

Does Mandating Nondiscrimination in Hiring Practices Influence Women's Employment?

Evidence Using Firm-Level Data

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Abstract

This study explores the relationship between mandating a nondiscrimination clause in hiring practices along gender lines and the employment of women versus men in 58 developing countries. The study finds a strong positive relationship between a nondiscrimination in hiring clause and women's relative to men's employment. The relationship

is robust to several controls at the firm and country levels. The results also show sharp heterogeneity in the relationship between the nondiscrimination in hiring clause and women's versus men's employment, with the relationship being much larger in richer countries and in countries with more women in the population as well as among relatively smaller firms.

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Does Mandating Nondiscrimination in Hiring Practices Influence Women's Employment? Evidence Using Firm-Level Data

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1. Introduction

There is a growing body of work that highlights gender disparities along various dimensions and the resulting consequences on economic outcomes. The present study contributes to this strand of the literature by analyzing how mandating a non-discrimination clause in hiring practices along gender lines (henceforth, non-discrimination¹) may influence the employment of women relative to men (henceforth, women's employment) in the manufacturing sector of 58 developing countries. We find a large positive association between non-discrimination and women's employment, an association that is much stronger among the relatively smaller firms and among countries that are relatively richer and those with a larger proportion of women in total population.

Gender disparity in various economic and social dimensions is now being recognized as a pervasive phenomenon across the world (Hausmann et al. 2006). However, research work in the area is severely hampered by lack of relevant data especially for developing countries. One exception is the recently compiled data by the World Bank's Women, Business and the Law (World Bank, 2011). These data record any differential treatment in the laws between men and women in a way that is comparable across a large number of developing and developed countries. For example, these data provide information on whether or not a country has mandated a non-discrimination law in hiring practices along gender lines (non-discrimination). We combine this information with data on women's employment at the firm-level obtained from Enterprise Surveys to better understand the association between non-discrimination and women's employment.

¹ We would like to mention here again that issue of non-discrimination discussed throughout the paper refers specifically to non-discrimination in hiring practices and not non-discrimination in the more general sense.

Available evidence on gender disparity in laws and its impact on for example, women's employment are either anecdotal or restricted to a handful of countries (Leonard 1985, Weichselbaumer and Winter-Ebmer 2007, Morrison et al., 2007). Richer evidence is available on other dimensions, for example, gender disparity in education and its impact on economic growth (Hill and King 1995, Dollar and Gatti 1999, Klasen 2002), gender disparity in wage rates and its implications (Tzannatos 1999, Seguino 2000), the relationship between overall economic development and women labor force participation (Goldin 1994, Tam 2011, Gaddis and Klasen 2014), and the relationship between trade and type of employment and gender inequality (Jütting et al. 2010, Seguino 2000, Busse et al. 2006).

In one of the few cross-country studies on gender disparity in the laws, Weichselbaumer and Winter-Ebmer (2007) look at the relationship between gender gap in wage rates and ratification of CEDAW and ILO conventions on gender parity. The study finds a substantial positive effect of these conventions on gender parity in wage rates. We note that in contrast to these broad-based conventions, our non-discrimination variable is much narrower and therefore has sharper policy implications.

There are country specific studies on how laws affect women's well-being. Examples include the impact of Equal Employment Opportunities Act in the US (Eberts and Stone 1985); impact of Equal Pay Act in the US (Neumark and Stock 2001); effect of cheaper child care services in Canada (Powell 1988) and in 20 OECD countries (Bassanini and Duval 2006); and the impact of parental leave laws in European and other countries (Ruhm 1998, Baum 2003, Berger and Waldfogel 2004).

This study contributes to the literature in several ways by focusing on non-discrimination and its relationship with women's employment in manufacturing firms for a cross-section of 58 developing countries. We also explore and confirm heterogeneities in the stated relationship

depending on the proportion of women in total population and income level of the country as well as firm-size. The importance of evaluating a gender based policy that limits gender discrimination in employment can hardly be exaggerated. Labor regulation policies are important in alleviating discrimination, especially considering that several other policies such as education have not been sufficient in ending gender discrimination in the labor market (Elson 1996, Beneria and Sen 1981).

In the wider feminist literature, there is a good deal of discussion of global trends in women's employment. Increased trade may have expanded sectors that typically employ more women (Elson, 1996) but this may not necessarily improve livelihoods or empower women, as they may receive low wages and have no control over their incomes (Elson, 1999). Changes in the labor market including de-unionization have made women's employment more vulnerable. There have been general trends towards increasing employment of women in the informal sector and potentially a degrading of labor standards (Beneria, 2003). We do concede that we are unable to make general statements about wages and livelihood beyond relative increases in employment of women vis-à-vis men. However, as mentioned above, the relationship between non-discrimination policies and women's employment is important and pertinent. Furthermore, while our analysis focuses on the formal sector, increase in women's employment in the formal sector at the cost of employment in the informal sector is encouraging given the vulnerabilities of informal employment.

2. Conceptual Framework

Under competitive markets, gender differences in the labor market are unlikely, as any firm with a "taste" for discrimination will face higher costs, and thus be eliminated by the competition (Becker, 1971). However, gender differences in the labor market have persisted, potentially

suggesting the uncompetitive nature of the labor market or creating room for alternative theories. These other theories fall under preference-based explanations, monopsony models, and job matching models. Under preference-based models, women are under-represented in the labor market because of their preferences (such as having children) which affect their productivity relative to men. Under the monopsonist model, a single employer has bargaining power in the labor market and thus pays wages according to the mobility of labor. If women workers are less mobile than male workers, they may remain underrepresented in the labor market. Job matching models posit a poor matching between available jobs and women vs. men job applicants. Altonji and Blank (2009) provide a good review of these theories. If none of the above theories hold, pure gender discrimination is said to prevail (Ginther, 2006).

Our empirical exploration of the relationship between women's employment and non-discrimination may provide key insights. That is, if we can obtain a clean estimate of the relationship, we may be able to attribute at least some portion of observed gender gap in the labor force participation to discrimination².

Our objective is to account for the factors identified as important in the empirical labor force participation literature. On the micro side, these factors typically include education, experience, personal characteristics and industry and firm characteristics (Altonji and Blank, 2009). The macro-economic literature typically considers education, demographic, income, and institutional variables (Cho, 2010, Bloom et al. 2009). Our empirical strategy incorporates both these approaches by controlling for these macro and micro factors. We note that our data do not contain any information on employee characteristics.

² An important assumption in our study is that the non-discrimination clause is enforceable. We do concede that due to data limitations we are unable to make statements on enforceability. We are also unable to completely control for all the theoretical mechanisms identified in the literature however we do mention controls that may proxy for such mechanisms whenever possible.

The conceptual underpinning of the choice of macro and micro factors lies in their effect on the demand and supply of labor. Country-level income may proxy for opportunities available in the labor market, while institutional factors may account for the likelihood of discrimination against certain groups. Population demographics provide simple proxies for labor supply while human capital controls account for the quality of labor.

We use firm level and country level data in ways that is innovative yet consistent with the broad framework discussed above. We control for business climate as experienced by the firms in addition to the macro-indicators. We also control for the presence of women in firm-ownership and in the country's parliament since such a presence could motivate other women to seek employment or lower discrimination; it may also signal greater preference among women for work over household activity accounting for the preference based model above. We consider firm size, foreign exposure of firms via trade and foreign owners. Foreign owners may import the institutions in their home country which may be more women friendly; exporting markets are typically more competitive creating incentive to hire women who tend to have lower wages; larger firms may be more conscious of their image implying less discrimination and hence more women workers. Large firms are more likely to be monopsonists in the labor market, potentially accounting for the monopsonist model of women's employment discussed above.

While the above potential mechanisms are of great interest, we note that the theoretical and the empirical literature connecting these relationships are nascent. Hence, it is beyond the scope of this study to develop these hypotheses further in the theoretical sense. We aim to provide robust empirical evidence hoping it would encourage more research in the area.

