2000, 2010 2000, 2013</td> | Burking Faco | 2001, 2005, 2015 | Slovak Bopublic | 2000, 2010 2000, 2013 |
| Diffution 2009, 2014 Solvenia 2009, 2015 Cambodia 2009, 2016 Solomon Islands 2015 Cameroon 2009, 2016 South Africa 2007 Cape Verde 2009 South Sudan 2014 Central African Republic 2011 Sri Lanka 2010 Chad 2009 St Kitts and Nevis 2010 China 2012 St Vincent and Grenadines 2010 Colombia 2006, 2010 Sudan 2014 Costa Rica 2010 Suriname 2010 Croatia 2007, 2013 Sweden 2014 Cote d'Ivoire 2009, 2016 Tajikistan 2006, 2013 DRC 2006, 2010, 2013 Tanzania 2006, 2013 Dibouti 2010 Timor-Leste 2006, 2015 Dominica 2010 Timidad and Tobago 2010 Extrador 2006, 2010, 2016 Tunisia 2013 Extrador 2006, 2010, 2016 Tunisia 2013 Extrador <td< td=""><td>Burundi</td><td>2003</td><td>Slovak Republic</td><td>2009, 2013 2000, 2013</td></td<> | Burundi | 2003 | Slovak Republic | 2009, 2013 2000, 2013 |
| $\begin{array}{c ccccc} Cameroon & 2009, 2016 & South Africa & 2007 \\ Cape Verde & 2009 & South Sudan & 2014 \\ Central African Republic & 2011 & Sri Lanka & 2011 \\ Chad & 2009 & St Kitts and Nevis & 2010 \\ Chile & 2006, 2010 & St Lucia & 2010 \\ China & 2012 & St Vincent and Grenadines & 2010 \\ Colombia & 2006, 2010 & Sudan & 2014 \\ Costa Rica & 2010 & Suriname & 2010 \\ Croatia & 2007, 2013 & Swaziland & 2006, 2016 \\ Czech Republic & 2009, 2016 & Tajikistan & 2008, 2013 \\ DRC & 2006, 2010 & Suriname & 2014 \\ Cote d'Ivoire & 2009, 2016 & Tajikistan & 2008, 2013 \\ DRC & 2006, 2010 & Timor-Leste & 2006, 2010 \\ Dominica & 2010 & Timor-Leste & 2006, 2015 \\ Dominica Republic & 2006, 2010 & Tonga & 2009 \\ Egypt & 2013, 2016 & Trinidad and Tobago & 2010 \\ Evador & 2006, 2010 & Tonga & 2009 \\ Egypt & 2013, 2016 & Trinidad and Tobago & 2010 \\ Estonia & 2009 & Turkey & 2008, 2013 \\ Ethiopia & 2011, 2015 & Ukraine & 2008, 2013 \\ Ethiopia & 2011, 2015 & Ukraine & 2008, 2013 \\ Fiji & 2009 & Uruguay & 2006, 2010 \\ Fyr Macedonia & 2009, 2013 & Uzbekistan & 2008, 2013 \\ Gambia & 2007, 2013 & Venezuela & 2009 \\ Georgia & 2006, 2003 & Venezuela & 2006, 2010 \\ Ghana & 2007, 2013 & Venezuela & 2009, 2015 \\ Grenada & 2010 & West Bank and Gaza & 2013 \\ Guatemala & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2016 & Zambia & 2007, 2013 \\ Course & 2006, 2010 & Yemen & 2010, 2013 \\ Course & 2006, 2010 & Yemen & 2010, 2013 \\ Course & 2006, 2010 & Yemen & 2010, 2013 \\ Course & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2016 & Zambia & 2007, 2013 \\ Cuinea & 2006, 2010 & Yemen & 2010, 2013 \\ Course & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2010 & Yemen & 2010, 2013 \\ Cuinea & 2006, 2016 & Zambia & 2007, 2013 \\ Cuinea & 2007, 2013 \\ Cuinea$ | Cambadia | 2000, 2014 2016 | Solomon Islanda | 2009, 2013 |
| Cameroon 2009, 2010 South Sudan 2007 Cape Verde 2009 South Sudan 2014 Central African Republic 2011 Sri Lanka 2011 Chad 2009 St Kitts and Nevis 2010 Chile 2006, 2010 St Lucia 2010 Chile 2006, 2010 St Vincent and Grenadines 2010 Colombia 2006, 2010 Sudan 2014 Costa Rica 2010 Suriname 2010 Croatia 2007, 2013 Swaziland 2006, 2016 Czech Republic 2009, 2016 Tajikistan 2008, 2013 DRC 2006, 2010, 2013 Tanzania 2006, 2013 Djibouti 2013 Thailand 2016 Dominica 2010, 2016 Togo 2009, 2016 Ecuador 2006, 2010 Timor-Leste 2006, 2010 Dominican Republic 2010, 2016 Tunisia 2013 Editopia 2011, 2016 Tunisia 2013 Eritrea 2009, | Camboula | 2010 | Solomon Islands | 2015 |
| $\begin{array}{c cccc} Cape Verde & 2009 & South Stdan & 2014 \\ Central African Republic & 2011 & Sri Lanka & 2011 \\ Chad & 2009 & St Kits and Nevis & 2010 \\ Chile & 2006, 2010 & St Lucia & 2010 \\ China & 2012 & St Vincent and Grenadines & 2010 \\ Colombia & 2006, 2010 & Sudan & 2014 \\ Costa Rica & 2010 & Suriname & 2010 \\ Croatia & 2007, 2013 & Swaziland & 2006, 2016 \\ Czech Republic & 2009, 2013 & Sweden & 2014 \\ Cote d'Ivoire & 2009, 2016 & Tajikistan & 2008, 2013 \\ DRC & 2006, 2010, 2013 & Tanzania & 2006, 2013 \\ Dominica & 2010 & Timor-Leste & 2006, 2015 \\ Dominica Republic & 2010, 2016 & Togo & 2009, 2016 \\ Ecuador & 2006, 2010 & Tonga & 2009 \\ Egypt & 2013, 2016 & Trinidad and Tobago & 2010 \\ El Salvador & 2006, 2010, 2013 & Uganda & 2006, 2013 \\ Ethiopia & 2011, 2015 & Ukraine & 2008, 2013 \\ Ethiopia & 2011, 2015 & Ukraine & 2008, 2013 \\ Fiji & 2009 & Uruguay & 2006, 2010 \\ Fyr Macedonia & 2006 & Vanuatu & 2009 \\ Georgia & 2006, 2013 & Venezuela & 2006, 2010 \\ Ghana & 2007, 2013 & Venezuela & 2006, 2010 \\ Grenada & 2010 & West Bank and Gaza & 2013 \\ Guatemala & 2006, 2010 & Yemen & 2010, 2013 \\ Guinea & 2006, 2016 & Zambia & 2007, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 2010 & Yemen & 2010, 2013 \\ Cond Subi & 2006, 20$ | Cameroon | 2009, 2010 | South Africa | 2007 |
| Central African Republic 2011 Sh Lanka 2011 Chad 2009 St Kitts and Nevis 2010 Chile 2006, 2010 St Lucia 2010 China 2012 St Vincent and Grenadines 2010 Colombia 2006, 2010 Sudan 2014 Costa Rica 2007, 2013 Swaziland 2006, 2016 Croatia 2007, 2013 Sweden 2014 Cote d'Ivoire 2009, 2016 Tajikistan 2006, 2013 DRC 2006, 2010, 2013 Tanzania 2006, 2015 Dominica 2010 Timor-Leste 2006, 2015 Dominican Republic 2010, 2016 Togo 2009 Egypt 2013, 2016 Trinidad and Tobago 2010 El Salvador 2009, 2013 Uganda 2006, 2013 Estonia 2009, 2013 Uganda 2006, 2013 Estonia 2009, 2013 Uganda 2006, 2013 Estonia 2009, 2013 Uganda 2006, 2013 Fiji | Cape verde | 2009 | South Sudan | 2014 |
| $\begin{array}{c cccc} Chad & 2009 & St Kitts and Nevis & 2010 \\ Chile & 2006, 2010 & St Lucia & 2010 \\ China & 2012 & St Vincent and Grenadines & 2010 \\ Colombia & 2006, 2010 & Sudan & 2014 \\ Costa Rica & 2010 & Suriname & 2010 \\ Croatia & 2007, 2013 & Swaziland & 2006, 2016 \\ Czech Republic & 2009, 2016 & Tajikistan & 2008, 2013 \\ DRC & 2006, 2010, 2013 & Tanania & 2006, 2013 \\ Dgibouti & 2013 & Thailand & 2016 \\ Dominica & 2010 & Timor-Leste & 2006, 2015 \\ Dominica Republic & 2010, 2016 & Togo & 2009, 2016 \\ Ecuador & 2006, 2010 & Tonga & 2009 \\ Egypt & 2013, 2016 & Trinidad and Tobago & 2010 \\ El Salvador & 2006, 2010, 2013 & Uganda & 2006, 2013 \\ Eritrea & 2009 & Turkey & 2008, 2013 \\ Estonia & 2009, 2013 & Uganda & 2006, 2013 \\ Ethiopia & 2011, 2015 & Ukraine & 2008, 2013 \\ Fiji & 2009 & Uruguay & 2006, 2010 \\ Fyr Macedonia & 2009, 2013 & Uzbekistan & 2008, 2013 \\ Gambia & 2006, 2010 & Vanuatu & 2009 \\ Georgia & 2006, 2008, 2013 & Venezuela & 2006, 2010 \\ Ghana & 2007, 2013 & Wenezuela & 2006, 2010 \\ Guatemala & 2006, 2010 & West Bank and Gaza & 2013 \\ Guatemala & 2006, 2016 & Zambia & 2007, 2013 \\ Guinea & 2006, 2016 & Zambia & 2007, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2010, 2013 \\ Catamala & 2006, 2010 & Yemen & 2007, 2013 \\ Catamala & 20006, 2016 & Zambia & 20$ | Central African Republic | 2011 | Sri Lanka | 2011 |
| $\begin{array}{c ccc} Chile & 2006, 2010 & St Lucia & 2010 \\ China & 2012 & St Vincent and Grenadines & 2010 \\ Colombia & 2006, 2010 & Sudan & 2014 \\ Costa Rica & 2010 & Suriname & 2010 \\ Croatia & 2007, 2013 & Swaziland & 2006, 2016 \\ Czech Republic & 2009, 2016 & Tajikistan & 2008, 2013 \\ DRC & 2006, 2010, 2013 & Tanzania & 2006, 2013 \\ DBC & 2006, 2010, 2013 & Thailand & 2016 \\ Dominica & 2010 & Timor-Leste & 2006, 2015 \\ Dominica & 2010 & Togo & 2009, 2016 \\ Ecuador & 2006, 2010 & Tonga & 2009 \\ Egypt & 2013, 2016 & Trinidad and Tobago & 2010 \\ El Salvador & 2006, 2010, 2016 & Tumisia & 2013 \\ Eritrea & 2009 & Turkey & 2008, 2013 \\ Estonia & 2009, 2013 & Uganda & 2006, 2013 \\ Ethiopia & 2011, 2015 & Ukraine & 2008, 2013 \\ Fiji & 2009 & Uruguay & 2006, 2010 \\ Fyr Macedonia & 2009, 2013 & Uzbekistan & 2008, 2013 \\ Gambia & 2006, 2013 & Venezuela & 2009, 2015 \\ Grenada & 2007, 2013 & Venezuela & 2009, 2015 \\ Grenada & 2007, 2013 & Venezuela & 2006, 2010 \\ Guatemala & 2006, 2010 & West Bank and Gaza & 2013 \\ Guatemala & 2006, 2016 & Zambia & 2007, 2013 \\ Guinea & 2006, 2016 & Zambia & 2007, 2013 \\ \end{array}$ | Chad | 2009 | St Kitts and Nevis | 2010 |
