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THE IMPACT OF TRADE LIBERALIZATION POLICIES AND FDI ON GENDER INEQUALITIES

A LITERATURE REVIEW

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The Impact of Trade Liberalization Policies and FDI on Gender Inequality

A Literature Review

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1. Introduction

The Heckscher-Ohlin model predicts that when different economies open to trade, unskilled wages should increase in less skilled labor abundant economies but decrease in skilled labor abundant economies. Trade liberalization policies were expected to reduce wage inequality in developing countries, although affecting negatively the wage structure of the developed countries. However, after three decades of empiric evidence, a large body of

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literature on the impact of Trade Liberalization Policies (TLP) and Foreign Direct Investment (FDI) on wage inequality and employment have found something different. TLP and FDI have increased wage inequality in both developed and developing countries.¹ There also exists some related literature studying the effects of TLP and FDI on poverty, development and growth, as well as on other dimensions of wage inequality such as industry sectors, export oriented activities, unions, race, etc. In these cases, results are less solid and mixed.² One of the topics that has not been studied so often and where evidence is still unclear is gender. Compared to the number of studies that examine the impact of TLP and FDI on relative wages and employment, there is relatively little work examining the consequences of TLP and FDI on wage inequality and employment across gender. This is surprising given that gender inequality is one of the eight stated goals in the U.N. Millennium Development Goals Report (UN, 2009).

Nowadays, almost every single country in the world has adopted or is in the process of adopting trade liberalization policies, and it is of special interest to know whether these policies will move us closer to the U.N. goal of gender equality. In addition, the effects of TLP and FDI on gender outcomes may also be of interest from the long-run perspective, considering that gender equality and women empowerment promote economic development, including education, health, human rights, and growth.³ In the very recent

¹ Robbins (1996), Wood (1997), Behrman et al (2000), Cragg and Eppelbaum (1996), Revenga (1997), Hanson and Harrison (1999), Melendez (2001), Feliciano (1994), Airola and Juhn (2008), Currie and Harrison (1997), Pavcnik (2003), Attanasio et al (2004) among others.

² While Goldberg and Pavnik (2007) find little systematic relationship between tariff changes and poverty in Colombia, Topalova (2007) finds a positive relationship between tariff reductions and poverty rates across Indian states. Using a measure called “globalization” which also includes FDI flows, Hanson (2007) finds that in Mexico, regions more exposed to globalization had reductions in poverty rates relative to regions that were less exposed.

³ Alesina and Rodrik (1994), Persson and Tabellini (1994), Cagatay and Ozler (1995), Perotti (1996), United Nations Trade and Development Board (2009), and Baliaoune-Lutz and McGillivray (2009).

years, new evidence has been published, helping us to have a better understanding of this phenomenon.

This paper reviews the recent literature on the impact of Trade Liberalization and FDI on gender inequality in employment, wages, education, health and other dimensions of welfare in both developed and developing countries.

Much of the research on the gender effects of trade focus on specific case studies and are limited by the absence of gender-specific data, or by the difficulty of disentangling the effects of trade liberalization from the effects of other simultaneous reforms. Results often depend on the frame of reference and on the specific characteristics of the case study.

In general, it is difficult to claim that TLP and FDI have benefited women. The main body of evidence suggests a positive effect; however, some papers have shown the opposite and there is still more to learn and more research to be done. While case studies provide key insights to understand the phenomenon, they do not offer stylized results that can be used to apply the theory to different countries or to claim that the effects of TLP and FDI are the same for every country, time, and economic context.

Most of the papers reviewed in this study analyze the effects of TLP and/or FDI on the employment and income of women, in absolute terms and relative to men. Some few papers analyze the impact of such reforms on education opportunities, health, and the general well-being of women.

This paper is organized as follows. Section 2 briefly comments on the mechanisms through which trade liberalization affects gender inequality. Section 3 discusses the evidence on the effects of TLP and FDI on the demand for female workers around the world. Section 4

reviews the evidence on the effects of TLP and FDI in other gender inequality issues, such as education, health and women's status. Section 5 concludes.

2. Does Trade Liberalization Reduce Gender Inequality?

Trade liberalization alters domestic prices, including wages, adjusting production, the use of inputs and the distribution of income between the different resources. Labor is not the exception. Trade liberalization may affect differently the employment and wages of different social groups, skilled and unskilled workers, as well as women and men. In the same way, FDI may also reshape relative employment and wages of such different groups.