3. Data Description and Methodology

Our main data source is the World Bank's Women, Business and Law (World Bank, 2011) and a stratified random sample of firms in 58 developing countries (Enterprise Surveys, World Bank). Enterprise Surveys were conducted in various countries between 2006 and 2010 by the World Bank's Enterprise Surveys using a common questionnaire and sampling methodology. Given the costly nature of these surveys, they are not conducted annually and each firm has only one observation in the sample. The surveys are designed to be representative of the non-agricultural private sector of the economies. Our sample is restricted to manufacturing firms alone (14,609 firms) due to data availability on women's employment. We caution that a separate analysis is required to see if our results extend to other sectors such as agriculture. Other data sources used are discussed below.

The results that follow should be treated with due caution as they are based on the Ordinary Least Squares (OLS) estimation method and cross-section data, and hence may suffer from endogeneity problems.³ While we control for a large number of variables and also provide a falsification test, we treat the results as robust associations and suggestive of a possible causal relationship.

All our regression results use Huber-White robust standard errors clustered on the country. A formal definition of all the variables used in our main regressions is provided in Table 1 and the summary statistics are provided in Table 2. A list of countries in our sample along with the sample size by country is provided in Table 3.

Dependent variable

Our main dependent variable is the percentage of all permanent full-time workers at the firm that are women (*Women workers*). The mean value of the variable is 32.8 and the standard deviation

³ As a robustness check, we do re-estimate the results in Table 5 using Tobit regressions. By and large the results do not change.

equals 27.4. Across countries, the variable ranges between 2.9 percent (Yemen) and 53.7 percent (Senegal).

In separate regressions, we also use the percentage of women among production workers (*Women production workers*) and among non-production workers (*Women non-production workers*) as dependent variables. Under the assumption that non-production jobs carry higher wages than the production jobs, we check if non-discrimination boosts women's employment in higher paying jobs or not.

Since our dependent variable is women's employment *relative* to men's employment, factors such as overall economic development, job availability and labor market conditions that may affect the employment of men and women equally are excluded from spuriously affecting our results. For later reference we define *Absolute women employment* as log of (1 plus) total number of permanent full-time workers at the firm that are women. *Absolute men employment* is analogously defined.⁴

Main explanatory variable

Our main explanatory variable, *Non-discrimination*, equals 1 if the country has laws or clause mandating non-discrimination in hiring practices on the basis of gender and 0 otherwise. Data source for the variable is Women, Business and the Law database, World Bank (2011). Two conditions have to be met for a country to have the non-discrimination clause included in the data from the Women, Business and the Law database: (a) the clause has to explicitly mention the word sex or gender; (b) the clause has to explicitly refer to the hiring process and not just

⁴ We use log values here to curb any unduly large effect of some firms in the sample that have very high employment levels of men and women workers. Our results are qualitatively unaffected if we use actual level instead of log values provided that extreme values of women and men workers are excluded from the sample. These extreme values were identified using Stata's *rreg* command.

discrimination in general, and not just discrimination in the workplace once employment is already obtained. The mean value of *Non-discrimination* equals 0.74.

Other explanatory variables

Showing a relationship between women's employment and the non-discrimination clause will allow us some confidence against alternative models and explanations of women's employment and attribute at least part of the gender gap in employment to discrimination. However, this requires eliminating various possible sources of spurious correlations. We do so by controlling for a large number of factors motivated by the related literature and by providing a falsification test. This test is based on the assumption that if non-discrimination is not spuriously picking up the broader labor market conditions then it should be positively correlated with the absolute number of women employees but not the absolute number of men employees. We note that since women's employment is a firm-level variable and non-discrimination is a country-level variable, reverse causality problem is less of a concern for us.

The importance of overall economic development on women's employment has been discussed in the literature (see for example, Dollar and Gatti 1999, Tam 2011)⁵. For example, economic development is typically associated with declining fertility rates which may in turn reflect greater preference among women for work than having more children; economic development may also lead to expansion of retail, clerical, mental vs. manual jobs and greater mechanization in manufacturing which tends to favor women over men as employees. Richer countries are also more likely to have gender neutral laws and more likely to mandate non-discrimination clause (confirmed below). To guard against these sources of spurious correlation,

⁵ Some studies report a U-shaped relationship between income and women's employment. Our main results are robust to adding a non-linear term for income.

we control for (log of) GDP per capita (*Income*) taken from World Development Indicators (WDI), World Bank.

Countries that are concerned about gender discrimination in hiring practices are also likely to be concerned about other forms of gender discrimination and hence they are likely to have other women friendly laws benefiting women's employment. To guard against the implied spurious correlation, we control for an overall measure of gender disparity in the laws (*WBL*) constructed using Women, Business and the Law database (see Table 1 for details). *WBL* ranges between 0 and 18, with higher values implying greater gender disparity favoring men over women.

The literature on human capital suggests that labor market participation of women increases with education (Schultz 1994, Psacharopoulos 1994). Education is regarded as an investment in human capital, and higher levels lead to higher paying and socially more acceptable white collar jobs for women, drawing them into the labor force (Goldin 1994, O'Neil and Polachek 1993, Morrison et al. 2007). Education can have other indirect effects on women's labor force participation through for example lower fertility rates, greater consciousness among women to improve their standard of living and greater empowerment for women (Morrison et al. 2007, Duryea et al. 2001). It is also plausible that a more educated women population may be more assertive in demanding the non-discrimination law. To account for these factors we control for two education related variables taken from WDI, World Bank – *Education gap* equal to the average value of the ratio of women's to men's gross enrollment rates in primary, secondary and tertiary education; and *Women's education (level)* equal to the average value of women's gross enrollment rates in primary, secondary and tertiary education.

There is some concern in the literature regarding enrollment rates such as the fact that these rates capture only access to education and not educational attainment. Hence, as a

robustness check, we use the Barro-Lee dataset (available for 48 out of 58 countries in our sample; lagged 2005 values). Using these data, we first compute separately for primary, secondary and tertiary education the total number of years of schooling for women as ratio of the same for total population. Next, we take the average of the three ratios to arrive at the measure of education gap. For women's education level, we define this as the number of years of schooling among women and averaged over primary, secondary and tertiary education levels.

Supply side effects suggest that *ceteris paribus*, the proportion of women in the workforce should be higher in countries with proportionately more women in the population. Also, more women in the population may exert greater electoral pressure for non-discrimination and other women friendly laws. The proportion of women population may also proxy for better treatment of women (less female feticide) and hence better job opportunities for women. To raise our confidence against possible spurious correlation, we control for the percentage of women in the total population (*Women population*) taken from WDI, World Bank.

There is some evidence that women in parliament and other law making bodies may benefit the cause of women's employment by serving as role models for other women and by enacting women friendly laws (Burns et al. 2001, Hallward-Driemeier et al. 2013). It may also reflect cultures that allow women to hold higher status jobs and power. Such cultures are likely to be more favorable towards women's employment. Furthermore, as referenced in the conceptual framework, one possible reason for gender disparities in employment may be due to preferences. A larger proportion of women in parliament may indicate a preference for women to be engaged in non-household activities including the labor market. Motivated by these factors, we control for the percentage of women in the parliament or lower house of the country (*Women in Parliament*). Data source is Inter-Parliamentary Union (IPU).

Our last country-level control is intended as a general robustness check for the overall quality of governance. The control is the level of corruption as measured by “Freedom from Corruption” (*Corruption*) sub-index of the Heritage Foundation’s Economic Freedom index. Note that higher values of *Corruption* variable imply less corruption.

Moving to firm characteristics, available evidence, mostly for the developed countries, suggests segregation of men and women by sectors and occupations. For example, the U.S. Bureau of Labor Statistics reports that in 2009, of the 45 million women who worked full time in wage and salary jobs, 17 million were employed in education and health services, and 5 million in wholesale and retail trade; financial activities and professional and business services each employed about 4 million women.⁶ We filter out all such factors from potentially affecting our main results by controlling for 12 industry dummies or industry fixed effects (see Table 1 for details).