| $\begin{array}{c ccccc} China & 2012 & St Vincent and Grenadines & 2010 \\ Colombia & 2006, 2010 & Sudan & 2014 \\ Costa Rica & 2010 & Suriname & 2010 \\ Croatia & 2007, 2013 & Swailand & 2006, 2016 \\ Czech Republic & 2009, 2013 & Sweden & 2014 \\ Cote d'Ivoire & 2009, 2016 & Tajikistan & 2008, 2013 \\ DRC & 2006, 2010, 2013 & Tanzania & 2006, 2013 \\ Djibouti & 2013 & Thailand & 2016 \\ Dominica & 2010 & Timor-Leste & 2006, 2015 \\ Dominica Republic & 2010, 2016 & Togo & 2009, 2016 \\ Ecuador & 2006, 2010 & Tonga & 2009 \\ Egypt & 2013, 2016 & Trinidad and Tobago & 2010 \\ El Salvador & 2006, 2010, 2016 & Tunisia & 2013 \\ Eritrea & 2009 & Turkey & 2008, 2013 \\ Estonia & 2009, 2013 & Uganda & 2006, 2013 \\ Ethiopia & 2011, 2015 & Ukraine & 2008, 2013 \\ Fiji & 2009 & Uruguay & 2006, 2010 \\ Fyr Macedonia & 2009, 2013 & Uzbekistan & 2008, 2013 \\ Gambia & 2006, 2003 & Vanuatu & 2009 \\ Georgia & 2006, 2003 & Vanuatu & 2009, 2015 \\ Grenada & 2007, 2013 & West Bank and Gaza & 2013 \\ Guatemala & 2006, 2010 & Yemen & 2010, 2013 \\ Guinea & 2006, 2016 & Zambia & 2007, 2013 \\ \end{array}$ | Chile | 2006, 2010 | St Lucia | 2010 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | China | 2012 | St Vincent and Grenadines | 2010 |
| $\begin{array}{c cccc} Costa Rica & 2010 & Suriname & 2010 \\ Croatia & 2007, 2013 & Swaziland & 2006, 2016 \\ Czech Republic & 2009, 2013 & Sweden & 2014 \\ Cote d'Ivoire & 2009, 2016 & Tajikistan & 2008, 2013 \\ DRC & 2006, 2010, 2013 & Tanzania & 2006, 2013 \\ Dibouti & 2013 & Thailand & 2016 \\ Dominica & 2010 & Timor-Leste & 2006, 2015 \\ Dominica Republic & 2010, 2016 & Togo & 2009, 2016 \\ Ecuador & 2006, 2010 & Tonga & 2009 \\ Egypt & 2013, 2016 & Trinidad and Tobago & 2010 \\ El Salvador & 2006, 2010, 2016 & Tunisia & 2013 \\ Eritrea & 2009 & Turkey & 2008, 2013 \\ Estonia & 2009, 2013 & Uganda & 2006, 2013 \\ Ethiopia & 2011, 2015 & Ukraine & 2008, 2013 \\ Fiji & 2009 & Uruguay & 2006, 2010 \\ Fyr Macedonia & 2009, 2013 & Uzbekistan & 2008, 2013 \\ Gambia & 2006, 2013 & Vanuatu & 2009 \\ Georgia & 2006, 2010 & Vanuatu & 2009 \\ Genrada & 2007, 2013 & Vietnam & 2009, 2015 \\ Grenada & 2000, 2010 & West Bank and Gaza & 2013 \\ Guatemala & 2006, 2010 & Yemen & 2010, 2013 \\ Guinea & 2006, 2016 & Zambia & 2007, 2013 \\ \end{array}$ | Colombia | 2006, 2010 | Sudan | 2014 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | Costa Rica | 2010 | Suriname | 2010 |
| $\begin{array}{c cccc} Czech Republic \\ Cote d'Ivoire \\ Cote d'Ivoire \\ 2009, 2016 \\ Cote d'Ivoire \\ DRC \\ 2006, 2010, 2013 \\ DRC \\ 2006, 2010, 2013 \\ Dibouti \\ 2013 \\ Dibouti \\ 2013 \\ Dibouti \\ 2016 \\ 2006, 2010 \\ Dominica \\ Primor-Leste \\ 2006, 2010 \\ Primor-Leste \\ 2006, 2010 \\ Primor-Leste \\ 2009, 2016 \\ Primor-Leste \\ 2009, 2010 \\ Primor-Leste \\ 2000, 2013 \\ Primor-Leste \\ 2000, 2010 \\ Primor-Leste \\ 2000, 2013 \\ Primor-Leste \\ 2000, 2010 \\ Primor-Leste \\ 2000, 2013 \\ Primor-Leste \\ 2000, 2010 \\ Primor-Lest$ | Croatia | 2007, 2013 | Swaziland | 2006, 2016 |
| $\begin{array}{c ccccc} Cote d'Ivoire & 2009, 2016 & Tajikistan & 2008, 2013 \\ DRC & 2006, 2010, 2013 & Tanzania & 2006, 2013 \\ Djibouti & 2013 & Thailand & 2016 \\ Dominica & 2010 & Timor-Leste & 2006, 2015 \\ Dominican Republic & 2010, 2016 & Togo & 2009, 2016 \\ Ecuador & 2006, 2010 & Tonga & 2009 \\ Egypt & 2013, 2016 & Trinidad and Tobago & 2010 \\ El Salvador & 2006, 2010, 2016 & Tunisia & 2013 \\ Eritrea & 2009 & Turkey & 2008, 2013 \\ Estonia & 2009, 2013 & Uganda & 2006, 2013 \\ Ethiopia & 2011, 2015 & Ukraine & 2008, 2013 \\ Fiji & 2009 & Uruguay & 2006, 2010 \\ Fyr Macedonia & 2009, 2013 & Uzbekistan & 2008, 2013 \\ Gambia & 2006 & Vanuatu & 2009 \\ Georgia & 2006, 2008, 2013 & Vietnam & 2009, 2015 \\ Grenada & 2010 & West Bank and Gaza & 2013 \\ Guinea & 2006, 2016 & Zambia & 2007, 2013 \\ Guinea & 2006, 2016 & Zambia & 2007, 2013 \\ \end{array}$ | Czech Republic | 2009, 2013 | Sweden | 2014 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Cote d'Ivoire | 2009, 2016 | Tajikistan | 2008, 2013 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | DRC | 2006, 2010, 2013 | Tanzania | 2006, 2013 |
| Dominica2010Timor-Leste2006, 2015Dominican Republic2010, 2016Togo2009, 2016Ecuador2006, 2010Tonga2009Egypt2013, 2016Trinidad and Tobago2010El Salvador2006, 2010, 2016Tunisia2013Eritrea2009Turkey2008, 2013Estonia2009, 2013Uganda2006, 2013Ethiopia2011, 2015Ukraine2008, 2013Fiji2009Uruguay2006, 2010Fyr Macedonia2009, 2013Uzbekistan2008, 2013Gambia20062006Vanuatu2009Georgia2006, 2008, 2013Venezuela2006, 2010Ghana2007, 2013Vietnam2009, 2015Grenada2010West Bank and Gaza2013Guinea2006, 2016Zambia2007, 2013 | Djibouti | 2013 | Thailand | 2016 |
| Dominican Republic2010, 2016Togo2009, 2016Ecuador2006, 2010Tonga2009Egypt2013, 2016Trinidad and Tobago2010El Salvador2006, 2010, 2016Tunisia2013Eritrea2009Turkey2008, 2013Estonia2009, 2013Uganda2006, 2013Ethiopia2011, 2015Ukraine2008, 2013Fiji2009Uruguay2006, 2010Fyr Macedonia2009, 2013Uzbekistan2009, 2013Gambia2006, 2008, 2013Vanuatu2009Georgia2006, 2008, 2013Vietnam2009, 2015Grenada2010West Bank and Gaza2013Guatemala2006, 2010Yemen2010, 2013Guinea2006, 2016Zambia2007, 2013 | Dominica | 2010 | Timor-Leste | 2006, 2015 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Dominican Republic | 2010, 2016 | Togo | 2009, 2016 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Ecuador | 2006, 2010 | Tonga | 2009 |
| El Salvador2006, 2010, 2016Tunisia2013Eritrea2009Turkey2008, 2013Estonia2009, 2013Uganda2006, 2013Ethiopia2011, 2015Ukraine2008, 2013Fiji2009Uruguay2006, 2010Fyr Macedonia2009, 2013Uzbekistan2008, 2013Gambia2006Vanuatu2009Georgia2006, 2008, 2013Venezuela2009, 2013Ghana2007, 2013Vietnam2009, 2015Guatemala2010Yemen2013, 2013Guinea2006, 2010Yemen2010, 2013 | Egypt | 2013, 2016 | Trinidad and Tobago | 2010 |
| Eritrea2009Turkey2008, 2013Estonia2009, 2013Uganda2006, 2013Ethiopia2011, 2015Ukraine2008, 2013Fiji2009Uruguay2006, 2010Fyr Macedonia2009, 2013Uzbekistan2008, 2013Gambia2006Vanuatu2009Georgia2006, 2008, 2013Venezuela2006, 2010Ghana2007, 2013Vietnam2009, 2015Grenada2010West Bank and Gaza2013Guatemala2006, 2010Yemen2010, 2013Guinea2006, 2016Zambia2007, 2013 | El Salvador | 2006, 2010, 2016 | Tunisia | 2013 |
| Estonia2009, 2013Uganda2006, 2013Ethiopia2011, 2015Ukraine2008, 2013Fiji2009Uruguay2006, 2010Fyr Macedonia2009, 2013Uzbekistan2008, 2013Gambia2006Vanuatu2009Georgia2006, 2008, 2013Venezuela2006, 2010Ghana2007, 2013Vietnam2009, 2015Grenada2010West Bank and Gaza2013Guatemala2006, 2010Yemen2010, 2013Guinea2006, 2016Zambia2007, 2013 | Eritrea | 2009 | Turkey | 2008, 2013 |
| Ethiopia2011, 2015Ukraine2008, 2013Fiji2009Uruguay2006, 2010Fyr Macedonia2009, 2013Uzbekistan2008, 2013Gambia2006Vanuatu2009Georgia2006, 2008, 2013Venezuela2006, 2010Ghana2007, 2013Vietnam2009, 2015Grenada2010West Bank and Gaza2013Guatemala2006, 2010Yemen2010, 2013Guinea2006, 2016Zambia2007, 2013 | Estonia | 2009, 2013 | Uganda | 2006, 2013 |
| Fiji 2009 Uruguay 2006, 2010 Fyr Macedonia 2009, 2013 Uzbekistan 2008, 2013 Gambia 2006, 2008, 2013 Uzbekistan 2009 Georgia 2006, 2008, 2013 Vanuatu 2009 Ghana 2007, 2013 Vietnam 2009, 2015 Grenada 2010 West Bank and Gaza 2013 Guatemala 2006, 2010 Yemen 2010, 2013 Guinea 2006, 2016 Zambia 2007, 2013 | Ethiopia | 2011, 2015 | Ukraine | 2008, 2013 |
| Fyr Macedonia 2009, 2013 Uzbekistan 2008, 2013 Gambia 2006 Vanuatu 2009 Georgia 2006, 2008, 2013 Venezuela 2006, 2009 Ghana 2007, 2013 Vietnam 2009, 2015 Grenada 2010 West Bank and Gaza 2013 Guatemala 2006, 2010 Yemen 2010, 2013 Guinea 2006, 2016 Zambia 2007, 2013 | Fiii | 2009 | Uruguay | 2006, 2010 |
| Gambia 2006 Vanuatu 2009 Georgia 2006, 2008, 2013 Venezuela 2006, 2010 Ghana 2007, 2013 Vietnam 2009, 2015 Grenada 2010 West Bank and Gaza 2013 Guatemala 2006, 2010 Yemen 2010, 2013 Guinea 2006, 2016 Zambia 2007, 2013 | Fyr Macedonia | 2009 2013 | Uzbekistan | 2008 2013 |
| Georgia2006, 2008, 2013Vanatur2005Georgia2006, 2008, 2013Venezuela2006, 2010Ghana2007, 2013Vietnam2009, 2015Grenada2010West Bank and Gaza2013Guatemala2006, 2010Yemen2010, 2013Guinea2006, 2016Zambia2007, 2013 | Gambia | 2006 | Vanuatu | 2009 |
| Georgia2000, 2000, 2010Venczucia2000, 2010Ghana2007, 2013Vietnam2009, 2015Grenada2010West Bank and Gaza2013Guatemala2006, 2010Yemen2010, 2013Guinea2006, 2016Zambia2007, 2013 | Georgia | 2000 2006 2008 2013 | Venezuela | 2005 2010 |
| Grenada 2006, 2010 West Bank and Gaza 2013 Guatemala 2006, 2010 Yemen 2010, 2013 Guinea 2006, 2016 Zambia 2007, 2013 | Chana | 2000, 2000, 2013 | Vietnam | 2000, 2010 |
| Guatemala2006, 2010West Dank and Gaza2013Guinea2006, 2016Yemen2010, 2013Guinea2006, 2016Zambia2007, 2013 | Gronada | 2001, 2010 | West Bank and Caza | 2005, 2015 |
| Guatemata 2000, 2010 Tennen 2010, 2013 Guinea 2006, 2016 Zambia 2007, 2013 | Customala | 2010 | Vomen | 2010 |
| Guinea 2000, 2010 Zaliibia 2007, 2013 | Cuinos | 2000, 2010 | 7 ambia | 2010, 2013 2007 2012 |
| Cuinea Bissau 2006 Zimbabwa 2011 2016 | Guinea Guinea Bissou | 2000, 2010 | Zimbabwa | 2007, 2013 |

