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Gender and Trade: A Review of Theory
and Evidence

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Abstract

There has been an increasingly expanding literature exploring the linkages between trade liberalization and several measures of gender inequality (i.e. in income, employment opportunities, consumption, working conditions and intrahousehold bargaining). In this paper, we provide a comprehensive up-to-date literature review of existing theory and evidence of trade-gender linkages, clearly spelling out the key mechanisms, their empirical support and conditionalities. While most studies suggest that trade policies and agreements are far from being gender neutral, the magnitude and sign of effects is largely mediated by several intermediary factors (i.e. culture, access to education and production factors, governance). Along these lines, an integral part of our analysis includes a detailed discussion of research gaps often ignored within existing work on gender and trade and suggestions for expanding the current research focus.

Keywords: Trade, Gender, Income Distribution, Intrahousehold Dynamics.

JEL classification: E21, F14, J16, J81.

Introduction

In recent decades freer trade has been regarded as the “royal highway” to fostering economic growth and reducing the incidence of absolute poverty. Trade liberalisation has been one of the main prescriptions of the Washington Consensus on policy reform measures required for ailing economies, advocated by the International Monetary Fund and the World Bank. Consequent reductions in tariffs, the establishment of the World Trade Organization, the construction of free-trade zones (NAFTA, EU-EEA, MERCOSUR), the reduction in capital controls and subsidies and the harmonization in intellectual property right laws have all contributed to a multi-fold increase in the global volume of trade.

Economists tend to view trade expansion as an opportunity to achieve a more efficient allocation of resources, and enhance productivity and employment levels. While trade

theorists generally point to the potential of trade expansion to benefit the economy as a whole, they also draw attention to the fact that not everyone benefits equally. Trade has differential impacts across socio-economic groups, geographical regions, productive sectors and, the focus here, the two sexes. There is no “invisible hand” in laissez-faire economics that automatically redistributes part of the gains from trade to those who lose and this unequal distribution of the benefits of trade has become a common theme in the rhetoric of the anti-globalisation movement.

The evidence of the impact of trade expansion on progress towards development goals is more ambiguous than this rhetoric might suggest, but not wholly unresponsive of it. Impact on *economic growth* is probably the best established, but even that is contentious: in about two-thirds of studies (so not in the remainder) this impact is found to be positive (Sala-I-Martin 2004). Impact on population-wide *income inequality* is sometimes found to be insignificant (Dollar and Kraay 2002, 2004), and sometimes adverse, particularly for the poorest countries (Lundberg and Squire 2003; Milanovic 2005; Ravallion 2001). The safest conclusion to be drawn from the best statistical analysis that correlates trade volumes and *poverty reduction* is that there is no correlation. Its absence hides considerable diversity: the incidence of poverty in many countries rises and that in many other countries falls as a result of trade liberalisation (Ravallion 2006).

The evidence on linkages between on the one hand trade liberalisation and expansion, and on the other gender inequality in earnings, employment opportunities, working conditions, consumption, and decision making processes in the household and wider society is reviewed in this paper and is likewise found to be highly diverse. We provide a discussion on general trends between trade and several measures of gender inequality and building on previous reviews (UNCTAD 2004; Fontana 2003; Cagatay 2001) we update the evidence (Section 2). Apart from providing a comprehensive list of relevant trade-gender mechanisms and critique of recent theoretical developments and evidence, our study further contributes to the literature by explicitly linking impacts with country-specific initial conditions (Section 3). The magnitude and sign of trade-gender linkages is hence largely mediated by several intermediary factors, which deserve our close attention (i.e. culture, access to education and production factors, labour conditions). In algebraic terms, the impact of trade on gender inequality for each country i is shown by:

$$G^i = \alpha_0 + \alpha_1 T^i + \alpha_2 T^i \cdot X^i,$$

where G^i is a gender-specific variable, T^i captures openness to international trade and X^i is the set of mediating factors (the subject of Section 3) that influence the magnitude and sign of the overall effect. Greater openness to trade, for instance, might reduce gender inequality (i.e. in earnings) in countries where women have easier access to credit (if female access to credit is indeed an important mediating factor X), while increase gender inequality otherwise. Section 2 also comments on a plausible reverse causality running from gender inequality (in wages) to trade openness. Figure 1 provides a schematic framework as to the presentation of evidence on trade impacts (Section 2), and domestic mediating factors and conditions (Section 3)¹. In Section 4, we identify gaps in the literature and provide suggestions for further research. Section 5 concludes and discusses trade policy in the light of possible tradeoffs between gender equality and other development goals.