Presence of women in positions of power like firm ownership may signal greater preference among women for labor market over household activity and also greater empowerment of women. Both these factors are likely to be positively correlated with women’s employment and non-discrimination. Further, women owners may discriminate less against other women seeking jobs thereby contributing to women’s employment although the evidence on this is somewhat mixed (Nelson and Bridges 1999; Penner and Toro-Tulla 2010). We guard against the implied spurious correlation here by controlling for a dummy variable equal to 1 if the firm has one or more women owner and 0 otherwise (*Women owner*).

Our next control is firm-size as measured by the (log of) total number of permanent full-time employees (*Employment*). The variable serves as a proxy for a number of firm-characteristics such as access to finance, industry, regulatory pressure faced, etc., which could

⁶ This information is available online at: http://www.bls.gov/opub/ted/2011/ted_20110216.htm.

potentially affect the structure of firm and hence the gender composition of the workforce. Furthermore, as stated in the conceptual framework, the presence of monopsonists in the labor market may result in gender disparities in employment. To the extent that firm size accounts for the presence of a monopsony, we can potentially rule out this mechanism.

There is some evidence suggesting heavier concentration of women in exporting industries in the developing world (Seguino 2000, Busse and Spielmann 2006). One reason for this could be less skills and lower wages for women vs. men workers, particularly suitable for labor intensive exports of developing countries. This could spuriously affect our main results if non-discrimination and exporting activity are systematically correlated. Hence, we control for the percentage of annual sales of a firm that are exported (*Exports*).

Foreign owners are not tied to the local traditions and customs and hence may be more open to women employees. Similarly, the distinction between private vs. state ownership in the firm could be important for women's employment. We eliminate these factors from spuriously affecting our main results by controlling for the percentage of the firm owned by private foreign agents (*Private foreign ownership*) and by private domestic agents (*Private domestic ownership*).

Our last set of controls includes age of the firm and four separate measures of the business climate. It is conceivable that younger firms may be less tied to traditions and therefore more open to women employees (confirmed below). If countries with and without the non-discrimination clause differ systematically in average age of the firm, our results could be spuriously affected. Hence, we control for (log of) age of the firm. The four separate measures of the business climate are defined at the firm-level which are intended for additional robustness. The controls include: percentage of the senior management's time spent in dealing with business regulations (*Time tax*), severity of taxes as obstacles to firms' operations on a 0-4 scale with a

higher score implying greater severity (*Tax obstacle*), and two dummy variables indicating if the firm experienced power outages and crime during the last year.

For education gap and *WBL*, as well as education gap and income, the correlations are greater than 0.5. Thus we estimated the variance inflation factors (VIFs) for education gap, income, and *WBL*, using the full specification in column 8 of Table 5. The VIF is 3.9 for income, 1.8 for *WBL*, and 2.2 for the education gap – all below the VIF threshold of 10 which typically warrants further investigation.

4. Estimation Results

Estimation results for the baseline specification with *Women workers* as the dependent variable are provided in Table 4. Without any other controls, the mandating of the non-discrimination clause is associated with a large increase in women’s employment by 8.6 percentage points (against a mean of 32.8 percent), significant at the 1 percent level (column 1). As discussed above, the lack of controls means we cannot rule out the possibility that the non-discrimination clause is spuriously picking up the effect of other contending theories discussed in the conceptual framework section or the effect of other omitted factors.

To this end, we begin by adding the *Income* variable to the specification. Results in column 2 show a significantly higher level of women’s employment in the relatively richer countries; and part of this positive relationship is in fact spuriously picked up by our non-discrimination variable. That is, mandating non-discrimination is associated with an increase of only 5 percentage points in women’s employment when we control for income level compared with 8.6 percentage points otherwise. However, the non-discrimination and women’s employment relationship is large and significant (p-value of .058) even after controlling for

income and it does not change much quantitatively as more controls are added (discussed below).

Our next worry is if *Non-discrimination* is simply a proxy for other gender related laws in the country. Hence, we add *WBL* to the specification (column 3). Results show little reason to worry as the relationship between non-discrimination and women's employment remains qualitatively unchanged from above. This is encouraging and especially so since we do find that greater discrimination in the broader set of laws (*WBL*) is strongly associated with lower women's employment. In other words, the non-discrimination clause influences women employment regardless of other types of gender specific laws that may be in place.

Regression results in column 4 show that education is not the driving factor behind the non-discrimination and women's employment relationship. In fact, controlling for education (gap and level) causes the women's employment and non-discrimination relationship to become stronger – impact of non-discrimination on women's employment increases from 5.6 (above) to 6.4 percentage points. This is noteworthy since the results do show that better women's education (gap and level) is associated with a significant increase in women's employment. So, education matters for women's employment but this is a separate story from non-discrimination. We note that income now ceases to be significantly correlated with women's employment, largely due to the control for women's education level.

Next, we control for the proportion of women in the population and in parliament (column 5). We also include the control for corruption here. As predicted, we do find that larger women's population is associated with a significantly higher women's employment; and some of this scale effect is indeed picked up by our non-discrimination variable. However, this is only a small part – non-discrimination is still associated with significant increase in women's employment of 6.1 percentage points (not shown) although this is somewhat lower than the 6.4

percentage points increase above (column 4). Corruption and the proportion of women parliamentarians do not show much correlation with women's employment, and they do not cause much change to our results for non-discrimination.

The various firm-level controls are added to the previous specification in columns 6-8. We draw special focus to the trade controls given the concerns about globalization and women's employment – specifically since large export oriented firms may displace small existing firms that tend to employ more women workers (Elson 1999). There is almost no effect of these controls on the estimated relationship between non-discrimination and women's employment. Note that as expected, we do find significantly greater women employees among firms that export more, firms that have one or more women owner vs. firms with no woman owner and the younger firms. These results are reassuring in that they imply that while firm characteristics do affect women's employment and in expected ways, these effects are separate and independent of non-discrimination. This raises our confidence that other determinants of women's employment not controlled for are likewise separate and independent.

In summary, there is a strong positive association between non-discrimination and women's employment. According to our most conservative estimate, non-discrimination leads to an increase in women's employment by 5 percentage points. Although we cannot argue for a causal relationship, the positive association between non-discrimination and women's employment is consistent with the existence of gender discrimination in the labor market, as opposed to the non-discriminatory reasons delineated earlier.

5. Extensions of the Main Results

5.1 Production and non-production workers

As discussed above, we disaggregate our empirical analysis by production and non-production workers. Regression results provided in columns 1-4 of Table 5 reveal that the relationship between non-discrimination and women's employment relationship is retained separately for both production and non-production workers with size of the effect being of roughly similar magnitude. Thus, under the assumption that non-production jobs are better paying than production jobs, non-discrimination is one way forward for high paying jobs for women.

5.2 Using Barro-Lee measure for education

Base regression results using the Barro-Lee measures for women's education (both relative to men and absolute levels as discussed above) are provided in columns 5-7 of Table 5. These results clearly show that using the Barro-Lee measure makes no qualitative difference to our results for non-discrimination. Even quantitatively, the results for non-discrimination do not change much. For example, with all the controls discussed above in place, the estimated coefficient value of Non-discrimination in our baseline specification using enrollment rates to control for education level equals 5.96 and it is significant at the 1 percent level (column 8, Table 4). The corresponding figure using the Barro-Lee measure to control for education is actually higher at 6.9 and it is significant at the 1 percent level (column 7, Table 5).