A.2 Further details on the spatial lag construction

We have information on the Gender Inequality Index (GII) for every year starting from 2010, however, prior to this the index is only available in 5-year intervals. To construct a balanced panel of the GII index between 1995 and 2015, we interpolate data gaps between years using the ipolate command in Stata. In few cases, we also extrapolated the GII index by regressing a country's GII on a time trend.

The main source of bilateral trade data is the Center for International Data (CID). Bilateral exports between 2000 and 2012 were directly download from the yearly database published on the CID website.³⁵ To account for recent revisions of trade figures, trade data from 2013 to 2016 were drawn directly from COMTRADE instead.³⁶ These data were then processed using the Stata codes developed by Robert Feenstra and John Romalis in order to account for mirror flows (see step 1 of https://www.robertcfeenstra.com/data.html, based on Feenstra and Romalis (2014)). All missing bilateral export values are assumed to be real zero flows.

The quality of the bilateral FDI inward stock data, however, is not comparable to that of bilateral trade flows. To the best of our knowledge, only the United Nations Conference on Trade and Development (UNCTAD) publishes bilateral FDI stocks data for developing and developed economies. However, these data are only available between 2001 and 2012. Moreover, the data clearly show an improvement in the country coverage over time, with the number of non-zero bilateral stock figures more than doubling between 2001 and 2011. To improve the data coverage and to reduce the distortions arising from missing values, we use the average of bilateral FDI stock between 2006 and 2012.

The resulting spatial lags vary across countries and over time. While the exposure to gender inequality through trade $(Trade_SL)$ comes from both the variation in the GII index and the variation of bilateral exports over time, the time variation for the exposure through FDI (FDI_SL) only comes from changes in the GII index in source countries of investment. Finally, in all specifications, we lag our exposure variables by one year. Figure A1 presents the scatter-plot of countries' average exposure to gender inequality through trade on the horizontal axis, and their exposure to gender inequality through FDI, on the the vertical axis.

The data on the GDP per capita at constant prices for the construction of the exposure to wealth come from the World Bank's World Development Indicators.

³⁵https://cid.econ.ucdavis.edu/Html/WTF_bilateral.html

³⁶https://comtrade.un.org/db/default.aspx



Figure A1: Exposure to gender norms through trade and FDI

A.3 List of control variables

All specifications include the following control variables and fixed effects:

- share of the working capital financed on credits from suppliers and on advances from customers
- skill intensity: share of skilled production workers
- size of the firm, based on the number of full-time, permanently employed workers three fiscal years (FY) ago
- productivity of the firm three FY ago (sales per worker)
- purchase of new equipment (US 2009)
- investment in fixed asset
- firm located in a large city (large, capital or main business city)
- age of the establishment
- female ownership
- share of temporary employees
- management quality based on the number of years that the top manager has been working in the sector

- time-varying country effects
- region within a country specific effects
- industry fixed-effects: 2-digit ISIC industry code
- three broad categories of the a firm's size (to account for the strata)

The only exception is table 11, which includes firms in the services sector. Since information on the skill intensity is not available for firms in this sector, the skill intensity is not controlled for in the table.

A.4 Survey questions used for the construction of variables

Information on firm characteristics are drawn from the Enterprise Survey from the World Bank. In particular, the analysis draws on the Standardized (Comprehensive) Database from October 2017, complemented by the Indicators Database from September 2017. The questions used in the analysis are listed below.