The main mechanism through which international trade operates is changes in the relative prices of goods. Switching relative prices of goods modifies economic agents' incentives; induce reallocation of production factors and modifies their relative use. In the case of labor, trade liberalization modifies employment and wages of different groups, including women and men. Changes in relative prices of goods may also affect differently the consumption and income of different groups, such as men and women, depending on preferences and expenditure restrictions. In addition, reductions on government revenues due to the decrease of tariffs and quotas may affect different groups differently as consequence of changes on government expenditure and reallocation of public resources.

FDI also affects labor conditions within the whole economy. Higher wages and better employment opportunities brought by FDI force local competition to react, modifying relative prices, especially for inputs, and hence, affecting different groups. FDI may even

change individual preferences, bringing new ways of seeing employment and labor rights, and reducing discrimination.⁴

The effects of trade liberalization and FDI on gender inequality depend on global and local conditions such as resource endowments, labor market institutions, government institutions and consumer preferences. For example, women's relative employment and wages may increase if their labor participation is relatively larger in the less protected sectors or in the sectors receiving larger flows of FDI; women's relative health may increase if female control over household spending increases as consequence of a narrowing gender wage gap; and women's relative education may decrease if the loss of government revenues from reduced tariffs leads to cuts on education expenditure. However, if trade boosts economic growth, and with it, improves the quality of public services, gender disparities in human capital, such as health and education, will tend to fall.

If men and women are imperfect substitutes in production⁵ and different industries utilize different male and female labor force intensities, then trade liberalization, by affecting the growth of different industries, generates relative demand shifts by gender and modifies women's relative employment and wages. In addition, the magnitude of the effects of trade liberalization on gender inequality may depend on the ability of women to reallocate to trade benefited sectors as well as on their interest on working at different levels of income and wages.

⁴ Becker's theory (1957) states that increased competition in the product market will reduce discrimination against women and minorities in the long run. Because a firm must forego profits in order to indulge in a "taste for discrimination", employers with considerable market power will be better able to practice discrimination (Black and Brainerd (2004)).

⁵ Acemoglu, Autor and Lyle (2004) find support for this assumption estimating an elasticity of substitution between female and male labor, in the WW2 in the United States, between 2.5 and 3.5.

Another channel through which TLP, especially FDI, can affect gender inequality is through technology transfers. FDI and international competition can lead to the adoption of more capital- and skill-intensive technology. These technologies may be more complementary with female labor, increasing the relative demand of women and therefore their relative employment and wages.⁶

There are different ways to measure gender inequality, from the economist's perspective the most common way to discuss gender inequality is through the gender wage gap, followed by the female employment share. The gender wage gap compares relative wages of women and men while the female employment share compares relative employment participation. Taking together changes in relative wages and employment, some authors argue that it is possible to infer changes in the unobserved demand for female labor.⁷

Other dimensions have also been used to study gender inequality such as relative education, and health, as well as more complicated definitions, such as "women's status".⁸ Sometimes researchers have used schooling and health to study gender inequality when employment and wage data for men and women is not available. In these cases, schooling and health are commonly used as indicators of welfare to compare gender inequality.⁹

Aside of equity concerns, the effect of liberalization policies on gender outcomes may also be of interest from a long-run growth perspective since studies have provided indisputable

⁶ Women have advantage in cognitive vs. physical skills and skill-intensive technologies increase the relative demand for women over time (Javorik (2004), Arnold and Javorik (2009), Galor and Weil (1996), Welch (2000) and Weinberg (2000)).

⁷ In the special case of Cobb-Douglas production, where the elasticity of substitution between male and female labor equals one, one can interpret changes in female wage bill share (a combination of wages and relative employment) as a demand for female labor (Autor and Katz (1999)).

⁸ The term "women's status" is not always well defined in literature. Richards and Gelleny (2007) defines it "as the extent to which women are able, both in absolute and relative sense, to exercise precise rights codified in a large body of international human rights law and to enjoy the objectives of those rights".