¹ It is important to note that the relationships between intermediate (initial) factors and gender impacts presented in Figure 1 should be more broadly perceived in a dynamic rather than rigid and static context. Initial conditions, such as institutions and education for instance, that mediate the impact of trade expansion on gender-relevant variables (i.e. employment, income) in the short and medium term, may also adjust over time often as a result of trade expansion, gender dynamics and interlinking causal relationships.

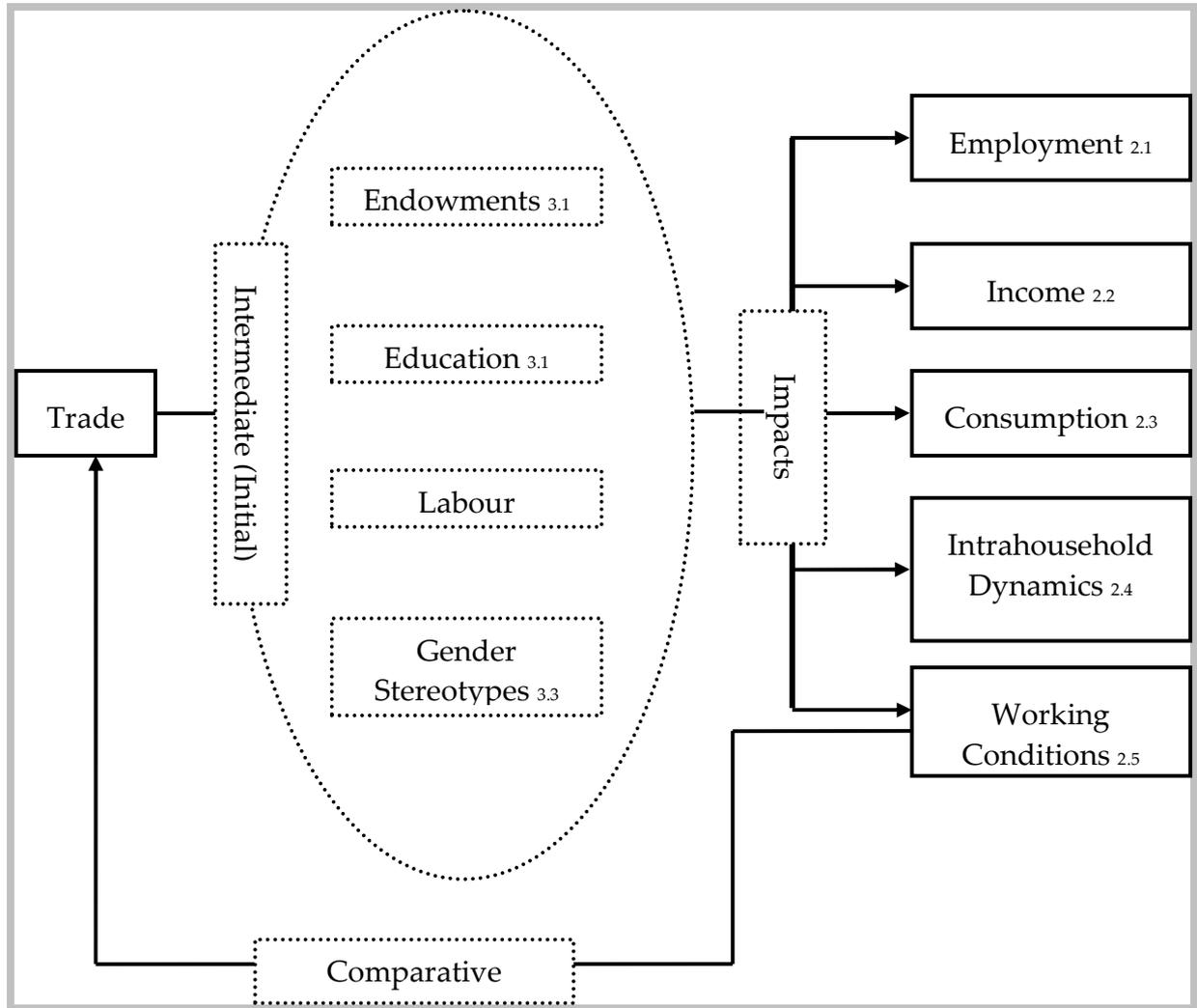


Figure 1. Trade-Gender Linkages and Mediating Factors

Note: subscripts refer to sections in which linkages/factors are discussed.

Gender and Trade Relationships (Impacts)

Women and men are often exposed to trade expansion in different ways (e.g. Ghiara 1999; Fontana 2007; and Kucera and Milberg 2000). The impact of trade on gender equality is complex, with many factors simultaneously at work. Trade expansion affects relative prices, income levels, employment patterns, the size of productive sectors, and all these may in turn have gender implications, for one thing because ownership of factors of production, factor mobility and factor market distortions are all gendered. In addition, existing gender inequality co-determines comparative advantage and thereby the sectors in which a country will specialise for exports. We review in this section the evidence on the impacts of trade expansion on gender inequality in a number of dimensions (employment, income, consumption, working conditions, and intra-household dynamics), as well as the effect of existing gender inequality on export strategies.

Impact of Trade on Female Employment

The standard Heckscher-Ohlin model predicts that economies with abundant low-skilled labour have a comparative advantage in commodities whose production makes intensive use of them. Since women in developing countries are disproportionately often low-skilled labourers, their employment opportunities should increase faster than those for men. In that respect, there is some tentative evidence pointing to an overall beneficial impact of trade expansion on the rate of female labour force participation, which increased in 74 percent of all developing countries and in 70 percent of all developed countries between 1975 and 1995, whereas male labour force participation increased only 26 and 5 percent of cases respectively (Standing 1999). Standing (1999) claims that much of this increase in