- Female employment and female share variables were constructed based on:
 - 11 At the end of fiscal year [insert last complete fiscal year], how many permanent, full-time employees did this establishment employ? Please include all employees and managers
 - 13a, 13b At the end of fiscal year [insert last complete fiscal year], how many permanent, full-time employees were: Production employees 13a; Non-production employees- 13b
 - 15a, 15b At the end of fiscal year [insert last complete fiscal year], how many permanent full-time employees of this establishment for the following categories were female?: Female permanent full-time production employees- 15a; Female permanent full-time non-production employees- 15b

b7a Is the Top Manager female? (yes, no)

- The global status of the firm was constructed based on:
 - d3c In fiscal year, what percentage of this establishment's sales were: Direct exports
 - **b2b** What percent of this firm is owned by each of the following: **Private foreign** individuals, companies or organizations
- Control variables and fixed effects were constructed based on:
 - b4 / b4a [Female ownership] Amongst the owners of the firm, are there any females? / Percentage of female ownership
 - **b5** [Age] In what year did this establishment begin operations in this country?
 - 12 [Retrospective question on full-time, permanently employed workers] Looking back, at the end of fiscal year [insert last complete fiscal year minus two], how many permanent, full-time individuals worked in this establishment? Please include all employees and managers
 - n3, l2 [Sales per worker based on retrospective questions]
 l2 See above

n3 Looking back at the end of fiscal year [insert last complete fiscal year minus two], what were total annual sales for this establishment?

other Amounts were deflated and converted into US dollars

- **l1**, **l8**, **l6** [*Temporary workers share*]
 - l1 See above
 - 16 How many full-time seasonal or temporary employees did this establishment employ during the fiscal year? (Full-time, temporary workers are all shortterm (i.e. for less than a year) employees with no guarantee of renewal of employment and work full-time)
 - 18 What was the average length of employment of all full-time temporary employees in the fiscal year?
- 14b [Share of skilled production workers] At the end of fiscal year, how many permanent, full-time individuals working in this establishment were: Workers in unskilled production jobs, whose tasks involve no specialized knowledge
- **n5a** [*Purchase of new equipment (US 2009)*] In fiscal year, how much did this establishment spend on purchases of: New or used machinery, vehicles, and equipment? (Amounts were deflated and converted into US dollars)
- k4 [New investment (yes/no)] In fiscal year [insert last complete fiscal year], did this establishment purchase any new or used fixed assets, such as machinery, vehicles, equipment, land or buildings, including expansion and renovations of existing structures?
- k3f [Working Capital Purchased On Credit/Advances] Over fiscal year, please estimate the proportion of this establishment's working capital, that is the funds available for day-to-day operations, that was financed from each of the following sources? Purchases on credit from suppliers and advances from customers
- **b7** [Years of top manager's experience in sector] How many years of experience working in this sector does the top manager have?
- **a3/a3c** [*Large city*] city over 250.000 inhabitants or city is the capital or main business center
- a3a [Region within country FE] Screener region
- **d1a2** [*ISIC 2-digit FE*] In fiscal year [insert last complete fiscal year], what were this establishment's two main products represented by the largest proportion of annual sales? **First** (ISIC, revision 3.1)
- **a6b** [*Firm's Size broad categories*] Screener size; small (< 20 employees), medium (>= 20 and <= 99), and large (>= 100)
- Country×Year FE based on the year and country of the survey.

A.5 Instrumental variable strategy

In this appendix, we provide more details on the construction of our instruments and conduct some checks on the plausibility of the exogeneity assumption (table A3).

The instruments are constructed as the weighted average of the share of global firms in a narrowly defined cell (m) based on two firm characteristics (W) that are controlled for in all specifications; namely, the number of permanent, full-time workers (three fiscal years ago) and whether the firm had invested in any fixed asset in the last year. The market cell (m) is defined by the year, sector, and region within a country in which a firm is located. Since we are interested in estimates of the population distribution of global firms in the cell, we use the survey weights and include all firms in the cell, regardless of whether or not the firm is in the regression sample. The shares at the cell level are constructed for each of the two variables and for each of the global statuses (that is, exporters and multinationals). As such, we have four instruments in our IV estimations: exporters' share in permanent employment, exporters' share in investment, multinationals' share in permanent employment, and multinationals' share in investment.

In particular, the instruments are based on equation 4:

$$IV_m^{glob} = \frac{\sum_j^{N_m^{glob}} W_j}{\sum_j^{N_m} W_j} \text{, with } glob\{\text{exporter, foreign owned}\} (4)$$

where W_j refers to the weighted value for firm j, and N_m and N_m^{glob} refer to the total number of firms and the number of global firms in the market, respectively.

There are two considerations that might cast doubt on the validity of our proposed instruments. First, our instruments, which vary across market cells, might capture unobserved market characteristics that themselves have a direct impact on the female share of firms. In order to check this, column 2 in Table A3 shows the OLS results when unobserved market characteristics are accounted for by the full set of cell-specific effects (i.e. region×sector×year effects). To facilitate comparison, we also present the OLS results based on the full set of controls and specific effects used throughout the paper in column 1 (see appendix A.3).³⁷ The magnitude and significance of the coefficients on the global status are very similar in both columns. This suggests that the region, sector, and time-varying country-specific effects, used in our main specifications throughout the paper are enough to account for confounding factors that are external to a firm's operations. Further, the similarity of the results of the short (column 1) and long (column 2) models

³⁷In particular, the specification in column 2 differs from our main specification in column 1 in that the region, sector and time-varying country-specific effects are replaced by the full set of interaction terms between the year, sector and region within a country. All the other control variables remain the same.

also indicates that unobserved cell characteristics are not inducing omitted variable bias in our main specification. The similarity in the results further suggests that cell-specific factors either do not systematically affect the female share or are not correlated with the global status of firms. While the latter cannot be true, since our cell-specific instruments are shown to be good predictors of the global status of firms, this might suggest that unobserved cell characteristics have no systematic partial effect on a firm's female share.

Second, our instruments are meant to reflect the conditions faced by all firms in a market. This is the main reason behind using weights and all firms in a cell, including the reference firm i whose female share we want to estimate and off-the sample firms. If the weighted averages are driven by influential firms in the cell, however, this might lead to a correlation of the instrument and the error terms in the reduced model.³⁸ To check if this is driving our results, we thus re-calculate the four instruments by excluding a firm's own value as in equation 5:

$$IV_{mi}^{\prime glob} = \frac{\sum_{j \neq i}^{N_m^{glob}} W_j}{\sum_{j \neq i}^{N_m} W_j} , \text{ with } glob\{\text{exporter, foreign-owned}\}$$
(5)

where the new instrument $(IV_{mi}^{'glob})$ now varies across firms and is constructed using the weighted average of all firms j in the cell except for firm i. Although the new set of instruments are arguably more exogenous, deducting a firm's own value might induce measurement errors as the distribution of firms is no longer representative of the population, particularly for small market cells.

We present the results based on the instruments in our main specification in column 4, and show the results based on the new instrument in column 5. The results are comparatively similar—only foreign-owned firms have a significantly larger share of female workers than domestic firms in the same market, while the impact of being an exporter is never statistically significant. These results suggest that the instruments in our main specification are capturing factors of the market cell rather than characteristics of a single firm. Not surprisingly, the new instruments are relatively weak, which prevents us from using them further in the paper. However, we can still conduct a last check.

All throughout the paper, the over-identification tests fail to reject the null hypothesis that the four instruments in our main specification are exogenous. However, these tests might fail to reject the null hypothesis even when the instruments are endogenous if all

³⁸Notice that the source of endogeneity from adding a firm's own value does not come from variable W, as this variable is controlled for in the reduced and first-stage regressions, but from the fact that whether a firm's own value is added or not in the numerator in equation 4, which depends on the global status of the firm.

instruments are very similar. Since the second set of instruments should be a priori less endogenous, we have a good opportunity to use the over-identification test to check for the endogeneity of the instruments in our main specification. With a p-value of 0.45, the Hansen test based on a specification using the four instruments of our main specification alongside the four new instruments fails to reject the null hypothesis that the instruments are valid.

The checks in this appendix suggest that the 2SLS results based on the instruments in the main specification are not driven by unobserved confounding factors at the market level nor by endogeneity arising from a firm's own values. Although not a proof, the checks together assess the plausibility that the our instruments are reflecting the attractiveness of the market cell to global firms that is independent to a firm's female share and to a firm's unobserved characteristics.

| Dependent variable: share of | female work | cers | | | |
|------------------------------|---------------|---------------|---------------|-----------|---------------|
| | (1) | (2) | (3) | (4) | (5) |
| Exporter $(\geq 10\%)$ | 2.997^{***} | 3.064^{***} | 2.955^{***} | 3.087 | -0.236 |
| | (0.576) | (0.568) | (0.491) | (2.438) | (6.303) |
| Foreign (100%) | 3.360*** | 2.399*** | 2.197** | 15.288*** | 38.052^{**} |
| , | (0.965) | (0.918) | (0.853) | (4.457) | (16.387) |
| Exporter \times Trade_SL | · · · · | | -32.251** | | ~ / |
| - | | | (14.914) | | |
| Foreign \times FDLSL | | | -26.924^{*} | | |
| | | | (15.491) | | |
| Observations | $27,\!152$ | 27,152 | 27,152 | 27,152 | 27,152 |
| R^2 (adj.) | 0.47 | 0.54 | 0.54 | | |
| Cell effects | No | Yes | Yes | No | No |
| Hansen J statistic | | | | 1.01 | 1.58 |
| p-value Hansen J stat. | | | | 0.60 | 0.45 |
| Weak IV Kleinbergen-Paap | | | | 123.60 | 5.33 |

Table A3: Estimates of share of female workers, further checks on the IV strategy

This table shows the relationship between a firm being an exporter and receiving FDI and its share of female workers. The first column shows the OLS estimates including the full set of controls listed in appendix A.3. In columns 2 and 3, the region, sector and time-varying country effects are replaced by the full set of cell effects (i.e. sector×region×year effects). Column 4 shows the IV estimates based on our proposed instruments. Finally, column 5 shows IV estimates based on instruments that do not include firms' own values. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

A.6 Is the female employment share higher in global firms?

The empirical background of the analysis in this paper is that the female employment share is higher in global versus domestic non-exporting firms. The section confirms that this is true in the Enterprise Survey data used. A firm's female employment share (G) is predicted based on the firm's global status, namely, a dummy variable (X) equal to 1 if a firm exports and a dummy variable (M)that identifies multinationals. The models include the vector (C) containing the control variables and specific effects described in section 2. The model takes the form

$$G_{it} = \alpha + \beta X_{it} + \gamma M_{it} + \mathbf{C}_{it} \zeta' + \varepsilon_{it}.$$
(6)

Table A4 presents the results, confirming the common finding in the literature that there is a positive relationship between being a global firm and having a greater share of female employees. The first column shows that, relative to domestic, non-exporting firms, the female share of employees in firms whose sales comprise at least 10% exports is 2.9 percentage points higher, while the share in foreign-owned firms is 3.4 percentage points higher.