5.3 Exploring Heterogeneities

Exploring heterogeneity or how the relationship between women's employment and non-discrimination depends on country and firm characteristics is important for many reasons that we discuss below. While we cannot test for or list all the possible heterogeneities, a few possibilities come to mind. First, implementation of laws is usually better in the richer countries and so is the availability of complimentary factors such as education and safety of women, factors that could

confer greater benefits to women from non-discrimination. Second, being more visible and conscious of their image, large firms are less likely to discriminate than small firms. Hence, we may expect non-discrimination to be more binding for relatively smaller firms. Third, a larger women's population in the country may exert greater pressure for proper implementation of the non-discrimination clause and it may also provide a larger base (more women workers) for the effect of the clause. These examples suggest a larger positive effect of non-discrimination on women's employment in countries that are richer, have larger women populations and among the relatively smaller firms. While these are plausible conjectures, empirical verification is necessary. Exploring these heterogeneities is important for a variety of reasons. For example, understanding how and where non-discrimination matters more is critical for the proper design and targeting of the non-discrimination law. Also, sequencing of non-discrimination law with overall economic development is more optimal once we understand how non-discrimination matters in rich vs. poor countries. Last, the stated heterogeneities are plausible in the context of discrimination but not necessarily so in other contexts. For example, if non-discrimination were spuriously picking up the effect of greater preference among women for non-household activities, there is no reason to believe why such a preference would impact women's employment more among small compared with large firms.

To this end and in separate regressions, we added the interaction terms between *Non-discrimination* and *Income*, *Small* (firms) and *Women population* to our baseline specification of Table 4. Regression results for some of these specifications (along with the interaction terms) are provided in Table 6. The results for the interaction terms show that our predictions in the previous paragraph are correct. That is, the relationship between non-discrimination and women's employment is much stronger in most of our specifications for small vs. large firms, rich vs. poor countries and for countries with larger women's population. In fact, in all our

specifications, non-discrimination and women's employment show a statistically insignificant relationship (at 10 percent level) for countries that are below a critical level of income and women's population; the same holds for large firms for most of the specifications. We note that the results for the interaction terms for firm-size and income level are conditional on controls for industry fixed effects and education gap, respectively; also, the interaction term for women's population is insignificant (at the 10 percent level) if we control for all the three interaction terms simultaneously.⁷

5.4 Falsification test

A falsification test was performed under the assumption that non-discrimination should be positively correlated with *Absolute women employment* but uncorrelated with *Absolute men employment*. Regression results shown in Table 7 clearly pass this test. That is, while women's absolute employment (columns 1-3) is positively and significantly (at the 10 percent level) correlated with non-discrimination, men's absolute employment shows a weak (statistically insignificant at the 10 percent level) and negative relationship with non-discrimination. These results help raise our confidence against the omitted variable bias problem with our main results.

5.5 An alternative measure of women's rights

We experimented by replacing our non-discrimination variable with a broader measure of women's rights obtained from CIRI database. We would like to mention that the CIRI data has been discontinued (since 2011) but we were able to obtain data for the earlier (pre 2011) years.

⁷ We also experimented by interacting the non-discrimination variable with industry concentration ratios under the assumption that the positive effect of non-discrimination on women's employment is likely to be bigger (more positive) in sectors that are less competitive. The results confirm this conjecture and are available in an on-line version of the article at:

The CIRI database contains three separate measures of women’s rights – economic rights (variable “wecon”), social rights (variable “wosoc”) and political rights (variable “wopol). As for our other country level variables, we use average values of the CIRI variables taken over 2005 to 2009. Before proceeding to the results for the CIRI indices, we confirm that all our main results for the *Non-discrimination* variable discussed in the paper survive even if we control for the CIRI measure of women’s economic, social and political rights (simultaneously or individually in separate regressions) with the exception that the interaction term between female population and *Non-discrimination* variable becomes insignificant at the 10 percent level in some of the specifications when we control for the CIRI indices (separately or simultaneously). Regarding estimation results for the CIRI indices in place of our *Non-discrimination* variable, we focus here on the measure of women’s economic rights as this seems most appropriate for our purposes; results for the other two CIRI variables are mentioned very briefly in what follows. The CIRI measure of women’s economic rights is highly correlated with (log of) GDP per capita—correlation coefficient of 0.59 in our sample (compared with a correlation of 0.33 between GDP per capita and our *Non-discrimination* variable). This is not surprising given that unlike our *Non-discrimination* variable, the CIRI measure is a broad measure and therefore highly correlated with the broader macro environment as captured by GDP per capita.

Base regression results using the CIRI measure for women’s economic rights are provided in Table 8. The CIRI variable for women’s economic rights does show a sharp positive correlation with female employment that is economically large and statistically significant at less than the 1 percent level (column 1). However, this positive relationship between the CIRI measure and female employment is weak in the sense that it is not robust to basic controls such as GDP per capita (column 2) or other macro level variables such as the level of education among females or the education gap between males and females (columns 3 and 4). Results for

CIRI measure of women's social rights are qualitatively similar. For CIRI measure of women's political rights, we find a negative correlation between female employment and more political rights for women but this again is not robust to the control for GDP per capita.

We looked at the various interaction terms and found that the only significant interaction for CIRI measure of women's economic rights is with the dummy for small vs. other firms (Table 9). Regression results in Table 9 show that women's employment is not significant (at the 10 percent level) for small or remaining firms once we control for GDP per capita (column 2). Furthermore, the interaction term between CIRI and *Small* that even retains significance when we control for GDP per capita becomes insignificant once we control for the interaction term between *Small* and our *Non-discrimination* variable (column 4). For the other two CIRI variables (women's social and political rights), we find no evidence of any significant difference in their relationship with female employment in small vs. large firms. Summarizing, while the CIRI measures contain useful information regarding economic conditions affecting men vs. women, our results seem to suggest that they are too broad measures and therefore not properly insulated from the wider macro-economic factors in the country that could affect female vs. male employment.

5.6 Gender discrimination and competition

Above, we argued that gender discrimination is less likely in markets that are more competitive. Hence, one possibility is that non-discrimination may be particularly effective in boosting women's employment in the relatively less competitive markets. We test for this hypothesis using concentration ratios at the industry level. These concentration ratios or the Herfindahl index is constructed using ES data on annual sales of the firm. To this end we create industry-country cells where industries are as listed in Table 1. Next, we compute total sales of all firms in

each industry-country cell. Then we compute the ratio of a firm's annual sales to total sales in the industry-country cell to which the firm belongs. These shares are then squared and added within each industry-country cell. Last, for each industry, we take the median value across countries of the sum of the squared shares obtained in the previous step. These median values constitute the Herfindahl index that we use in the regressions and they are provided in Table 10. Note that higher values of the Herfindahl index imply more concentration or less competition in the industry.

As Table 10 shows, one striking feature of the Herfindahl index is the relatively high value (imply relatively low competition) for the Textiles sector. Hence, for robustness, we report all our regressions below with and without including the textiles sector in the sample. Our results are qualitatively similar but somewhat stronger when the textiles sector is excluded from the sample. In this sense, the results below for the full sample (including Textiles sector) are on the conservative side.

Regression results for the interaction term between the Herfindahl index and *Non-discrimination* are provided in Table 11. Column 1-4 of the table report results for the full sample and 5-8 for the sample excluding the textiles sector. Focusing on the full sample, results in Table 12 show that the interaction term between Herfindahl index and *Non-discrimination* is indeed positive and economically large. That is, the positive relationship between *Non-discrimination* and female employment is larger in sectors that are more non-competitive (higher values of the Herfindahl index). However, in terms of the significance level, the interaction term is not significant (at the 10 percent level) without any other controls (p-value of .158, column 1). Controlling for education gap between males and females causes the interaction term to become larger in magnitude and also significant at less than the 5 percent level (column 2). Adding the remaining controls to the specification does not cause any significant change to the results

(column 3). In column 4, we add the industry fixed effects. We do not control for the level of Herfindahl index here separately as it is absorbed by the industry fixed effects. Results in column 4 show that controlling for industry fixed effects causes the interaction term between *Non-discrimination* and the Herfindahl index to become smaller in magnitude but it is still positive, economically large and significant at close to the 10 percent level (p-value of .105). To get a sense of the magnitude involved, consider the specification in column 4 where the interaction term is smallest in magnitude. Estimates in the column imply that mandating of the non-discrimination clause is associated with an increase in female (to total) employment by 3.93 percentage points (p-value of .103) in the most competitive industry (Leather). The corresponding change for the two least competitive industries is much larger equaling 10.1 percentage points (significant at less than the 1 percent level) in Electronics and 11.6 percentage points (significant at less than the 1 percent level) in the Textiles sector. We believe that these results are consistent with the hypothesis stated above.