⁹ Rose (1995), Dollar and Gatti (1999), Klasen (1999, 2002), Balamoune-Lutz (2007).

evidence from a diverse set of countries that empowering women raises the share of household budget allocated to children's education, health, and nutrition-related expenditures, and other activities essential for human development.¹⁰

3. Trade Liberalization, FDI and the Demand for Female Labor

Around 40 percent of all employed workers in the world are women. Developed countries employ 54 percent of their female working age population while in developing countries 51 percent of the working age women are employed. Women employment is largely concentrated in well-known economic sectors such as apparel, small electronics, agriculture and services, and constitute up to 80% of the export manufacturing workforce in some developing countries (ILO (2010)). With respect to labor income, recent empirical studies from developed and developing countries indicate that the gender wage gap is still large: from around 23 percent in developed countries to around 27 percent in the developing ones (World Bank (2001)).

The existing literature on the effects of TLP and FDI on the gender wage gap, female employment share, and the demand for female labor is still limited, although it is growing. Most of these studies suggest that trade and FDI reduce the gap. However, most of them are for specific country cases (Fontana and Wood (2000) for Bangladesh; García-Cuéllar (2000) and Artecona and Cunningham (2002) for Mexico; Berick, van der Meulen, and Zveglic (2004) for Korea and Taiwan; Black and Brainerd (2004) for the United States; Kucera (2001) for Germany and Japan, among others). Only few papers study the effect of

¹⁰ Thomas (1990), Duflo (2000), Qian (2008), King and Mason (2001), Quisimbing (2003), Korinek (2005), MacPhail and Dong (2007).

trade on gender inequality for a large group of countries, with not always the expected results (Wood (1991), Camps (2006), Oostendorp (2009), Tejani and Milberg (2010)).

Using cross-country data or using country-specific data provides different opportunities to understand the phenomenon. For example, using cross-country instead of country-specific data allows us to observe differences on the impact of trade across different country characteristics, such as the level of production, the quality of the government, the development of labor and human rights, etc. On the other hand, using country- or industry-specific data allows us to disentangle particular trade effects as well as to understand the different ways TLP and FDI impact gender inequality.

3.1. Cross-Country Evidence

Oostendorp (2009) is one of the few studies that uses a large cross-country database to study the impact of globalization on the gender wage gap. The author uses the ILO October Inquiry database with more than 80 countries for 1983 to 1999 and finds that the gender wage gap (controlled by occupation) decrease with trade and FDI in richer countries. However, he cannot find a clear effect for poorer countries. The author concludes that development has to reach a certain threshold before the gender gap closes with further economic growth.

In an early paper, Wood (1991) uses aggregated data for 35 countries from 1960 to 1985 and finds that trade liberalization has increased the relative demand for female labor in developing countries. However, trade expansion has not caused a general counterpart reduction in the demand for female workers in developed countries. The author suggests

several possibilities to explain this asymmetry; among them is that the overall effect of international trade on the relative gender demand in developed countries is so small that its impact on female relative employment is undetectable. The effect on developing countries is observable because the relatively large size of their export-oriented sectors.¹¹

Using a sample of 60 high-income developed countries and middle-income developing countries over the period 1985 to 2007, Tejani and Milberg (2010) study the effects of trade liberalization on the female share of employment in manufacturing. The authors find that the relative employment of women increased in developing countries but decreased in the high-income ones. However, while Latin American countries continued to experience rising female intensity of employment, most Southeast Asian and Pacific countries experienced a “defeminization” of employment. Given that both regions were involved into important liberalization policies, the authors concluded that changes on export orientation do not seem to be the only explanation of trends in female intensity. They suggest that initial low levels of female intensity and slower industrial upgrading explain the increase on female employment participation in manufacturing in Latin America, while initial high levels of female intensity and a dramatic industrial upgrading experienced in Southeast Asia explains the defeminization of manufacturing labor in that region.

Seguino and Grown (2006) explains that, even though semi-industrialized economies that emphasize export manufacturing have experienced a rise in the female share of employment, it has happened mainly in their early phases of industrialization. Over time, as semi-industrialized economies mature, the process of feminization of export employment

¹¹ Another explanation the author mentions for the developed countries is that the effect itself may have been mixed; female workers losing jobs at specific sectors by imports competition but getting new jobs at sectors forced by international competition to replace male with female labor.

may decline or even reverse.¹² The authors comment that defeminization could be attributed to the dual process of tight female labor markets and the addition of new lower wage countries to the international markets.¹³ It may be possible that the results of Tejani and Milberg (2010) were explained because Southeast Asia and Latin America opened up to trade at different periods of time and were at different stages of industrialization.