Column (2) looks at whether there are synergies between being an exporter and being foreign owned. Almost half (49%) of foreign-owned firms in the data are also exporters; 11% of exporting firms are foreign-owned. The coefficient on the interaction term between these two measures of being a global firm reveals that it is the completely foreign-owned exporting companies that have the strongest relationship between being global and the female employment share. Compared to domestically-owned non-exporters (i.e. the base group), the female share in domestically-owned exporters is 2.6 percentage points higher (first row in column (2)), and the share in non-exporting multinationals is 1.5 percentage points higher (second row). It is, however, the foreign-owned exporters with the biggest difference in female employment: the female share of employees in these firms is 8.1 percentage points higher than in the base-group firms.

To see another dimension of these results, column (3) gives a variety of measures for the "degree" to which the firm is global. The lower the share of output that is exported and the lower the percentage of the firm that is foreign-owned, the weaker the relationship between the measure of a firm being global and its share of female employees. Indeed for the measure of exporters, only firms that export at least half of their output employ a higher share of women than domestically-owned, non-exporting companies; especially firms that export all of their output employ a greater share of women. In terms of FDI, it is only firms that are completely foreign-owned that employ a significantly higher share of women than domestic, non-exporting firms do.

| | (1) | (2) | (3) |
|---|---------------|---------------|----------------|
| Measure of globalization | | | (-) |
| Exporter $(\geq 10\%)$ | 2.909*** | 2.610^{***} | |
| | (0.572) | (0.595) | |
| Foreign (100%) | 3.398^{***} | 1.524* | |
| | (0.958) | (0.907) | |
| Exporter $(\geq 10\%)$ *Foreign (100%) | | 4.040^{***} | |
| | | (1.532) | |
| Exporter ($\geq 10\%, <50\%$) | | | 0.593 |
| | | | (0.473) |
| Exporter ($\geq 50\%$, <100%) | | | 2.686^{***} |
| | | | (0.904) |
| Exporter (100%) | | | 10.997^{***} |
| | | | (1.501) |
| Foreign ($\geq 10\%, <50\%$) | | | -0.626 |
| | | | (0.941) |
| Foreign ($\geq 50\%$, $<100\%$) | | | 0.345 |
| | | | (0.815) |
| Foreign (100%) | | | 2.595*** |
| | | | (0.885) |
| Observations | $27,\!833$ | $27,\!833$ | 27,833 |
| R^2 | 0.474 | 0.474 | 0.477 |

Table A4: OLS estimates of the relationship between a firm's global status and its share of female workers

This table shows the relationship between a firm being an exporter and receiving FDI and its share of female workers. The two measures of whether a firm is global - being an exporter or being foreign owned - are presented by the percentage of total sales exported or the share of firm that is owned by foreign companies. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. *** p < 0.01, ** p < 0.05, * p < 0.10.

A.7 Additional specifications: OLS results

A.7.1 Production workers

Table A5: OLS estimates of firms' female share of production workers, based on their global status and exposure to gender norms

| Dependent variable: female share of produc | tion worker | rs | | |
|--|---------------|---------|-----------|---------------|
| | Export | markets | FDI sourc | ce country |
| | Equal | Unequal | Equal | Unequal |
| | (1) | (2) | (3) | (4) |
| Exporter $(\geq 10\%)$ | 4.699^{***} | 0.840 | 3.718*** | 2.756^{***} |
| | (0.797) | (0.649) | (0.777) | (0.935) |
| Foreign (100%) | 5.045*** | -0.733 | 5.187*** | 0.289 |
| | (1.248) | (1.342) | (1.273) | (1.350) |
| Observations | 13,891 | 13,904 | 13,352 | 14,443 |
| R^2 | 0.420 | 0.401 | 0.426 | 0.400 |

This table shows the relationship between a firm being an exporter and receiving FDI and its female share of production workers, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

A.7.2 Non-production workers

Table A6: OLS estimates of firms' female share of non-production workers, based on their global status and exposure to gender norms

| Dependent variable: female share of non-pr | oduction w | orkers | | |
|--|---------------|--------------|---------------|------------|
| | Export | markets | FDI sourc | ce country |
| | Equal | Unequal | Equal | Unequal |
| | (1) | (2) | (3) | (4) |
| Exporter $(\geq 10\%)$ | 2.362^{***} | 1.298^{**} | 2.085^{***} | 1.911*** |
| | (0.706) | (0.610) | (0.648) | (0.726) |
| Foreign (100%) | 2.551^{***} | -2.210^{*} | 2.581^{**} | -1.333 |
| | (0.972) | (1.234) | (1.175) | (1.043) |
| Observations | 12,980 | 13,076 | 12,401 | $13,\!655$ |
| R^2 | 0.281 | 0.359 | 0.293 | 0.352 |

This table shows the relationship between a firm being an exporter and receiving FDI and its female share of non-production workers, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

A.7.3 Top managers

Table A7: OLS estimates of the probability that a firm's top manager is female, based on firms' global status and exposure to gender norms

| Dependent variable: indicator of whether the | top mand | iger is fem | ale | |
|--|----------|-------------|----------|-------------|
| - | Export | markets | FDI sour | rce country |
| | Equal | Unequal | Equal | Unequal |
| | (1) | (2) | (3) | (4) |
| Exporter $(\geq 10\%)$ | 0.006 | -0.002 | 0.005 | -0.000 |
| | (0.008) | (0.007) | (0.008) | (0.007) |
| Foreign (100%) | 0.011 | -0.026* | -0.002 | -0.009 |
| | (0.014) | (0.016) | (0.014) | (0.013) |
| Observations | 13,129 | 12,394 | 12,320 | 13,203 |
| R^2 | 0.237 | 0.185 | 0.235 | 0.190 |

This table shows the relationship between a firm being an exporter and receiving FDI and its indicator of whether the top manager is female, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

| results |
|----------------|
| First-stage |
| $\mathbf{A.8}$ |

Table A8: First-stage regressions, corresponding to IV results in table 2

Panel A - Dependent nurriable: Exporter (>10%)

| Fallet A -Dependent variable: $Exporter (\geq 10\%)$ | | | | | |
|--|----------------|--|----------------|---------------|----------------|
| | | Export | markets | FDI co | untries |
| | All obs. (1) | $\begin{array}{c} \mathrm{Equal} \\ (2) \end{array}$ | Unequal (3) | Equal (4) | Unequal (5) |
| Exporters share in Permanent, full-time workers, three FY ago | 0.003^{***} | 0.003^{***} | 0.003*** | 0.003*** | 0.003^{***} |
| | (0.000) | (0.00) | (0.00) | (0.00) | (0.00) |
| Exporters share in new investment | 0.002^{***} | 0.002^{***} | 0.002^{***} | 0.002^{***} | 0.002^{***} |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Multinationals share in Permanent, full-time workers, three FY ago | -0.000* | -0.001 | -0.000 | -0.001^{*} | 000.0- |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Multinationals share in new investment | 0.000^{*} | 0.001^{*} | 0.000 | 0.001^{*} | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (000.0) |
| Age | 0.000 | -0.000 | 0.001^{***} | 0.000 | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (000.0) |
| At least one female owner? $(1 \text{ yes}, 0 \text{ no})$ | 0.000 | 0.010 | -0.010 | 0.006 | -0.007 |
| | (0.006) | (0.007) | (0.009) | (0.008) | (0.00) |
| Permanent, full-time workers, three FY ago | 0.005^{***} | 0.004^{***} | 0.005^{***} | 0.004^{***} | 0.007*** |
| | (0.001) | (0.001) | (0.002) | (0.001) | (0.002) |
| Sales per worker, 3 FY ago | -0.001^{***} | -0.002*** | 0.023^{***} | -0.002*** | 0.023 * * * |
| | (0.000) | (0.000) | (0.006) | (0.000) | (0.006) |
| Temporary workers share (rounded) | 0.000 | 0.001^{*} | 0.000 | 0.001^{**} | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0000) |
| Share of skilled production workers (rounded) | -0.000 | -0.000 | 0.000 | -0.000 | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0000) |
| Purchase of new equipment $(US 2009)$ | 0.000^{***} | 0.000*** | 0.027 | 0.000^{***} | -0.025 |
| | (0.000) | (0.000) | (0.019) | (0000) | (0.054) |
| Purchase of new equipment? (yes= 1 , no= 0) | 0.032^{***} | 0.021^{***} | 0.044^{***} | 0.030^{***} | 0.032^{***} |
| | (0.006) | (0.007) | (0.008) | (0.008) | (0.008) |
| Working Capital Purchased On Credit/Advances | 0.000^{**} | 0.000* | 0.000 | 0.000 | 0.000^{**} |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |

| Panel B - Dependent variable: Foreign (100%) | | Export | markets | FDI co | untries |
|--|---------------|---------|---------|---------|---------|
| | All obs. | Equal | Unequal | Equal | Unequal |
| Main business/large city | 0.010 | 0.002 | 0.018 | 0.002 | 0.018 |
|) | (0.008) | (0.011) | (0.012) | (0.010) | (0.012) |
| Years of top manager's experience in sector | <u>-0.000</u> | -0.000 | 0.000 | 0.000 | -0.000 |
| | (0.00) | (0.000) | (0.000) | (0.00) | (0.00) |
| Observations | 27.833 | 13.915 | 13.918 | 13.375 | 14.458 |