female employment has taken place in the exporting manufacturing sector in developing countries, particularly in textiles and leather, in which women outnumber men². For example, in Bangladesh, the trade-induced expansion of the garment sector coincided with an increase of the share of female employees in the sector from 4 percent in 1974 to about 55 percent in 1986 (Kabeer and

² Women in both developing and developed countries tend to constitute less than 35 percent of all waged employees in the manufacturing sector as a whole, but more than 55 percent in textiles and leather. In textiles in particular, this percentage can be as high as 70 percent (e.g. in the Philippines and in Colombia).

Mahmud 2004). Likewise, largely on the back of rapidly rising exports of textiles, the share of female employees in the manufacturing sector rose from 17 to 37 percent in Botswana and from 32 to 61 percent in Sri Lanka between 1980 and 1992. At the same time, import penetration from non-OECD countries has resulted in extensive job losses in the textiles, apparel and leather industries in OECD countries between 1978 and 1995³, which particularly affected female employees. For manufacturing as a whole, decreases in female employment exceeded decreases in male employment by 2.6 percentage points in Australia, 6.4 in Canada, 2.8 in Denmark, 3.0 in Japan, 4.5 in the Netherlands and 5.6 in the United States, which may largely be attributed to job losses in the industries mentioned (Kucera and Milberg 2000).

While most trade-induced employment opportunities for women arise in manufacturing, similar opportunities for self-employment tend to be relatively rare in traditional agriculture. First, women are more likely than men to be small-scale farmers, and therefore more vulnerable to price shocks (Garcia 2005). In Morocco, for instance, the average size of land holdings of men is about a hectare, that of women about half a hectare (FAO 2003). Second, women are more restricted than men in their access to credit, labour and technological inputs, such as improved seeds, fertilizers and pesticides, and are therefore less able to take advantage of new market opportunities in non-traditional agriculture that international trade gives rise to. For the same reasons, when traditionally female-intensive crops become commercialized, men may enter and take over the sector (assisted by their relatively easier access to credit), as has happened with groundnuts in Zambia and rice in the Gambia (Fontana 2003).