In a theoretical paper, Erturk and Darity (2000) point out the important differences between developed and developing countries and explain, using optimal control theory, that trade liberalization in developed countries either increases both output and the relative demand for female workers or decrease both variables. In contrast, trade liberalization in developing countries either increases output but decreases the relative demand for female workers or decreases output but raises the relative demand for female workers.

A conclusion from the cross-country literature is that developed and developing countries react in different ways to trade liberalization. Oostendorp (2009) observes an effect for developed economies but not for the developing ones, Wood (1991) finds an effect for the developing economies but not for the developed ones, and Tejani and Milberg (2010) find differences even between developing regions. In addition, Erturk and Darity (2000) point out the theoretical existence of such differences.¹⁴

¹² This claim has been empirically tested by Nam (1991), Hsiung (1996), Standing (1999), Mehra and Gammage (1999), Ozler (2000).

¹³ Berik (2004), Brown and Cunningham (2002), Ghosh (2002) and Jomo (2004).

¹⁴ Also, Corley et al (2005) study the dynamics of gender wage differences across countries in different regions, using ILO data from 1990 to 2000. The authors document that in the majority of countries with available data, there have been strong gains in relative female wages, yet, the study does not review the implication of trade or FDI on these findings. The authors comment that in regions where the gender gap is highest, women are less represented in the labor market.

3.2. Country-Specific Evidence

Given that cross-country evidence suggests that the effects of TLP and FDI are different for developed and developing countries, and possibly different among developing regions, this paper analyzes country-specific evidence separately for developed and for developing countries.

3.2.1. Trade Effects in Developed Economies

Black and Brainerd (2004) study the effects of trade liberalization and increasing international competition on the gender wage gap across industries in the United States. Using the Current Population Survey from 1977 to 1994, the authors compare the change in the gender wage gap in concentrated versus competitive manufacturing industries and find that the residual (after controlling for individual characteristics) gender wage gap narrowed more rapidly in concentrated industries that experienced a trade shock than in competitive industries that experienced a trade shock. They conclude that increased international trade has acted as a form of increased competition in some industries and although trade may increase wage inequality among skilled and unskilled workers, it appears to benefit women by reducing the ability of firms to discriminate.

Using U.S. data from 1990 to 2007 and considering the trade effects of NAFTA in the United States, Sauré and Zoabi (2009) claim that when rich economies trade with poor ones, rich economies observe a reduction in the formal employment of women. The authors argue that, in developed countries, when international trade expands female intensive sectors (and contracts male intensive sectors), male workers move to the female intensive

sectors, “driving female workers out” of formal employment. On the other hand, when trade expands male intensive sectors, the opposite is not observed.

Kucera (2001) studies the effects of trade liberalization on gender relative wages and employment for Germany and Japan. The author points out that women’s labor supply is much alike between the two countries and that women’s employment in both countries concentrated in industries characterized as “trade losers”. Using data from 1970 to 1996, the author finds that foreign trade expansion affected negatively women’s manufacturing employment in Japan but not in Germany, with the difference driven by their trade with non-developed countries; having Germany a more intense trade with non-OECD countries than Japan.

Seguino (2000), Berik (2000) and Berik et al (2004) study the effects of TLP on gender inequality in two newly industrialized economies, South Korea and Taiwan.¹⁵ Using industry level data from 1981 to 1992, Seguino (2000) reports that as a consequence of trade, gender wage differentials widened in Taiwan but narrowed in Korea. Seguino (2000) explains that, unlike Taiwan, government intervention in Korea prevented excessive outflows of capital in industries where women were overrepresented. In a research published the same year and using industry level data from 1983 to 1994, Berik (2000) argues that greater export orientation in Taiwan did benefit women relative wages. Four years later and using industry level data from 1981 to 1999, Berik et al (2004) states that Taiwanese as well as South Korean women were negatively affected by competition from

¹⁵ South Korea and Taiwan started an export-oriented strategy for growth in the mid-1960s. However, in the late 70’s and early 80’s both countries upgraded their economies technologically and liberalized their markets even further.

foreign trade. Berik et al (2004) concludes that increased international trade reduces women's bargaining power to achieve wage gains.