5.7 Other robustness checks

The following additional robustness checks were performed (i) The *WBL* variable was replaced with all its sub-components (41 dummy variables); (ii) share in employment and in sales (from ES data) of the various sectors was controlled for (listed in Table 1) in a given country under the assumption that there may be spurious correlation when a development strategy provides a big push to sectors that utilize women labor more intensively; (iii) cultural differences across countries was accounted for using the percentage of population that is Catholic, Muslim, Protestant and the rest; (iv) legal origin of countries (English, French and Socialist legal origin) was controlled for; (v) net official development assistance and official aid received as a percentage of GDP (average values over 2005-2006, World Bank) was controlled for; (vi) a

dummy variable indicating a general clause on equal treatment of all citizens in the country in the constitution was used as a control; (vii) annual sales (log values) and book value of machinery and equipment (log values) were also controlled for. All our results survive these checks (results not shown) with the only exception that in some of the specifications, the interaction term between *Non-discrimination* and *Women Population* was found to be statistically weak (insignificant at 10 percent level).

In summary, the positive relationship between non-discrimination and women's employment is robust and easily survives a large number of checks and a falsification test. It is also broad in scope, covering both production as well as non-production workers. Our results provide an empirical verification of plausible heterogeneities in the non-discrimination and women's employment relationship with the relationship being much stronger (more positive) in countries that are richer, have more women in the population and among firms that are relatively smaller. In fact, non-discrimination and women's employment show no significant relationship among large firms and in countries that are below a critical level of income and women's population.

6. Conclusion

This study utilizes recently compiled data on whether countries have mandated laws on non-discrimination along gender lines in hiring practices and how such a law affects the employment of men vs. women in the manufacturing sector of developing countries. We find a strong positive association between the non-discrimination clause and the employment of women relative to men. We also find that this positive association is much stronger among the relatively richer countries, smaller firms and countries that have a larger proportion of women in their total population. A number of issues remain to be explored. For example, from the policy point of

view, successful reforms require not only understanding the impact of reforms, but also the determinants of reforms. Hence, it will be useful to analyze the types of countries that are more likely to mandate the non-discrimination clause. Second, following the broader literature on the gender based wage gap, it will be interesting to see how non-discrimination in hiring practices affects or correlates with the wage gap between men and women. Third, we showed above that the association between the non-discrimination clause and the employment of women vs. men is much higher in countries that have higher income levels. It will be helpful to explore exactly which aspects of the economy associated with higher income level are responsible for this result. Last, although we have subjected our results to a large number of checks including a falsification test and found them to be robust, we still cannot argue for a causal relationship with certainty given the limitations of the data at hand. We concede that more work is required to ascertain the truly causal effects of the non-discrimination laws on women's employment. However, we believe this study has made a positive step in this direction.

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Table 1: Description of Variables

Variable	Description of Variables
<i>Women workers</i>	Number of women permanent full-time total (production plus non-production) workers as a percentage of all (women plus men production and non-production workers) employed at the firm during the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Women Production workers</i>	Number of women permanent full-time production workers working at the firm during the year prior to the survey year as a percentage of the total (men plus women) number of permanent full-time production workers employed at the firm during the same year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Women Non-production workers</i>	Number of women permanent full-time non-production workers working at the firm during the year prior to the survey year as a percentage of the total (men plus women) number of permanent full-time non-production workers employed at the firm during the same year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Absolute women employment</i>	Log of 1 plus total number of permanent full-time employees at a firm who are women. The variable relates to the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org
<i>Absolute men employment</i>	Log of 1 plus total number of permanent full-time employees at a firm who are men. The variable relates to the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org
<i>Non-discrimination</i>	A dummy variable equal to 1 if the country has laws mandating non-discrimination in hiring practices along gender lines and 0 otherwise. <i>Source:</i> Women, Business and Law (2012), World Bank.
<i>Income</i>	Log of GDP per capita, PPP adjusted and at constant 2005 International \$. The figures are for the sample year covered by the Enterprise Survey for the various countries. <i>Source:</i> World Development Indicators, World Bank.
<i>Education gap</i>	Average of the ratio of women’s to men’s primary, secondary and tertiary education enrollment rates (expressed as a percentage). Each of the three enrollment rates are average values over the 2005-2009 years. <i>Source:</i> World Development Indicators, World Bank.
<i>Women’s education (level)</i>	Average of gross women’s enrollment rate in primary, secondary and tertiary education (average over 2005-2009 and for the years for which data are available). <i>Source:</i> World Development Indicators, World Bank.
<i>WBL</i>	<p>Sum of the number of inequalities for married and unmarried women. The inequalities are considered over 19 items for married and 22 items for unmarried women (below). For any given item, the country gets a score of 1 if there is inequality in the law between and women and men. The variable <i>WBL</i> is the sum of all inequalities for any given country. The variable is for the year 2011. The items for which inequalities are computed are as follows:</p> <p><u>A: For unmarried women (Yes/No format):</u></p> <ul style="list-style-type: none"> Does a woman’s testimony carry the same evidentiary weight in court as a man’s? Do adult unmarried women need permission from a guardian in order to initiate legal proceedings in court? Are there specific tax deductions or tax credits that are only applicable to men? Can women work in the same industries as men? Do sons and daughters have equal inheritance rights over moveable property from their parents? Do sons and daughters have equal inheritance rights over immoveable property from their parents? Can women work the same night hours as men? Do unmarried men and unmarried women have equal ownership rights over moveable property? Do unmarried men and unmarried women have equal ownership rights over immoveable property? <p><i>Inequalities in accessing institutions:</i></p> <ul style="list-style-type: none"> Can an unmarried woman apply for a passport in the same way as a man? Can an unmarried woman travel outside the country in the same way as a man? Can an unmarried woman travel outside her home in the same way as a man? Can an unmarried woman get a job or pursue a trade or profession in the same way as a man? Can an unmarried woman sign a contract in the same way as a man? Can an unmarried woman register a business in the same way as a man? Can an unmarried woman be “head of household” or “head of family” in the same way as a man? Can an unmarried woman confer citizenship to her children in the same way as a man? Can an unmarried woman open a bank account in the same way as a man? Can an unmarried woman choose where to live in the same way as a man? <p><u>B. For married women (Yes/No format):</u></p>