Trade expansion may thus be associated both with positive and negative effects on women's employment opportunities and livelihoods, which may vary greatly by sector. The net effect of trade on female employment in any given country will naturally depend on whether positive or negative effects dominate. Further empirical work along these lines would be useful and provide a sectorial decomposition of trade-induced changes in female employment after controlling for access to production inputs and credit.

Impact of Trade on Female Income

³ To give a sense of order of magnitude, the trade deficit with non-OECD countries for the textile, apparel and leather goods industry increased by more than 3,000 percent for Japan, and by almost 400 percent for the US between 1978 and 1995.

Conventional trade theory (i.e. the Heckscher-Ohlin model) suggests that trade openness and specialisation in sectors that employ (relatively abundant) low-skilled labour in many developing countries is expected to raise demand for unskilled relative to skilled labour and hence disproportionately benefit wages of (relatively less-skilled) female workers. Becker's (1971) renowned theory suggests a similar pattern pointing to the fact that increased competition amongst firms makes wage premia in favour of male workers unaffordable. Imperfect competition allows gender-based wage discrimination, so this effect should disappear as competition intensifies as a result of trade.

Several studies suggest that the impact of trade expansion on female income largely depends on the sector at which women find employment, with some sectors offering better prospects than others. The wages women receive in the manufacturing sector, for instance, (subcontracted by multinational firms or subsidiary companies) are generally higher than salaries in other types of employment. Evidence from Mexico and Madagascar, especially for uneducated female employees, suggests that employment in export manufacturing industries provide female workers with higher wages compared to other activities (Kabeer and Mahmud 2004; Tiano 1994; Fussel 2000; Glick and Roubaud 2006). For example, Kabeer and Mahmud (2004) based on a survey of 1322 women conducted in 2001, find that in the Export Processing Zone in Bangladesh workers (mostly female) earn on average almost twice as much when compared to garment workers in Dhaka or self-employed workers. Subcontracted home-based workers, however, are a general exception to this pattern. Home-based workers, (the share of which may exceed 85% in countries such as Argentina and Hong Kong), receive lower earnings compared to employees in the formal private sector and have to incur the set-up and operational costs to start production (Carr et al. 2000).

However, not all women receive direct payments for their labour contributions in trade-related activities. When agricultural production is outsourced by multinational companies (or intermediary firms) to individual households, it is often the male head of the household who negotiates terms, holds the contract and receives all payments from the export company (Fontana 2003). Such small-holder male-dominated production is generally more prevalent in export vegetable production, while waged formal labour tends to be more common in the fruit and flower sector (Barrientos et al. 2004). Even, when women receive direct payments for their involvement in agriculture, in countries such as Bangladesh and Pakistan, it is a common practice to hand over their earnings to

their husbands (Elson 1999). On the other hand, women formally employed by large firms operating in non-traditional agriculture (flowers, fruit) receive direct payments for their work, but the feminization of the sector is still quite limited (Barrientos 2000). Location also often plays an important role for income control, since women working away from their partners are more likely to receive directly payments for their employment (Kabeer 2000).

While trade often offers women an opportunity to receive own income, this does not necessarily translate into a closing gap of gender-based wage differentials. While female employees especially in the exporting manufacturing industries indeed receive better wages compared to women in other industries, there is a large persistent gender disparity across income received between male and female workers performing similar tasks in comparable sectors. Joeques (1999) finds that female earnings as a percentage of male income in a selected group of developing countries range from 50 to 80%. While this pattern is not necessarily trade-specific, there is no reason to assume that gendered wage differentials would be of a smaller magnitude in export-orientated manufacturing. While differences in educational attainments and job segregation partially explain this gender wage gap, as much as half of it may be attributed to discriminatory pay structures (Joeques 1999). For example, results from the 1997 survey on socioeconomic and health conditions of garment workers in Bangladesh reveal that there are gender wage differences in every job category in the garment industry (a particularly export-orientated sector), which have consistently increased over time. The overall wage gap of female workers compared to their male counterparts in the sector increased from 68% in 1990 to 86% in 1997 (Paul-Majumder and Begum 2000). Similarly, Barrientos et al. (2003) find that in the South African fruit export sector, on average, women's income is lower than men's for all types of employment, whether permanent, seasonal or based on contract. On the other hand, there is some evidence (supporting Becker's theory) that the gender-wage gap has diminished across export-orientated manufacturing industries in industrialised nations such as the US as a result of increased exposure to competition (Black and Brainerd 2002), but further research along these lines needs to examine a similar pattern for developing economies.