There is no consensus in the existing (and limited) country-specific literature about the effects of international trade on gender inequality in developed countries. Kucera (2001) argues that some part of the explanation of these mixed results is related to the developed countries' trading partners; Germany and the U.S. did better and had higher percentages of trade with non-OECD countries than Japan. On the contrary, Sauré and Zoabi (2009) dispute that trading with poor countries reduce female labor employment. In addition, opposite results can be found for the same country, such as in the cases of South Korea and Taiwan.

3.2.2. Trade Effects on Developing Economies

Evidence on cross-country analysis weakly indicates that TLP and FDI have helped to reduce gender inequality in developing regions. Using country-specific data, results mainly support this trend; however, results are not uniform across regions or over time, and some part of the literature still makes us doubt on the global validity of this outcome. Other country-specific characteristics also play important roles on determining the effects of trade and FDI on gender inequality.

Using household data from 1983 to 2004 for India, Menon and van der Meulen (2008) findings suggest a negative effect of trade liberalization on skills-corrected women's relative wages and employment. The authors assign this negative effect of trade to the lack of enforcement of labor laws that prohibit discrimination, leaving women with less

bargaining power and relatively low wages compared to men.¹⁶ Using Indian industry and plant-level data for the year 2000, Pradhan (2006) finds a positive relationship between international trade and female employment, a negative one between foreign technology transfers and female employment, and no relation between FDI and female employment. Using aggregated data from 1967 to 1999 for Indonesia, Siegmann (2006) finds a positive effect of FDI on relative female employment in the agriculture sector, but a negative effect of FDI on manufacturing and hotel sectors.

Using plant-level data from 1983 to 1985 for Turkey, Ozler (2000) finds that women's employment share in the manufacturing sector increases with exports; however, among plants with high female employment shares, investment in machinery and equipment leads to a decline in the relative employment of women. As the author concludes, this finding provides support to the previous argument that employment gain of women following trade liberalization might be reversed as a consequence of technical development.

A positive relation between trade liberalization and women's relative wages and/or employment is also found in several Asian countries such as Turkey (Baslevent and Onaran (2004)¹⁷), Pakistan (Siddiqui (2009)¹⁸), Bangladesh (Fontana and Wood (2000)¹⁹), and India (Chamarbagwala (2006)²⁰).

¹⁶ Yasmin (2009) also finds a negative effect of trade on the relative wages of women in Pakistan. However, her findings are not statistically robust. The author simply computes the gender wage gap at two different points of time (1990/91 and 2005/06) and suggests that the increase of the gender wage gap was because of trade liberalization reforms implemented during that period.

¹⁷ Baslevent and Onaran (2004), using household level data for the 1988 and 1994 October rounds of the Household Labor Force Surveys (HLFS) of Turkey, find a positive correlation between export orientation and female employment and participation.

¹⁸ Siddiqui (2009) uses a computable general equilibrium (CGE) model, using a Pakistani Social Account Matrix (SAM) for the year 1990 with 20 market sectors, eight types of labor identified by gender and four education levels. The Pakistani SAM-1990 was prepared by the author herself.

However, Baslevent and Onaran (2004) comment that their results were only observed for single and/or young women in Turkey; Siddiqui (2009) suggests that trade liberalization in Pakistan affected women in the poorest households; Fontana and Wood (2000) observe that export expansion in Bangladesh increases women's wages but reduces their leisure; and Chamarbagwala (2006) reports that, in India the gender wage gap narrowed only for high school and college graduates.

One conclusion from this country-specific literature is that, when a positive relation between trade liberalization and the demand for female labor is found, there is always a "however". Trade liberalization benefited women in many of the studied countries, yet, it is not true for the poorest women in Pakistan (Siddiqui (2009)), for the married or old women in Turkey (Baslevent and Onaran (2004)), or for the unskilled women in India (Chamarbagwala (2006)).

In most developing countries, women workers are relatively unskilled and overrepresented in the informal sector.²¹ In Africa, as well as in many Asian countries, women workers are also crowded in the agricultural sector. Under this situation, trade liberalization policies that

¹⁹ Fontana and Wood (2000) use a CGE model using a gender-specific Bangladeshi SAM for the year 1985 with only three factors of production and five sectors. This SAM was also prepared by the authors themselves. The authors find that a larger foreign capital inflow gives women a higher wage and more leisure; but an expansion of manufacturing exports raises their wages but reduces their leisure.