	<p>Do married men and married women have equal ownership rights over moveable property? Do married men and married women have equal ownership rights over immoveable property? Do female and male surviving spouses have equal inheritance rights over moveable property? Do female and male surviving spouses have equal inheritance rights over immoveable property? In the case of the death of one of the spouses, does the surviving spouse, regardless of gender, have equal inheritance rights on the marital home?</p> <p>Can women work the same night hours as men? Can women work in the same industries as men? Are there specific tax deductions or tax credits that are only applicable to men? Does a woman's testimony carry the same evidentiary weight in court as a man's? Do adult married women need permission from their husbands in order to initiate legal proceedings in court?</p> <p><i>Institutional variables:</i> Can a married woman apply for a passport in the same way as a man? Can a married woman travel outside the country in the same way as a man? Can a married woman travel outside her home in the same way as a man? Can a married woman get a job or pursue a trade or profession in the same way as a man? Can a married woman sign a contract in the same way as a man? Can a married woman register a business in the same way as a man? Can a married woman be "head of household" or "head of family" in the same way as a man? Can a married woman confer citizenship to her children in the same way as a man? Can a married woman open a bank account in the same way as a man? Can a married woman choose where to live in the same way as a man? Can a woman convey citizenship to her non-national spouse in the same way as a man? Are married women required by law to obey their husbands?</p> <p><i>Source:</i> Women, Business and Law (2011), World Bank.</p>
<i>Women population (%)</i>	Number of women in the country as a percentage of the total population of the country. The figures are for the sample year covered by the Enterprise Survey for the various countries. <i>Source:</i> World Development Indicators, World Bank.
<i>Women in Parliament</i>	Percentage of women parliamentarians (in the lower house). Data are as of 30th June for the sample year covered by the Enterprise Survey for the various countries. The only exception is Argentina (due to missing data) for which the variable is for the year 2008 while the Enterprise Survey relates to 2009. <i>Source:</i> Inter-Parliamentary Union IPU). Data available at http://www.ipu.org/wmn-e/classif-arc.htm .
<i>Corruption</i>	Freedom from Corruption sub-index of Index of Economic Freedom (Heritage Foundation). Values are for the year covered by the Enterprise Survey where available and the closest year (within 3 years of the Enterprise Survey year) otherwise. <i>Source:</i> Heritage Foundation.
<i>Industry fixed effects</i>	Dummy variables capturing the industry to which the firm belongs. The industries include: Textiles, Leather, Garments, Food, Metals & Machinery, Electronics, Chemicals & Pharmaceuticals, Wood & Furniture, Non-metallic and Plastic materials, Auto & Auto Components and the residual category of Other Manufacturing. The variable is for the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Women owner</i>	Dummy variable equal to 1 if the firm has one or more women owner and 0 otherwise. The variable is for the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Employment</i>	Log of total number of permanent full-time employees working at the firm during the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Exports</i>	Percentage of annual sales of the firm that are sold outside the domestic/national market. The variable is for the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Private domestic ownership (%)</i>	Percentage of the firm owned by private domestic individuals, companies and organizations. The variable is for the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Private foreign ownership (%)</i>	Percentage of the firm owned by private foreign individuals, companies and organizations. The variable is for the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Age</i>	Log of age of the firm. The variable is for the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Time tax</i>	Percentage of senior management's time spent in dealing with government regulations. The variable is for the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Power outage (dummy)</i>	A dummy variable equal to 1 and 0 otherwise if the firm experienced power outages during the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Crime (dummy)</i>	A dummy variable equal to 1 and 0 otherwise if the firm experienced one more incident of crime (theft, robbery, vandalism or arson) during the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .

Tax obstacle	Firms' responses on a 0 to 4 scale to a question on how severe are tax rates as obstacles to the current operations of the firm. Responses were recorded as: No obstacle (0), Minor obstacle (1), Moderate obstacle (2), Major obstacle (3) and very Severe obstacle (4). The variable is for the year prior to the survey year. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .
<i>Small</i>	Dummy variable equal to 1 if the firm has less than 20 employees working at the firm during the year prior to the survey and 0 otherwise. <i>Source:</i> Enterprise Surveys, www.enterprisesurveys.org .

Table 2: Summary Statistics

Variable	Mean	Standard deviation	Minimum	Maximum	Observations
<i>Women workers</i>	32.8	27.4	0	100	14609
<i>Women Production workers</i>	29.1	32.8	0	100	14609
<i>Women Non-production workers</i>	41.4	32.1	0	100	14609
<i>Absolute women employment (1 plus log)</i>	2.0	1.4	0	9	14609
<i>Absolute men employment (1 plus log)</i>	2.8	1.3	0	9.3	14609
<i>Non-discrimination</i>	0.74	0.44	0	1	58
<i>WBL</i>	2.8	3.4	0	18	58
<i>Income</i>	8.6	1.0	6	10	58
<i>Education gap</i>	100.4	19.0	56	127	58
<i>Women's education (level)</i>	72.0	18.7	34	100	58
<i>Women population (%)</i>	51.1	1.3	49	54	58
<i>Women in Parliament</i>	18.1	9.2	0	49	58
<i>Corruption</i>	37.9	16.6	5	90	58
<i>Women owner</i>	0.4	0.5	0	1	14609
<i>Employment</i>	3.2	1.2	1	10	14609
<i>Exports</i>	13.8	28.3	0	100	14609
<i>Private domestic ownership (%)</i>	89.4	28.4	0	100	14609
<i>Private foreign ownership (%)</i>	8.4	25.7	0	100	14609
<i>Age</i>	2.6	0.8	0	6	14609
<i>Time tax</i>	12.3	17.8	0	100	14609
<i>Power outage (dummy)</i>	0.6	0.5	0	1	14609
<i>Crime (dummy)</i>	0.2	0.4	0	1	14609
<i>Tax obstacle</i>	1.9	1.3	0	4	14609
<i>Small</i>	0.55	0.497	0	1	13375

Table 3: Sample Size

Country	Observations	Country	Observations
Argentina	686	Moldova	88
Armenia	98	Mongolia	120
Azerbaijan	70	Montenegro, Rep. of	23
Bangladesh	1,149	Mozambique	252
Belarus	59	Namibia	88
Bolivia	99	Nigeria	527
Bosnia and Herzegovina	102	Panama	91
Bulgaria	79	Paraguay	101
Burundi	86	Peru	733
Chile	732	Philippines	764
Colombia	656	Poland	83
Costa Rica	275	Romania	99
Croatia	274	Russian Federation	458
Czech Republic	50	Rwanda	51
Ecuador	111	Senegal	171
El Salvador	115	Serbia, Rep. of	118
Estonia	57	Slovak Republic	51
Georgia	72	Slovenia	80
Ghana	180	Tajikistan	90
Guatemala	323	Tanzania	194
Guinea	69	Turkey	655
Honduras	109	Uganda	250
Hungary	81	Ukraine	293
Indonesia	670	Uruguay	294
Kazakhstan	116	Uzbekistan	115
Kenya	383	Venezuela, RB	67
Latvia	64	Vietnam	665
Lithuania	80	Yemen, Rep.	192
Macedonia, FYR	91	Total	14609
Mexico	960		

Table 4: Base regression results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable: <i>Women workers</i>								
<i>Non-discrimination</i>	8.628*** (0.002)	5.035* (0.058)	5.585** (0.024)	6.383** (0.010)	5.899** (0.014)	5.846*** (0.004)	5.856*** (0.004)	5.960*** (0.003)
<i>Income</i>		4.747*** (0.000)	2.551** (0.050)	-2.814 (0.105)	-2.357 (0.183)	0.600 (0.686)	0.430 (0.765)	0.393 (0.792)
<i>WBL</i>			-1.326*** (0.000)	-0.684** (0.030)	-0.637* (0.064)	-0.574** (0.026)	-0.578** (0.022)	-0.589** (0.021)
<i>Education gap</i>				0.113* (0.054)	0.106* (0.061)	0.105 (0.123)	0.101 (0.122)	0.100 (0.125)
<i>Women's education (level)</i>				0.341*** (0.000)	0.300*** (0.000)	0.245*** (0.002)	0.260*** (0.001)	0.260*** (0.001)
<i>Women population (%)</i>					1.380** (0.033)	1.582*** (0.004)	1.376** (0.011)	1.392** (0.013)
<i>Women in Parliament</i>					-0.067 (0.536)	-0.063 (0.524)	-0.066 (0.487)	-0.064 (0.500)
<i>Corruption</i>					-0.058 (0.286)	-0.102** (0.048)	-0.110** (0.021)	-0.107** (0.025)
<i>Women owner</i>						6.722*** (0.000)	6.914*** (0.000)	6.932*** (0.000)
<i>Employment</i>						0.685 (0.159)	0.367 (0.427)	0.438 (0.334)
Industry fixed effects						Yes	Yes	Yes
<i>Exports</i>							0.072*** (0.001)	0.071*** (0.001)
<i>Private domestic ownership (%)</i>							0.014 (0.655)	0.015 (0.640)
<i>Private foreign ownership (%)</i>							0.010 (0.759)	0.011 (0.743)
<i>Age</i>							-1.351** (0.016)	-1.329** (0.015)
<i>Time tax</i>								-0.002 (0.952)
<i>Power outage (dummy)</i>								0.098 (0.935)
<i>Crime (dummy)</i>								-1.502 (0.145)
<i>Tax obstacle</i>								-0.118 (0.774)
Observations	14,609	14,609	14,609	14,609	14,609	14,609	14,609	14,609
R-squared	0.019	0.048	0.069	0.092	0.097	0.355	0.361	0.361

*** p<0.01, ** p<0.05, * p<0.1. All regressions use Huber-White robust standard errors clustered on the country. All regressions use a constant term (not shown).