Impact of Trade on Consumption

Increased employment opportunities for women (often as a result of trade expansion) imply that additional income accrues to the household, allowing hence a potentially

broader array of consumption goods to be purchased. Kennedy (1994) provides some gender-specific evidence on the impact of female employment in the commercialised agricultural sector in Guatemala and finds, though, that while children's health improves by the additional household purchasing power brought about by female income in Guatemala, women themselves experience weight loss and poorer health.

Food security should not be taken for granted and may well be an issue at stake for vulnerable individuals and households. Trade affects the relative prices of goods, and often results in an increase of domestic prices of agricultural commodities when exported. This places a disproportionate burden on poor households with weak purchasing power. When women direct their work effort away from home-based and consumed agriculture towards the formal economy, much of their income earned may simply be dissipated in purchases of food previously produced at home (Elson and Evers 1996). Similarly an increase in income and consequent food consumption may not fully substitute for a decline in breastfeeding and worsening childcare practices, which may come about as a result of an extensive length of women's working day and unfavourable strong cultural and social norms that limit the reallocation of household tasks to husbands (Elson and Evers 1996).

An additional impact, that has received little attention so far in the literature, is the effect of lower trade barriers (such as import quotas, but mainly tariffs) on public expenditure. The shift from tariffs to Valued Added Taxes (VAT) does not usually compensate for the loss in public revenues and results in reductions in public goods (such as health and education) and/or subsidies on basic commodities (such as electricity and water). The gradual elimination of tariffs between 1970 and 1990 is found, for instance, to be associated with a general pattern of reduced social expenditure (particularly spending on education) as a share of GDP for the same period for the least developed economies (Rao 2001). Rao (2001) claims that a \$1 decline in trade-tax revenues results on average in a decrease of public expenditure on capital formation and human capital by \$0.37. Simultaneously, the imposition of a VAT increases prices of basic commodities and services consumed by the household. Although the effect is not gender specific and affects the household as a whole, it is usually women who are in charge for the purchase of these basic commodities (such as food) whose prices rise (Peralta et al. 2006; Grown 2006; Palmer 1995). Women, with primary responsibility for household welfare, hence, often need to counterbalance price increases in basic commodities by extending their work time and effort. Furthermore, removals of state support, such as public services and subsidies for inputs and credit,

often marginalise poor producers, many of them women, and deprives them of access to essential assets to commence production (Athill et al. 2007). These effects can potentially be of substantial magnitude but further research would need to quantify the impacts and verify their disproportionate imposed burden on women.

Impact of Trade on Intrahousehold Dynamics (and the Gendered Division of Labour)

Gendered stereotypes are amongst the most important contributing factors to women's poor working conditions, insecure and seasonal terms of employment and segregation into lower paid occupations. Furthermore, even the exact involvement of female workers in non-home based employment itself depends to a large extent on the willingness of their husbands (and/or other household members) to assist in reproductive tasks and/or permit work outside the household. This unequal access to opportunities is often extended to the rest of the household. Older daughters (rather than boys), for instance, frequently replace their mothers in household tasks, often at the expense of their schooling.