| Panel B - Dependent variable: Foreign (100%) | | Export 1 | narkets | FDI co | untries |
|---|---------------------|----------------------------|------------------|------------------------|-------------------------|
| | All obs. | Equal | Unequal | Equal | Unequal |
| Exporters share in Permanent, full-time workers, three FY ago | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 |
| Exporters share in new investment | (0.000) | (0.000) 0.000 | (0.000) | (0.000) | (0.000) |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Multinationals share in Permanent, full-time workers, three F'Y ago | (0.003^{***}) | (0.002^{***}) | (0.003^{***}) | (0.003^{***}) | (0.003^{***}) |
| Multinationals share in new investment | 0.002^{***} | 0.003^{***} | 0.002^{***} | 0.002^{***} | 0.003^{***} |
| Age | (0.00) -0.000*** | (0.000) - 0.001^{***} | (0.000)-0.000 | $(0.000) - 0.001^{**}$ | (0.000) -0.000*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.00) |
| At least one female owner? $(1 \text{ yes}, 0 \text{ no})$ | -0.036^{***} | -0.042*** | -0.029^{***} | -0.041^{***} | -0.031^{***} |
| Permanent, full-time workers, three FY ago | 0.001^{***} | (0.001^{**}) | (0.001) 0.001 | (0.001^{**}) | (0.001^{*}) |
| | (0.00) | (0.000) | (0.001) | (0.00) | (0.001) |
| Sales per worker, 3 FY ago | 0.000 | -0.000 | 0.032^{***} | -0.000 | 0.032^{***} |
| | (0.001) | (0.000) | (0.001) | (0.000) | (0.001) |
| temporary workers snare (rounded) | (0000) | -0.000 | | | (0000) |
| Share of skilled production workers (rounded) | 0.000^{**} | (0.000) | (0.000) | (0.000) | 0.000* |
| | (0.000) | (0.000) | (0.000) | (0.00) | (0.000) |
| Purchase of new equipment (US 2009) | -0.000 | -0.000 | 0.022 | -0.000 | 0.040 |
| Purchase of new equipment? (ves=1, no=0) | (0.000) | (0.000) | (0.042) 0.004 | (0.003) | (0.032) 0.008^{**} |
| | (0.003) | (0.005) | (0.004) | (0.006) | (0.003) |
| Working Capital Purchased On Credit/Advances | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Main business/large city | 0.004 | 0.001 | 0.002 | 0.010 | -0.005 |
| Vous of ton monomore armonion of in contour | (0.005) | (0.012) | (0.004) | (0.010) | (0.005) |
| I GALS OF UDY ILLALIAGES & EXPERIENCE ILL RECUOL | (0000) | (0000) | (0000) | (0000) | (0000) |
| Observations | 27,833 | 13,915 | 13,918 | 13,375 | 14,458 |

| | lal |
|-------------|----------|
| ountries | Unequ |
| FDI cc | Equal |
| markets | Unequal |
| Export 1 | Equal |
| | All obs. |
| | |
| | |
| eign (100%) | |
| able: For | |
| dent vari | |
| 3 - Depen | |
| Panel I | |

Notes: All models additionally include the full set of firms' region, 2-digit ISIC code, country × year, and firms' size specific effects. * p < 0.10, ** p < 0.05, *** p < 0.01.

A.9 Balance check

In this appendix, we conduct a balance check based on the level of gender equality in the firm's home country and replicate the results of table 3 after trimming the sample so that balance in the level of own gender (in)equality can be achieved.

We notice that countries exposed to gender equality tend to be themselves more gender equal than countries exposed to gender inequality. As shown in table A9, the normalized difference in gender equality at home between firms exposed to gender equality and those exposed to gender inequality is negative and its absolute value is larger than .25.^{39, 40} Splitting the sample of firms by the level of gender equality at home as in table 3 does improve balance for the sample of firms in gender-unequal countries, but balance based on the normalized differences is not achieved for those in gender-equal countries.⁴¹

Although imbalance in gender equality at home is not necessarily a concern in the analysis, because our identification strategy – which relies on the difference in the female composition of global versus non-global firms in a same market – already takes the level of gender equality at home into account. However, one cannot rule out the possibility that the imbalance in the level of gender norms at home is confounded with the differential response that global versus non-global firms have across countries.

We thus follow a simple trimming procedure and keep observations with levels of own gender equality between the minimum GII value of firms exposed to gender inequality and the maximum GII value of firms exposed to gender equality. This is done separately for firms in gender-equal countries and those in gender-unequal countries. After the trimming procedure, we reach balance for all groups of firms except for firms that reside in gender-equal countries and are exposed to gender norms through FDI. For this group, we further drop firms residing in countries with low values of GII until balance is achieved. Figures A2 and A3 present the histograms of firms by groups, based on the level of gender inequality of the country of residence and on the level of exposure to gender norms in export markets, while in figure A3 it is split according to the exposure to gender norms through FDI. The shaded area represents the observations dropped after the trimming procedure. Now, the normalized differences based on the trimmed sample are lower than the one-quarter threshold and range between -.21 and 0.04.

Table A10 presents the results after trimming the sample. Results are comparable to

³⁹One quarter is often used in the policy evaluation literature as the threshold value in order to assess balance in covariates (see Imbens and Rubin (2015)).

⁴⁰In particular, the normalized difference is -.76 based on the exposure to gender equality from export markets and -.59 based on the exposure to gender norms through FDI source countries. This means that firms exposed to gender equality are located in countries that are relatively more gender equal.

⁴¹The normalized difference for firms in gender-equal countries ranges between -.63 and -.76.

| | Exposed to equality | | Exposed to in | equality | Normalized | | | |
|-----------------------------------|---------------------|---------------|---------------|----------|------------|--|--|--|
| | mean | σ | mean | σ | Δ | | | |
| | (1) | (2) | (3) | (4) | (5) | | | |
| Exposure from export markets | | | | | | | | |
| All firms | | | | | | | | |
| | 0.395 | 0.141 | 0.522 | 0.086 | -0.76 | | | |
| Firms in ge | nder-equal cour | ntries | | | | | | |
| | 0.323 | 0.110 | 0.414 | 0.047 | -0.76 | | | |
| trimmed | 0.400 | 0.052 | 0.414 | 0.047 | -0.21 | | | |
| Firms in gender-unequal countries | | | | | | | | |
| Ū | 0.549 | 0.046 | 0.573 | 0.043 | -0.38 | | | |
| trimmed | 0.560 | 0.045 | 0.570 | 0.036 | -0.18 | | | |
| Exposure | from FDI sou | rce countries | | | | | | |
| All firms | | | | | | | | |
| v | 0.405 | 0.152 | 0.509 | 0.086 | -0.59 | | | |
| Firms in ge | nder-equal cour | ntries | | | | | | |
| Ū. | 0.325 | 0.116 | 0.403 | 0.045 | -0.63 | | | |
| trimmed | 0.411 | 0.056 | 0.402 | 0.039 | 0.14 | | | |
| Firms in ge | nder-unequal co | puntries | | | | | | |
| Ū | 0.567 | 0.061 | 0.565 | 0.036 | 0.04 | | | |
| trimmed | 0.567 | 0.061 | 0.565 | 0.036 | 0.04 | | | |

 Table A9: Balance - gender equality in firms residing country

Statistics are constructed based on the GII values of the country in which a firm resides. Higher values mean higher levels of gender inequality. The table presents the sample average of the gender inequality index (cols. 1 and 3), its sample standard deviation (cols. 2 and 4), and the normalized difference (col. 5). The first two columns refer to the sample of firms that are exposed to gender equality through commercial links, while cols. 3 and 4 refer to the sample of firms that are exposed to gender inequality. The normalized differences are calculated as the difference between the sample mean of firms exposed to gender equality minus that of firms exposed to gender inequality (col. 1 - col. 3) divided by the square root of the average of the sample variance of the GII for firms exposed to gender equality and those exposed to gender inequality.

those in table 3: only global firms that are exposed to gender equality and that reside in relatively gender-equal countries have a larger female share than non-global firms in the same market (col. 1). The coefficients on the global status of the firm in column 1 are also larger here than in table 3, reinforcing our previous message.

Finally, as the gender equality at home might itself be the result of the exposure of gender norms through commercial links and thus be itself an outcome variables of the treatment, we also conducted the same trimming procedure based on countries own GII values lagged in 10 years. The results are very similar and are available upon request.

| Dependent variable: share | Dependent variable: share of female workers | | | | | | | | | |
|--|---|---------------|---------------|---------------|--|--|--|--|--|--|
| | (1) | (2) | (3) | (4) | | | | | | |
| | Equal and | Equal and | Unequal and | Unequal and | | | | | | |
| | exposed to | exposed to | exposed to | exposed to | | | | | | |
| | equality | inequality | equality | inequality | | | | | | |
| Panel A: Exposure to gender norms from export markets | | | | | | | | | | |
| | | | | | | | | | | |
| Exporter $(\geq 10\%)$ | 14.844^{***} | 3.734 | 4.705 | -4.867 | | | | | | |
| | (4.577) | (3.611) | (4.159) | (3.530) | | | | | | |
| Foreign (100%) | 19.856^{***} | 12.523 | 6.557 | -0.377 | | | | | | |
| | (7.539) | (7.823) | (5.743) | (6.744) | | | | | | |
| Observations | $5,\!393$ | $4,\!487$ | $3,\!427$ | 9,293 | | | | | | |
| Hansen J statistic | 1.43 | 2.30 | 0.33 | 0.14 | | | | | | |
| p-value Hansen J stat. | 0.49 | 0.32 | 0.85 | 0.93 | | | | | | |
| Weak IV | 91 49 | 50.01 | F1 04 | F 2.00 | | | | | | |
| Kleinbergen-Paap | 31.43 | 59.01 | 51.84 | 53.99 | | | | | | |
| | | | | | | | | | | |
| Panel B: Exposure to gene | ler norms from | FDI source of | countries | | | | | | | |
| - | | | | | | | | | | |
| Exporter $(\geq 10\%)$ | 19.409*** | 0.763 | -3.154 | 4.514 | | | | | | |
| | (4.280) | (3.458) | (7.472) | (4.735) | | | | | | |
| Foreign (100%) | 27.321** | 6.682 | 0.589 | 0.939 | | | | | | |
| | (10.620) | (5.550) | (7.187) | (6.083) | | | | | | |
| Observations | 4,751 | 4,852 | 4,266 | $9,\!427$ | | | | | | |
| Hansen J statistic | 0.81 | 0.40 | 0.90 | 2.09 | | | | | | |
| p-value Hansen J stat. | 0.67 | 0.82 | 0.64 | 0.35 | | | | | | |
| Weak IV | 90.9F | EE 02 | 16 79 | 96.09 | | | | | | |
| Kleinbergen-Paap | 29.30 | 55.05 | 40. <i>12</i> | 80.02 | | | | | | |

Table A10: 2SLS estimates of firms' share of female workers, split by level of gender equality in own country and exposure to partner countries' gender equality : Trimmed sample

This table replicates the results from table 3 by trimming the sample of observation so that balance in the level of gender equality at home of firms exposed to gender equality and those exposed to gender inequity can be achieved. *** p < 0.01, ** p < 0.05, * p < 0.10.