Table 5: Barro-Lee and Production vs. Non-production workers

	(1)	(2)	(3)	(4)	(5)	(6)	(8)
	Women production workers (% of total)		Women non-production workers (% of total)		Women workers		
Dependent variable:							
<i>Non-discrimination</i>	8.318*** (0.003)	5.931** (0.020)	9.629*** (0.009)	5.608** (0.013)	7.705** (0.014)	6.811*** (0.005)	6.903*** (0.005)
<i>Income</i>		-0.006 (0.998)		2.257* (0.074)		0.614 (0.691)	0.463 (0.774)
<i>WBL</i>		-0.404 (0.205)		-1.203*** (0.000)		-0.722*** (0.004)	-0.745*** (0.004)
<i>Education gap</i>		0.054 (0.575)		0.153*** (0.002)			
<i>Women's education (level)</i>		0.272*** (0.004)		0.122 (0.155)			
Education gap (Women to total schooling years, Barro-Lee)						15.163 (0.319)	14.830 (0.335)
Women's education (level; Women schooling years, Barro-Lee)						5.355*** (0.001)	5.339*** (0.001)
<i>Women population (%)</i>		2.182*** (0.002)		0.747 (0.296)		1.723*** (0.004)	1.599*** (0.006)
<i>Women in Parliament</i>		-0.169 (0.157)		0.139 (0.176)		-0.044 (0.706)	-0.044 (0.706)
<i>Corruption</i>		-0.129* (0.050)		-0.069 (0.204)		-0.143** (0.018)	-0.145*** (0.010)
<i>Women owner</i>		6.341*** (0.000)		8.821*** (0.000)		6.596*** (0.000)	6.884*** (0.000)
<i>Employment</i>		1.110** (0.034)		0.406 (0.496)		0.529 (0.337)	0.093 (0.856)
<i>Industry fixed effects</i>		Yes		Yes			Yes
<i>Exports</i>		0.092*** (0.000)		-0.030 (0.201)			0.075*** (0.002)
<i>Private domestic ownership (%)</i>		-0.002 (0.966)		0.045 (0.202)			-0.017 (0.509)
<i>Private foreign ownership (%)</i>		-0.019 (0.640)		0.039 (0.319)			-0.012 (0.648)
<i>Age</i>		-1.233* (0.066)		-1.586** (0.037)			-0.892 (0.124)
<i>Time tax</i>		-0.011 (0.759)		0.018 (0.636)			0.021 (0.507)
<i>Power outage (dummy)</i>		0.501 (0.737)		-0.318 (0.816)			-0.023 (0.985)
<i>Crime (dummy)</i>		-2.408* (0.068)		1.989 (0.128)			-1.236 (0.255)
<i>Tax obstacle</i>		-0.374 (0.493)		-0.247 (0.622)			-0.060 (0.898)
Observations	14,609	14,609	14,609	14,609	13,393	13,393	13,393
R-squared	0.012	0.322	0.017	0.151	0.014	0.355	0.361

See the note at the bottom of Table 4.

Table 6: Interaction terms						
Dependent variable: <i>Women workers</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>Non-discrimination*Income</i>	1.138 (0.616)	5.402** (0.012)				
<i>Non-discrimination*Small</i>			2.620 (0.399)	3.987** (0.019)		
<i>Non-discrimination*Women Population</i>					3.304** (0.036)	2.002* (0.064)
<i>Non-discrimination</i>	-4.324 (0.822)	-38.328** (0.026)	6.995*** (0.009)	3.678* (0.092)	-161.193** (0.046)	-95.688* (0.080)
<i>Income</i>	3.895** (0.031)	-4.579* (0.054)		0.940 (0.580)		0.065 (0.966)
<i>Small</i>			-5.357** (0.036)	-4.301*** (0.000)		
<i>Women population (%)</i>		0.926 (0.100)		1.397** (0.013)	1.193 (0.352)	-0.159 (0.863)
<i>WBL</i>		-0.760*** (0.001)		-0.687** (0.014)		-0.670*** (0.006)
<i>Education gap</i>		0.122* (0.069)		0.054 (0.489)		0.095 (0.150)
<i>Women's education (level)</i>		0.299*** (0.000)		0.263*** (0.001)		0.266*** (0.000)
<i>Women in Parliament</i>		-0.132 (0.129)		-0.059 (0.547)		-0.065 (0.484)
<i>Corruption</i>		-0.117*** (0.005)		-0.118** (0.019)		-0.106** (0.019)
<i>Women owner</i>		6.902*** (0.000)		7.353*** (0.000)		6.914*** (0.000)
<i>Employment</i>		0.367 (0.404)				0.372 (0.404)
<i>Exports</i>		0.070*** (0.002)		0.070*** (0.002)		0.072*** (0.001)
<i>Private domestic ownership (%)</i>		0.010 (0.761)		0.015 (0.639)		0.009 (0.776)
<i>Private foreign ownership (%)</i>		0.006 (0.851)		0.010 (0.766)		0.006 (0.861)
<i>Age</i>		-1.083** (0.034)		-1.353** (0.018)		-1.278** (0.017)
<i>Time tax</i>		0.001 (0.966)		-0.002 (0.945)		-0.002 (0.943)
<i>Power outage (dummy)</i>		-0.145 (0.901)		0.054 (0.966)		-0.090 (0.939)
<i>Crime (dummy)</i>		-1.375 (0.170)		-1.939** (0.043)		-1.584 (0.124)
<i>Tax obstacle</i>		-0.106 (0.789)		-0.045 (0.913)		-0.110 (0.784)
Observations	14,609	14,609	13,375	13,375	14,609	14,609
R-squared	0.048	0.367	0.024	0.369	0.055	0.363

See the note at the bottom of Table 4.

Table 7: Absolute women's vs. men's employment

Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Absolute women employment</i>			<i>Absolute men employment</i>		
<i>Non-discrimination</i>	0.354**	0.283**	0.208*	-0.085	-0.016	-0.100
	(0.012)	(0.014)	(0.070)	(0.444)	(0.886)	(0.301)
<i>Income</i>		-0.008	-0.048		-0.049	-0.078
		(0.923)	(0.570)		(0.550)	(0.266)
<i>WBL</i>		-0.050**	-0.040**		-0.022	-0.011
		(0.013)	(0.033)		(0.287)	(0.544)
<i>Education gap</i>		0.005	0.003		-0.001	-0.002
		(0.306)	(0.502)		(0.801)	(0.436)
<i>Female education (level)</i>		0.005	0.008*		-0.006	-0.004
		(0.248)	(0.077)		(0.151)	(0.198)
<i>Female population (%)</i>		0.096**	0.105**		0.010	0.035
		(0.021)	(0.017)		(0.806)	(0.381)
<i>Women in Parliament</i>		0.001	-0.003		0.003	-0.001
		(0.844)	(0.507)		(0.416)	(0.843)
<i>Corruption</i>		-0.004	-0.007**		0.002	-0.002
		(0.193)	(0.023)		(0.613)	(0.632)
<i>Female owner</i>		0.197***	0.197***		-0.108*	-0.117**
		(0.001)	(0.000)		(0.076)	(0.024)
<i>Exports</i>			0.014***			0.011***
			(0.000)			(0.000)
<i>Private domestic ownership (%)</i>			-0.001			-0.002
			(0.379)			(0.165)
<i>Private foreign ownership (%)</i>			0.006***			0.006***
			(0.001)			(0.003)
<i>Age</i>			0.302***			0.391***
			(0.000)			(0.000)
<i>Time tax</i>			0.001			0.002
			(0.774)			(0.304)
<i>Power outage (dummy)</i>			0.017			0.036
			(0.794)			(0.440)
<i>Crime (dummy)</i>			0.239***			0.341***
			(0.000)			(0.000)
<i>Tax obstacle</i>			0.021			0.019
			(0.365)			(0.332)
Observations	14,609	14,609	14,609	14,609	14,609	14,609
R-squared	0.012	0.174	0.321	0.001	0.057	0.243

See the note at the end of Table 4.