Nevertheless, opportunities for women to receive own income in expanding trading sectors (especially in manufacturing) have at the same time initiated a slow but gradual pace of change regarding unfavourable intra-household dynamics and employment segregation. The arrival of trade-related employment opportunities (and subsequent income flows) has in many cases weakened norms that traditionally excluded women from formal productive activities and increased their intra-household bargaining position. Simultaneously, this often bears a beneficial impact on intra-household dynamics with respect to the allocation of resources (income, consumption) as well as the gendered division of time between productive and reproductive activities. In that tune, a number of studies suggest that waged women tend to experience, as a side effect of controlling their income, an increase in their freedom of movement and bargaining power within the household (Arizpe and Aranda 1981; Kabeer 2004; Tiano 1994, Chant 1995; Paul-Majumder and Begum 2000).⁴ Increased female employment and control of own income, for instance, provide young women with the opportunity to delay marriage and childbirth. Paul-Majumder and Begum (2000) provide supportive

⁴ Although these studies concentrate on the impact of waged female employment in exporting industries, the effect is by no means strictly-speaking trade specific.

evidence indicating that female workers in the garment industry in Bangladesh postpone on average both their age of marriage as well as first childbirth by approximately four years.

An important element of intrahousehold dynamics relates to the gendered allocation of productive and reproductive tasks. While women often benefit directly from their waged employment in exporting sectors, this essentially directs a larger share of their available time towards productive activities rather than domestic work. Social norms, varying between households, regions or countries, determine whether this comes at the expense of adequately fulfilling reproductive tasks. While by no means do these norms adjust instantly, women's control of own income often gradually erodes traditional attitudes regarding the intra-household division of labour between productive and reproductive tasks. Tiano (1994) claims that the increase in female participation in the Mexican export-oriented manufacturing sector gradually changed perceptions regarding the gender-based division of tasks at a household level. As she puts it in her own words, "conventional beliefs, that women's employment destroys the family by interfering with their reproductive roles, are giving way to new views of wage work as a means for women to help support their households". In some circumstances, male partners even reallocate part of their time towards domestic tasks to fill the gap in reproductive activities. For instance, a recent study on the effect of female employment in the non-traditional agricultural exporting sector (NTAEs) in Ecuador on the intrahousehold time allocation (Newman 2002), argues that women receive substantial help from their husbands for reproductive activities, especially when the latter are employed in the same sector⁵. In a broader context, the opportunity of female employees to earn their own income by engaging into expanding trading sectors has been directly related to an improvement in their self-esteem, social appreciation, decrease in incidences of forced labour and enhanced representation in parliament (see Neumayer and De Soysa (2007) and Gray et al. (2006)). Nevertheless, this shift in gendered attitudes is far from universal and in many cases existing norms prevail and women still receive little assistance from their husbands for reproductive tasks.

Impact of Trade on Working Conditions

⁵ When both partners are employed in non-traditional agriculture, husbands dedicate on average more than twice the time they would dedicate if working in separate sectors (i.e. 36 minutes).

Numerous studies on the nature of employment in expanding exporting sectors focus on the precarious and substandard working conditions, that employees and women in particular face in expanding exporting sectors (see Lazcano 2003; Chant 1995; Glick and Roubaud 2006). Female employees frequently have to work extra hours to meet excessive demand, and this may involve working all night to meet delivery deadlines when necessary. Glick and Roubaud (2006) find that in Madagascar female employees in the export processing zone, work on average 209 hours per month compared to 168 in the non export processing zone's private sector and 147 in public administration (while the corresponding differences for their male counterparts appear to be of smaller magnitude).

Substandard working conditions in exporting sectors extend beyond working long hours. There is a lot of evidence confirming that employees in several export oriented subcontracting sectors face serious health hazards and in many of these sectors (particularly in the textile and garment industries) this disproportionately affects female workers. In manufacturing, factories offer inadequate lighting, are poorly ventilated and overcrowded and have uncomfortable sitting arrangements with workers often standing for long periods. Female workers often face a high risk of burns from furnaces, as well as exposure to toxic substances (Lazcano 2003; Chant 1995; Paul-Majumder and Begum 2000). Several studies also confirm that several female workers suffer urinary infections, kidney problems and menstrual complications due to the limited time they have to use sanitary facilities. The Asian Development Bank conducted a survey between 2003 and 2004 to assess the working conditions of female employees in garment factories in Cambodia and concluded that a large number of women worked under harsh conditions without adequate health and safety measures in place (ADB 2004). In assembly plants in Puebla, Mexico, similar poor working conditions have been observed with respect to inadequate lighting, lack of air-conditioning and inappropriate sitting for female workers (Lazcano 2003).