Figure A2: Distribution of firms by gender inequality at home and exposure to gender (in)equality in export markets

The figure presents the histograms of firms by the level of gender inequality at home. The higher the value, the higher the level of inequality in the country in which firms reside. Each histogram refers to one of the four groups used in panel A of table 3. That is, the sample of firms is split according to both the level of gender inequality at home and the exposure to gender norms through trade. The shaded area represents the observations dropped after the trimming procedure. The dashed line indicates the average gender inequality at home before trimming, and the solid line the mean value after trimming.

Figure A3: Distribution of firms by gender inequality at home and exposure to gender (in)equality in source countries of FDI



The figure presents the histograms of firms by the level of gender inequality at home. The higher the value, the higher the level of inequality in the country in which firms reside. Each histogram refers to one of the four groups used in panel B of table 3. That is, the sample of firms is split according to both the level of gender inequality at home and the exposure to gender norms through FDI. The shaded area represents the observations dropped after the trimming procedure. The dashed line indicates the average gender inequality at home before trimming, and the solid line the mean value after trimming.

A.10 Additional sensitivity checks

Table A11: 2SLS estimates of firms' share of female workers, based on their global status and exposure to gender norms

| | | Import markets | | FDI sour | ce country |
|--------------------------|----------|----------------|----------|----------|------------|
| | All obs. | Equal | Unequal | Equal | Unequal |
| | (1) | (2) | (3) | (4) | (5) |
| Importer $(\geq 10\%)$ | 35.566 | 54.705^{*} | 2.136 | 43.571 | 24.079 |
| | (32.768) | (32.087) | (24.406) | (33.728) | (24.097) |
| Foreign (100%) | 5.549 | 3.613 | 8.003 | 8.769 | 0.515 |
| | (9.009) | (11.240) | (6.949) | (10.486) | (7.467) |
| Observations | 24,566 | 12,697 | 11,869 | 13,225 | 11,341 |
| Hansen J statistic | 2.53 | 1.07 | 2.05 | 2.50 | 0.50 |
| p-value Hansen J stat. | 0.28 | 0.59 | 0.36 | 0.29 | 0.78 |
| Weak IV Kleinbergen-Paap | 1.23 | 1.58 | 1.42 | 1.37 | 1.14 |

Dependent variable: share of female workers

This table shows the relationship between a firm being an importer and receiving FDI and its share of female workers, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

| Dependent variable: share o | Dependent variable: share of female workers | | | | | | | | | |
|-----------------------------|---|--------------|---------|-----------------------|---------|--|--|--|--|--|
| | | Export r | narkets | FDI receiving country | | | | | | |
| | All obs. | Equal | Unequal | Equal | Unequal | | | | | |
| | (1) | (2) | (3) | (4) | (5) | | | | | |
| Exporter $(\geq 10\%)$ | 2.391 | 6.046^{**} | -5.316 | 0.724 | 1.598 | | | | | |
| | (2.163) | (2.548) | (3.315) | (3.314) | (2.965) | | | | | |
| Foreign (100%) | 13.530*** | 17.636*** | 4.286 | 21.654^{***} | 7.524** | | | | | |
| | (3.641) | (4.112) | (5.734) | (6.862) | (3.569) | | | | | |
| Observations | 27,671 | 13,464 | 14,207 | 13,281 | 14,390 | | | | | |
| Hansen J statistic | 1.67 | 1.90 | 1.77 | 1.78 | 1.86 | | | | | |
| p-value Hansen J stat. | 0.43 | 0.39 | 0.41 | 0.41 | 0.39 | | | | | |
| Weak IV Kleinbergen- | 163.28 | 88.34 | 108.78 | 102.83 | 86.82 | | | | | |
| Раар | | | | | | | | | | |

Table A12: 2SLS estimates of firms' share of female workers, based on their global status and exposure to gender norms

This table shows the relationship between a firm being an exporter and sending FDI and its share of female workers, based on its exposure to gender norms in its commercial partner countries. Equal and unequal mean that the exposure to gender norms in partner countries is in the bottom or top half of the distribution of the spatial lags. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A13: 2SLS estimates of firms' share of female workers, based on their global status and exposure to gender norms, without India in sample

| Dependent variable: share of female workers | | | | | | | | | |
|---|-----------|---------------|---------------|--------------------|---------|--|--|--|--|
| | - | Export r | narkets | FDI source country | | | | | |
| | All obs. | Equal | Equal Unequal | | Unequal | | | | |
| | (1) | (2) | (3) | (4) | (5) | | | | |
| Exporter $(\geq 10\%)$ | 4.907** | 6.594^{***} | -0.474 | 7.013** | 3.445 | | | | |
| | (2.113) | (2.517) | (4.219) | (3.186) | (2.703) | | | | |
| Foreign (100%) | 13.037*** | 17.377*** | 4.596 | 18.052*** | 5.704 | | | | |
| | (3.547) | (4.109) | (5.330) | (5.246) | (4.145) | | | | |
| Observations | 22,961 | $13,\!915$ | 9,046 | $13,\!375$ | 9,586 | | | | |
| Hansen J statistic | 0.99 | 1.92 | 1.47 | 0.94 | 1.07 | | | | |
| p-value Hansen J stat. | 0.61 | 0.38 | 0.48 | 0.62 | 0.59 | | | | |
| Weak IV Kleinbergen-Paap | 146.75 | 89.50 | 94.15 | 84.96 | 84.13 | | | | |

This table replicates the results from table 2. Here, the observations related to India have been dropped. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A14: 2SLS estimates of firms' share of female workers, based on their global status and exposure to gender norms, without China in sample

| Dependent variable: share of female workers | | | | | | | | | |
|---|----------------|-----------|---------|--------------------|---------|--|--|--|--|
| | | Export r | narkets | FDI source country | | | | | |
| | All obs. | Equal | Unequal | Equal | Unequal | | | | |
| | (1) | (2) | (3) | (4) | (5) | | | | |
| Exporter $(\geq 10\%)$ | 3.310 | 8.223*** | -5.445 | 9.452^{**} | 0.532 | | | | |
| | (2.306) | (2.955) | (3.329) | (3.722) | (3.139) | | | | |
| Foreign (100%) | 13.563^{***} | 18.149*** | 4.816 | 19.151*** | 5.916 | | | | |
| | (3.813) | (4.451) | (5.695) | (5.817) | (4.522) | | | | |
| Observations | 26,539 | 12,621 | 13,918 | 12,081 | 14,458 | | | | |
| Hansen J statistic | 1.39 | 1.40 | 1.23 | 0.69 | 1.20 | | | | |
| p-value Hansen J stat. | 0.50 | 0.50 | 0.54 | 0.71 | 0.55 | | | | |
| Weak IV Kleinbergen-Paap | 151.15 | 78.03 | 107.23 | 76.26 | 94.59 | | | | |

This table replicates the results from table 2. Here, the observations related to China have been dropped. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

| Tabl | e A15: | 2SLS | 5 estima | tes of f | irms' | shar | e of fei | male v | vorkers, | based | on | their | global | status |
|------|--------|-------|----------|----------|-------|------|----------|---------|----------|-------|----|-------|--------|--------|
| and | exposu | re to | gender | norms, | diffe | rent | global | izatior | ı cut-of | fs | | | | |

| Dependent variable: share of female workers | | | | | | | | | |
|---|----------------|---------------|----------|-------------|-----------|--|--|--|--|
| | | Export r | narkets | FDI source | e country | | | | |
| | All obs. | Equal | Unequal | Equal | Unequal | | | | |
| | (1) | (2) | (3) | (4) | (5) | | | | |
| Exporter $(\geq 10\%)$ | 1.891 | 5.529^{**} | -5.716* | 5.723^{*} | 0.275 | | | | |
| _ 、 , | (2.125) | (2.441) | (3.315) | (3.155) | (3.130) | | | | |
| Foreign $(\geq 50\%)$ | 13.752*** | 17.474*** | 5.271 | 18.075*** | 6.135 | | | | |
| , | (3.631) | (4.028) | (5.878) | (5.227) | (4.578) | | | | |
| Hansen J statistic | 1.33 | 1.84 | 1.15 | 0.76 | 1.15 | | | | |
| p-value Hansen J stat. | 0.51 | 0.40 | 0.56 | 0.68 | 0.56 | | | | |
| Weak IV Kleinbergen-Paap | 118.65 | 71.65 | 61.41 | 75.85 | 56.12 | | | | |
| Exporter $(\geq 10\%)$ | 1.581 | 5.100** | -5.816* | 5.210 | 0.185 | | | | |
| | (2.156) | (2.513) | (3.332) | (3.232) | (3.147) | | | | |
| Foreign ($\geq 10\%$) | 14.184*** | 18.334*** | 5.198 | 18.833*** | 6.040 | | | | |
| 0 (_) | (3.766) | (4.210) | (5.991) | (5.449) | (4.695) | | | | |
| Hansen J statistic | 1.32 | 1.59 | 1.19 | 0.58 | 1.26 | | | | |
| p-value Hansen J stat. | 0.52 | 0.45 | 0.55 | 0.75 | 0.53 | | | | |
| Weak IV Kleinbergen-Paap | 99.97 | 58.92 | 46.12 | 54.79 | 50.49 | | | | |
| Exporter $(\geq 50\%)$ | 4.930 | 11.680*** | -10.621* | 12.986** | 1.168 | | | | |
| | (3.976) | (4.511) | (6.276) | (5.905) | (5.842) | | | | |
| Foreign (100%) | 12.803*** | 14.869*** | 5.367 | 15.374*** | 5.758 | | | | |
| | (3.672) | (4.235) | (5.830) | (5.416) | (4.534) | | | | |
| Hansen J statistic | 1.53 | 1.84 | 1.38 | 0.91 | 1.21 | | | | |
| p-value Hansen J stat. | 0.46 | 0.40 | 0.50 | 0.64 | 0.55 | | | | |
| Weak IV Kleinbergen-Paap | 72.30 | 49.76 | 30.16 | 54.43 | 36.10 | | | | |
| Exporter (100%) | 10.129 | 22.562** | -25.423 | 30.838** | 1.158 | | | | |
| | (8.083) | (9.712) | (15.487) | (13.889) | (10.551) | | | | |
| Foreign (100%) | 11.541^{***} | 11.730^{**} | 7.732 | 10.298 | 5.813 | | | | |
| | (3.857) | (4.670) | (6.424) | (6.366) | (4.734) | | | | |
| Hansen J statistic | 1.56 | 1.55 | 1.14 | 1.07 | 1.17 | | | | |
| p-value Hansen J stat. | 0.46 | 0.46 | 0.57 | 0.59 | 0.56 | | | | |
| Weak IV Kleinbergen-Paap | 15.29 | 10.67 | 8.54 | 17.45 | 8.56 | | | | |
| Observations | 27,833 | $13,\!915$ | 13,918 | $13,\!375$ | 14,458 | | | | |