²⁰ Chamarbagwala (2006) uses individual level data from the Employment and Unemployment Schedule of the National Sample Survey Organization of India for the period 1983 to 2000 and finds that an increased demand for skilled workers, and especially for skilled women contributed significantly to narrow the gender wage gap.

²¹ Markovic (2009) reports that the size in the informal sector varies from 4-6% in developed countries to more than 50% in the developing ones. The author comments that informal employment makes up 48% of non-agricultural employment in North-Africa, 51% in Latin America, 65% in Asia and 72% in sub-Saharan Africa. Of those informal workers, the majority are women. Women's share of the informal sector in the non-agricultural labor force goes over 55% in African countries such as Benin, Chad, Kenya and Mali; around 50% in Latin American countries such as Bolivia, Brazil, Chile and Colombia and around 40% in Asian countries such as Indonesia, Philippines and Thailand.

affect unskilled, informal, or agricultural workers situate African women workers in a disadvantaged position.

Evidence suggests that trade liberalization in Africa has not been as favorable for women as in other developing regions of the world. Using CGE models for the years 2001 and 2004, Arndt et al (2006) and Cockburn et al (2010) study the effects of TLP on gender inequality in Mozambique and Senegal, respectively. Both studies find that trade reform in these countries did not affect gender wage differences within skill categories; nevertheless, they both find that trade impacted negatively the agriculture sector, where unskilled women represent a large share of workers, affecting considerably women's relative wages.

Also using CGE models for the year 2001, Lulit and Claude (2008) find negative effects of trade on gender wage equality in South Africa and Ethiopia. The authors comment that the size of the impact depends on different socioeconomic characteristics of workers and on the industry composition of both countries, including the size of the agriculture sector. Nicita (2008) finds similar results for Madagascar; although, in the Madagascar case it was the unskilled female workers in the textile sector the most affected by the export-led growth.²²

Results indicate that it is very important to be concerned with the improvement of women's skill endowments in the developing countries. Especially because there is enough evidence to claim that TDP and FDI increased skilled-unskilled wage inequality. Improving educational opportunities for women, including on-the-job training, will increase women's

²² Using a simulation methodology that matches workers' characteristics to identify the determinants that make individuals more likely to find new employment in the expanding sectors, Nicita (2008) finds that female workers in Madagascar benefited substantially less than male workers, mainly because of differences in skills and employment positions.

opportunities to obtain more and better paid jobs, which, in the long run, will reduce gender inequality along all educational groups.

Using data from 1995 to 2002, Glick and Roubaud (2006) find that employment in Export Processing Zones (EPZs)²³ in Madagascar rose wages of female workers, especially the unskilled ones who otherwise, would be working in the informal sector. However, the authors comment that, although EPZs wages are comparable to formal sector wages, EPZs in Madagascar are marked by very long working journeys and high turnover, considerably affecting women's well-being.

As in Africa, women in Latin American are relatively unskilled and more likely to work in the informal sector (Coche (2004)); however, in the Latin American case, the agricultural sector is mainly dominated by male workers.²⁴ Consequently, in Latin America, a trade policy that impacts negatively the agriculture sector puts working women in a relatively better position. Evidence mainly suggests that Latin American countries benefited from TLP and FDI.

Using household and plant level data from 1989 to 2004 for Mexico, Aguayo-Tellez et al (2010) find that TLP increases the relative demand for female workers within industries and skilled groups. In addition, the authors observe that shifts in the industry composition, consistent with trade-based explanations, also account for an important part of the reduction on gender wage inequality in Mexico. Comparing across industries, the authors find that

²³ EPZs are geographical regions, or places within a country where companies, mainly foreign owned companies, enjoy tax holidays, exemptions from import duties and taxes and other benefits.

²⁴ Coche (2004) points out that female workers represent 1.8% of the total agricultural labor force in Chile, 11.5% in Mexico, and 8.3% in Trinidad and Tobago.

trade is positively related to the growth of female-intensive industries such as clothing, and the decline of male-intensive industries such as agriculture.²⁵

Using household data for 1987 and 1999, Hazarika and Otero (2002) also find that trade liberalization is associated with a narrower gender earnings gap in Mexico. The authors report that the gender wage gap is significantly lower in the export-oriented *maquiladora*²⁶ sector than in the rest of the economy, and that the decline in the gender wage gap within the non-*maquiladora* sector is observed only in the industries that experienced reductions on trade barriers and tariffs.