Table 8: Female employment and CIRI Women's Economic Rights index						
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: <i>Female workers</i>						
CIRI	8.707***	2.439	-0.622	3.878	1.248	1.290
(Economic rights)	(0.010)	(0.569)	(0.834)	(0.203)	(0.673)	(0.584)
Income		4.49***			-0.983	1.579
		(0.003)			(0.592)	(0.320)
WBL					-0.341	-0.442
					(0.337)	(0.124)
Education gap				0.262***	0.082	0.079
				(0.001)	(0.129)	(0.211)
Female education (level)			0.375***		.27***	0.236***
			(0.000)		(0.002)	(0.003)
Female population (%)					1.70**	1.635**
					(0.024)	(0.011)
Women in Parliament					-0.124	-0.115
					(0.384)	(0.368)
Corruption					-0.071	-0.119**
					(0.240)	(0.030)
Female owner						7.126***
						(0.000)
Employment						0.399
						(0.375)
Exports						0.070***
						(0.002)
Private domestic ownership (%)						-0.000
						(0.993)
Private foreign ownership (%)						0.002
						(0.960)
Age						-1.212**
						(0.033)
Time tax						-0.004
						(0.902)
Power outage (dummy)						0.126
						(0.922)
Crime (dummy)						-1.138
						(0.265)
Tax obstacle						0.036
						(0.931)
Industry fixed effects						Yes
Observations	14,417	14,417	14,417	14,417	14,417	14,417
R-squared	0.018	0.038	0.06	0.044	0.072	0.345

See the note at the bottom of Table 5.

Table 9: Interaction between CIRI Women's Economic Rights index and Small firms dummy				
	(1)	(2)	(3)	(4)
Dependent variable: <i>Female workers</i>				
CIRI (Economic rights) * Small	5.268**	5.497**	3.913**	2.508
	(0.043)	(0.030)	(0.040)	(0.223)
CIRI (Economic rights)	5.938	-0.530	-0.856	-1.188
	(0.133)	(0.905)	(0.758)	(0.646)
Non-discrimination				3.883*
				(0.059)
Non-discrimination*Small				3.802**
				(0.038)
Small	-8.958***	-9.118***	-6.015**	-7.066***
	(0.009)	(0.005)	(0.012)	(0.004)
Income		4.549***	2.119	1.340
		(0.002)	(0.232)	(0.446)
WBL			-0.487	-0.467
			(0.111)	(0.111)
Education gap			0.033	0.047
			(0.662)	(0.537)
Female education (level)			0.244***	0.257***
			(0.003)	(0.001)
Female population (%)			1.651***	1.459**
			(0.009)	(0.011)
Women in Parliament			-0.103	-0.070
			(0.440)	(0.507)
Corruption			-0.133**	-0.126**
			(0.022)	(0.012)
Female owner			7.521***	7.331***
			(0.000)	(0.000)
Exports			0.068***	0.068***
			(0.003)	(0.002)
Private domestic ownership (%)			-0.001	0.010
			(0.983)	(0.789)
Private foreign ownership (%)			-0.001	0.005
			(0.988)	(0.888)
Age			-1.265**	-1.274**
			(0.036)	(0.023)
Senior management's time spent in dealing with regulations			-0.006	-0.001
			(0.844)	(0.965)
Power outage (dummy)			0.088	0.128
			(0.948)	(0.918)
Crime (dummy)			-1.671*	-1.935**
			(0.077)	(0.046)
Taxes as obstacles to doing business			0.081	-0.056
			(0.842)	(0.892)
Industry fixed effects			Yes	Yes
Observations	13,183	13,183	13,183	13,183
R-squared	0.024	0.044	0.352	0.361

See the note at the bottom of Table 5.

Table 10: Herfindahl index by industry (Median values)	
Sector	Herfindahl index (median values, in increasing order)
Leather	0.0142
Wood and furniture	0.0190
Other manufacturing	0.0195
Garments	0.0249
Metals and machinery	0.0269
Food	0.0285
Auto and auto components	0.0338
Non-metallic and plastic materials	0.0341
Chemicals and pharmaceuticals	0.0356
Electronics	0.0580
Textiles	0.0687

Source: Enterprise Surveys.
Note: Higher values of the index imply more concentration (less competition).

Table 11: Interaction between Herfindahl index and Non-discrimination

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable: <i>Female workers</i>								
	Full sample				Excluding Textiles sector			
Non-discrimination*	172.1	255.5**	237.5**	141.5	151.3	307**	286.8**	249.6*
Herfindahl	(0.158)	(0.014)	(0.015)	(0.105)	(0.402)	(0.048)	(0.035)	(0.060)
Non-discrimination	3.748	0.055	-1.011	1.925	4.166	-1.391	-2.320	-0.796
	(0.407)	(0.988)	(0.785)	(0.557)	(0.491)	(0.770)	(0.585)	(0.836)
Herfindahl	119.658	86.225	60.376		-69.32	-159.27	-147.49	
	(0.241)	(0.282)	(0.458)		(0.626)	(0.164)	(0.126)	
Income			-2.286	0.300			-2.155	0.388
			(0.144)	(0.840)			(0.182)	(0.792)
WBL			-0.617**	-0.575**			-0.626**	-0.604**
			(0.039)	(0.021)			(0.043)	(0.018)
Education gap		0.334***	0.113**	0.105		0.333***	0.115**	0.110*
		(0.000)	(0.011)	(0.105)		(0.000)	(0.015)	(0.088)
Female education (level)			0.277***	0.263***			0.270***	0.249***
			(0.000)	(0.001)			(0.001)	(0.001)
Female population (%)			1.074*	1.362**			0.907	1.255**
			(0.080)	(0.015)			(0.154)	(0.020)
Women in Parliament			-0.067	-0.064			-0.074	-0.070
			(0.487)	(0.494)			(0.432)	(0.437)
Corruption			-0.065	-0.106**			-0.067	-0.104**
			(0.196)	(0.027)			(0.202)	(0.032)
Female owner			10.616***	6.934***			10.494***	6.742***
			(0.000)	(0.000)			(0.000)	(0.000)
Employment			0.914*	0.465			1.178**	0.594
			(0.065)	(0.309)			(0.020)	(0.202)
Exports			0.099***	0.072***			0.086***	0.062***
			(0.001)	(0.001)			(0.008)	(0.009)
Private domestic ownership (%)			0.033	0.016			0.030	0.011
			(0.288)	(0.601)			(0.362)	(0.739)
Private foreign ownership (%)			0.006	0.012			0.005	0.008
			(0.853)	(0.716)			(0.881)	(0.814)
Age			-2.116***	-1.334**			-2.124***	-1.288**
			(0.002)	(0.014)			(0.004)	(0.025)
Senior management's time spent in dealing with regulations			-0.018	-0.002			-0.017	0.000
			(0.633)	(0.941)			(0.656)	(0.996)
Power outage (dummy)			0.493	0.131			0.800	0.433
			(0.736)	(0.913)			(0.599)	(0.726)
Crime (dummy)			-2.439**	-1.494			-2.259*	-1.382
			(0.042)	(0.148)			(0.068)	(0.192)
Taxes as obstacles to doing business			-0.083	-0.112			-0.054	-0.093
			(0.865)	(0.785)			(0.914)	(0.821)
Industry fixed effects				Yes				Yes
Observations	14,609	14,609	14,609	14,609	13,368	13,368	13,368	13,368
R-squared	0.030	0.083	0.161	0.362	0.018	0.073	0.147	0.361

See the note at the bottom of Table 5.