This table replicated the results from table 2. The exporter and foreignownership variables have different cut-offs compared to the main specification. The models include the full set of control variables and fixed effects listed in appendix A.3. Standard errors, in parentheses, are clustered at the region within a county level. * p < 0.10, ** p < 0.05, *** p < 0.01.

References

- Aguayo-Tellez, Ernesto et al. (July 2010). Did Trade Liberalization Help Women? The Case of Mexico in the 1990s. NBER Working Papers 16195. National Bureau of Economic Research, Inc. URL: http://ideas.repec.org/p/nbr/nberwo/16195.html.
- Artecona, Raquel and Wendy Cunningham (2002). *Effects of trade liberalization on the gender wage gap in Mexico*. Policy research report on gender and development working paper series 21. Washington D.C.: The World Bank.
- Baik, Youjin and Young-Ryeol Park (2015). "Toward a better understanding of MNEs' local staffing decision: a multilevel analysis". In: *Management Decision* 53.10, pp. 2321– 2338.
- Becker, Gary S. (1957). *The Economics of Discrimination*. Google-Books-ID: 50qHc-SNVVEMC. University of Chicago Press. 178 pp. ISBN: 978-0-226-04104-9.
- Black, S. E. and A. Spitz-Oener (2010). "Explaining women's success: Technological change and the skill content of women's work". In: *The Review of Economics and Statistics* 92.1, pp. 187–194.
- Black, Sandra E. and Elizabeth Brainerd (July 2004). "Importing Equality? The Impact of Globalization on Gender Discrimination". In: Industrial & labor relations review 57.4, pp. 540-559. URL: http://search.proquest.com/docview/236336737? accountid=14682.
- Bloom, Nicholas et al. (2018). Managing Trade: Evidence from China and the US. NBER Working Papers 24718. National Bureau of Economic Research, Inc. URL: https: //www.nber.org/papers/w24718.
- Bøler, Esther Ann, Beata Smarzynska Javorcik, and Karen Helene Ulltveit-Moe (2015). Globalization: A Woman's Best Friend? Exporters and the Gender Wage Gap. Economics Series Working Paper 743. University of Oxford, Department of Economics. URL: https://ideas.repec.org/p/oxf/wpaper/743.html (visited on 05/17/2017).
- (2018). "Working across Time Zones: Exporters and the Gender Wage Gap". In: Journal of International Economics 111, pp. 122–133.
- Brussevich, Masha (2018). "Does trade liberalization narrow the gender wage gap? The role of sectoral mobility". In: *European Economic Review* 109, pp. 305–333.
- Center for International Data (2018). World Trade Flows (WTF) bilateral data. URL: http://cid.econ.ucdavis.edu/Html/WTF_bilateral.html.
- Chan, Jeff (2018). "Does import competition worsen the gender pay gap? Evidence from matched employee-employer data". In: *Economics Letters* 165, pp. 13–16.
- Chen, Zhihong et al. (Apr. 1, 2013). "Globalization and Gender Wage Inequality in China". In: *World Development* 44, pp. 256–266.
- Dong, Xiao-yuan and Liqin Zhang (Jan. 1, 2009). "Economic transition and gender differentials in wages and productivity: Evidence from Chinese manufacturing enter-

prises". In: Journal of Development Economics 88.1, pp. 144-156. ISSN: 0304-3878. DOI: 10.1016/j.jdeveco.2008.02.006. URL: http://www.sciencedirect.com/science/article/pii/S0304387808000321 (visited on 06/27/2017).

- Ederington, Josh, Jenny Minier, and Kenneth Troske (Apr. 2009). Where the Girls Are: Trade and Labor Market Segregation in Colombia. 4131. Institute for the Study of Labor (IZA). URL: https://ideas.repec.org/p/iza/izadps/dp4131.html (visited on 07/03/2017).
- Feenstra, Robert and John Romalis (2014). "International Prices and Endogenous Quality". In: The Quarterly Journal of Economics 129.2, pp. 477-527. URL: https:// EconPapers.repec.org/RePEc:oup:qjecon:v:129:y:2014:i:2:p:477-527.
- Gaur, Ajai S, Andrew Delios, and Kulwant Singh (2007). "Institutional environments, staffing strategies, and subsidiary performance". In: *Journal of Management* 33.4, pp. 611–636.
- Greenhill, Brian, Layna Mosley, and Assem Prakash (2009). "Trade-based Diffusion of Labor Rights: A Panel Study, 1986-2002". In: American Political Science Review 4 (103), pp. 669–690.
- Harrison, Ann and Jason Scorse (2010). "Multinationals and Anti-Sweatshop Activism".In: The American Economic Review 100.1, pp. 247–273.
- Helpman, Elhanan and Paul R Krugman (1985). Market structure and foreign trade: Increasing returns, imperfect competition, and the international economy. MIT press.
- Helpman, Elhanan et al. (2017). "Trade and Inequality: From Theory to Estimation". In: *The Review of Economic Studies* 84.1, pp. 357–405.
- Heyman, Fredrik, Helena Svaleryd, and Jonas Vlachos (2013). "Competition, Takeovers, and Gender Discrimination". In: *ILR Review* 66.2, pp. 409–432. DOI: 10.1177/001979391306600205. eprint: https://doi.org/10.1177/001979391306600205.
 URL: https://doi.org/10.1177/001979391306600205.
- Imbens, Guido and Donald B. Rubin (2015). Causal inference for statistics, social, and biomedical sciences : an introduction. eng. 1. publ. New York, NY: Cambridge Univ. Press, XIX, 625 S. ISBN: 9780521885881. URL: https://permalink.obvsg.at/wuw/ AC11995299.
- Juhn, Chinhui, Gergely Ujhelyi, and Carolina Villegas-Sanchez (2013). "Trade Liberalization and Gender Inequality". In: American Economic Review: Papers and Proceedings 103.3, pp. 269–73.
- (2014). "Men, women, and machines: How trade impacts gender inequality". In: Journal of Development Economics 106, pp. 179–193.
- Klein, Michael W., Christoph Moser, and Dieter M. Urban (2010). The Contribution of Trade to Wage Inequality: The Role of Skill, Gender, and Nationality. Working Paper 15985. National Bureau of Economic Research. URL: http://www.nber.org/papers/ w15985.

- Kodama, Naomi, Beata S. Javorcik, and Yukiko Abe (2018). "Transplanting Corporate Culture across International Borders: Foreign Direct Investment and female employment in Japan". In: World Economy 41.
- Kodama, Naomi, Beata S. Javorcik, and A. B. E. Yukiko (Feb. 2016). Transplanting Corporate Culture across International Borders: FDI and female employment in Japan. 16015. Research Institute of Economy, Trade and Industry (RIETI). URL: https://ideas.repec.org/p/eti/dpaper/16015.html (visited on 06/12/2017).
- Melitz, Marc J. (2003). "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity". In: *Econometrica* 71.6, pp. 1695–1725.
- Neumayer, Eric and Indra de Soysa (2011). "Globalization and the Empowerment of Women: An Analysis of Spatial Dependence via Trade and Foreign Direct Investment". In: *World Development* 39.7, pp. 1065–1075.
- Oostendorp, Remco H. (2009). "Globalization and the Gender Wage Gap". In: *The World Bank Economic Review* 23.1, pp. 141–161.
- Ozler, Sule (2000). "Export Orientation and Female Share of Employment: Evidence from Turkey". In: *World Development* 28.7, pp. 1239–1248.
- Rickley, Marketa and Samina Karim (2018). "Managing institutional distance: Examining how firm-specific advantages impact foreign subsidiary CEO staffing". In: Journal of World Business 53.5, pp. 740–751.
- Sauré, Philip and Hosny Zoabi (2014). "International trade, the gender wage gap and female labor force participation". In: *Journal of Development Economics*. Special Issue: Imbalances in Economic Development 111, pp. 17–33.
- Tang, Heiwai and Yifan Zhang (2021). "Do multinationals transfer culture? Evidence on female employment in China". In: *Journal of International Economics* 133, p. 103518.
- UNCTAD (2018). *Bilateral FDI Statistics*. URL: https://unctad.org/en/Pages/DIAE/ FDI%20Statistics/FDI-Statistics-Bilateral.aspx.
- Vahter, Priit and Jaan Masso (2019). "The contribution of multinationals to wage inequality: foreign ownership and the gender pay gap". In: *Review of World Economics* 155, pp. 105–148.
- Vogel, D. (1995). Trading up: Consumer and Environmental Regulation in a Global Economy. London: Harvard University Press.
- Weber, Andrea and Christine Zulehner (2014). "Competition and gender prejudice: Are discriminatory employers dommed to fail?" In: Journal of the European Economic Association 12.2, pp. 492–521.
- Weinberg, B. A. (2000). "Computer use and the demand for female workers". In: *Industrial and Labor Relations Review* 53.2, pp. 290–308.