On the other hand, Artecona and Cunningham (2002) and Domínguez-Villalobos and Brown-Grossman (2008) find that trade liberalization increased the gender wage gap in the Mexican manufacturing sector. Using household data for 1987 and 1993, Artecona and Cunningham (2002) explain that this is because of the general increase in the skill premium, which affected relatively abundant unskilled female workers. Nevertheless, the authors explain that the discrimination component of the gender wage gap decreased with competition brought by international trade.

Using a CGE model for the year 2001 for Uruguay, Terra et al (2007) find that trade liberalization increases female employment and reduces the gender wage gap.²⁷ Skilled

²⁵ The authors find that between-industry shifts account for up to 40% of the rise in wage bill share of women. However, the authors comment that tariff cuts and exports cannot explain the rapid decline of the agriculture sector in Mexico, but other trade-related domestic reforms such as the “agrarian reform” and the abolition of agricultural subsidies may explain it.

²⁶ *Maquiladoras* are outsourcing assembly establishments that in most cases are foreign-owned. *Maquiladoras* in Mexico are allowed to import duty-free inputs and machinery as long as the final output is exported abroad.

²⁷ Gender-specific CGE models have been used in different countries and economic specifications. Fontana and Wood (2000) suggested its usefulness on measuring three different sources of impact of trade: market work, domestic work and leisure. Ever since, different results have been obtained. Fofana et al (2003), Siddiqui (2007) and Fontana (2003) find positive effects for Nepal, Pakistan, and Bangladesh, respectively.

workers are more benefited than the unskilled ones, and among the skilled workers, female employment and wages increased more.

In contrast with many developing countries, trade liberalization reforms in China took place gradually, at least at the beginning. China's economic transition can be divided into two periods: the gradualist reform period (1988-1995) and the radical reform period (1995-2002). Empirical evidence suggests that trade liberalization adversely impacted women in China during both reform periods, but especially in the last one.

Ding, Dong and Li (2009), using household data for 1988, 1995 and 2002, explore the effects of trade liberalization reforms in China during the two phases of transition. The authors find that earnings inequality among wives and husbands increased in both reform periods, though public-sector restructuring dismantled the institutional mechanisms to protect workers in the radical reform period, including women, leading to a drastic increase in gender inequality.

Using individual- and city-level data for the year 2000, Shu, Zhu and Zhang (2007) find no effect of FDI on the gender wage gap when comparing different cities in China. The authors also examine gender differences in employment among industries in China and find that women are more likely to work in export-oriented manufacturing industries that hire unskilled workers and offer lower wages.

Using household- and province-level data for the years 1995 and 2002, Braunstein and Brenner (2007) find a positive effect of FDI on both female and male wages in China. At the end of the first reform period (1995), women experienced larger gains from FDI than

Fofana et al (2005), Fontanta (2003) and Arndt et al (2006) find negative results for South Africa, Zambia and Mozambique, respectively.

men, yet, those advantages reversed by 2002, when the radical reform period took place. The authors argue that these results reflect the shift of FDI during the second reform period to higher productivity and more domestically oriented production industries where men are more likely to be employed. This evidence complements Seguino and Grown (2006) argument that as a semi-industrialized economy matures, the process of feminization of employment declines or even reverses.²⁸

4. Trade Liberalization and Other Measures of Gender Inequality

It is clear that relative wages and employment are not the only indicators of women's welfare, there are also other important components that must be analyzed when studying the effects of openness to trade on gender inequality. This section reviews the effects of TLP and FDI on other dimensions of gender inequality such as women's education, health, human rights, and "status".

Using a sample of 70 countries from 1965 to 1980, Schultz (2006) concludes that the liberalization of trade contributed to the diffusion of education and health, and more specifically to the advance in gender equality. However, using an unbalanced panel of 134 countries from 1970 to 2000, Bussmann (2009) findings do not support the claim that women benefit from economic integration in terms of better health, and using a sample of 31 sub-Saharan African and 10 Arab countries from 1974 to 2001, Balamoune-Lutz and

²⁸ There are other papers that provide discussions and essays on trade and relative women's demand and other women's dimensions, such as: Nicita and Zarrilli (2010), de Ruyter and Warnecke (2008) for US and Indonesia; Liberato and Fennell (2007) for the Dominican Republic; Kama (2006) for Turkey; Gideon (2006) for Chile; or Kabber and Mahmud (2004) for Bangladesh.

McGillivray (2009) find that trade-induced growth increases gender inequalities in education.

Neumayer and de Soysa (2007) construct a database of forced labor and human rights from different international sources²⁹ around the year 2000 and find that both developed and developing countries that are more open to trade provide better economic rights to women and have a lower incidence of forced labor. Finally, Richards and Gelleny (2007) and Gray et al (2006) use comprehensive cross-country databases from the last three decades of the twenty century to examine the relationship between women's status and international trade and globalization. Richards and Gelleny (2007) use several indicators of women's status³⁰ and conclude that in most of the cases, economic globalization improves women's status. Gray et al (2006) examine the impact of globalization on women's levels of life expectancy, literacy and political participation and conclude that increasing international trade and communication improves women's status and gender equality.

The study of the effects of TLP on health, education and other indicators of gender equality slightly indicate an optimistic effect of trade on gender equality. However, more research is needed in these topics.

5. Conclusions

Nowadays, almost every single county in the world has adopted or is in the process of adopting trade liberalization policies. It is of special interest to know whether these policies

²⁹ Such as the US State Department's Country Reports on Human Rights Practices, Anti-Slavery International, ICFTU, the World Bank and ILO.

³⁰ Such as a gender variant of the Human Development Index, the economic participation of women, the decision-making power of women and the Cingranelli-Richards humans rights indicator.

will move us closer to the U.N. millennium goal of gender equality. This paper reviews the recent international literature on the impact of trade liberalization policies and foreign direct investment on gender inequality in employment, labor income, health and education, and other dimensions of women's well-being.

In general, it is difficult to claim that TLP and FDI have benefited women. The main body of evidence suggests a positive effect, despite of the fact that the existing literature is still limited, and some papers have shown opposite results. Although specialized literature on this topic has grown during the recent years, there is still much more to learn and much more to investigate.

Most of the research has been done for specific country cases and only few papers have studied the effects of trade on gender inequality for a large group of countries. Country-specific data allows us to disentangle particular trade effects while cross-country data allows us to observe differences on the impact of trade across different country characteristics. The main conclusion from the cross-country studies is that developed and developing countries react in a different way to trade liberalization; in addition, important differences between developing regions have been found..

For developed regions, country-specific evidence is very mixed, and the explanation of such mixed results seems to be related to whether they trade with developed or developing countries. For developing regions, country-specific evidence suggests that most Latin American and Asian women (except Chinese) have benefited from trade liberalization, while African and Chinese women have been hurt. Poor, unskilled and old women have always been left behind. In addition, evidence suggests that as developing economies

mature, the process of trade-related feminization of employment declines or even reverses as consequence of technical development.

In most developing countries, women workers are relatively unskilled with respect to men and are overrepresented in the informal sector as well as in other well-know economic activities such as textiles, apparel, and services. The agricultural sector is an exception; women are more likely to work in agricultural activities in Africa and Asia, but not in Latin America. Given specific industry compositions and relative skill endowments of men and women, trade liberalization policies affect gender inequality through their effects on the size of the skill premium and the composition of the economic activities. In addition, openness to trade also affects the “residual” gender wage gap, i.e. the proportion of the gender wage gap that is not explained by gender differences in skills and changes in the composition of the industry.

Trade liberalization increased the skilled-unskilled wage gap, affecting unskilled women. Trade liberalization impacted negatively the agricultural sector, affecting female workers in Africa, but benefited the ones in Latin America. However, the major consequence of trade liberalization on gender inequality is trough its effect on the “residual” gender wage gap. Empirical literature predominantly indicates that, after controlling for skills, industry composition and other individual and country characteristics, TLP and FDI reduced gender inequality in developing countries, bringing female complementary technologies, improving labor rights and reducing discrimination.

Women’s ability to reallocate in growing or dynamic industries will allow them to get away from the harmful effects of trade. Improving educational opportunities for women, will not

only allow them to get better jobs in trade benefited industries, but also will increase women's wages along all industries, which, in the long run, will reduce overall gender inequality. It is very important to be concerned with the improvement of women's skill endowments. In the long run, women's relative improvements, in every way, will depend on their improvements on skills to better compete on the newly skill-biased competitive world.

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