Barrientos et al. (2004) warn that health and safety standards remain deficient in non-traditional export agriculture as well, where the widespread use of pesticides and other chemicals in the production process expose female employees to severe health hazards. In service related employment, hazards associated with computer-based information processing work generally involve muscular skeletal disorders, deterioration of visual capacity and related problems, stress and fatigue, skin infections and irritations and reproductive hazards (Pearson and Mitter 1993). Although most evidence unanimously points to a common pattern of adverse working conditions across most export-

orientated sectors in developing countries, the result has to be treated with caution in order to derive any comparative insights. There is very little evidence that working conditions appear to be of better quality in the non-export sector, and therefore an expansion of trading activities may simply reinforce a general pattern of widespread economy-wide poor working conditions.

Impact of Gender Inequality on Trade

Causal mechanisms between trade and gender issues can run in both directions. Gender inequality in terms of purposively suppressing female wages and labour rights affects trade expansion and specialisation in specific commodities. Lower female wages in export-orientated industries, for instance, created a comparative advantage in labour-intensive commodities (and stimulated export-led growth) for many East-Asian economies (Seguino 1997, 2000a, 2000b). Intense competition in international markets, especially for commodities whose demand is strongly responsive to price fluctuations, has exerted pressure on trading firms to curb labour costs and disproportionately suppress wages of female workers, whose bargaining power is often weaker. The simultaneous liberalisation of international capital markets (alongside the elimination of trade restrictions) has further exacerbated the vulnerability of such exporting sectors. On the one hand, it injected much-needed foreign funds in developing countries as foreign direct investment but on the other hand it allowed capital to reverse direction and flow out of the developing economy with the same ease it entered.

In that tune, the export-led growth miracle model of Taiwan was much supported by suppressing female wages to maintain the competitiveness of domestic industries and shield them from intense international competition in commodity markets and capital flight (Seguino 1997, 2000a, 2007). Another incidence of such gender-discriminatory comparative advantage is provided by Mauritius, which segmented its labour force across traded and non-traded sectors, taking advantage of a large pool of low-skilled female workers, to purposively create a comparative advantage based on low female wages (Rodrik 2000). Similarly, while female employment has increased in recent years in China, there has been a simultaneous widening of the gender wage gap, only partially explained by gendered productivity differences (Maurer-Fazio and Hughes 2002). While state enterprises generally supported gendered equality in wages, the gradual liberalisation of markets and expansion of private ownership (and consequent

pressure for higher profits and dividends to off-shore investors) placed a downwards pressure on female wages.⁶ Seguino (2000a) finds for her sample of Asian economies that a 10% increase in the male-female wage gap is expected to lead to a 16% increase in growth rate of GDP (by creating a comparative advantage in labour-intensive commodities). Busse and Spielmann (2006) obtain similar results regarding the impact of gender inequality on creating comparative advantage in labour-intensive industries. They find that a 1% increase in the gender wage gap increases the share of labour-intensive exports in total exports by 0.3-0.4% (for the year 2000). Nevertheless, it is fair to mention that as trade expands, the positive income effect (due to exports) is likely to translate to some extent to higher female wages, and thus make alternative policies (to gendered-wage discrimination) necessary to stimulate investment, increase productivity and preserve competitiveness. Seguino (2000a), for instance, confirms that Korea gradually had to rely increasingly more on domestic savings for its industrial expansion and its firms steadily shifted focus on improving technologies in use to preserve competitiveness of their products rather than cuts in labour costs.

A Range of Mediating Factors and Conditions

The focus so far has been on identifying general gender-trade linkages and establishing causal mechanisms, which capture the impact of trade expansion on gender-disaggregated income levels, female labour force participation, working conditions and gender roles and stereotypes. The impact of trade on gender (as well as gender inequality on trade specialisation) is by no means clear-cut and uniform across countries (in nature and magnitude). Trade expansion, for instance, may create job opportunities for women in some countries or sectors, but may well have the opposite effect in others. Specific effects depend on a range of factors and initial conditions that mediate gender-trade linkages. While trade expansion in agriculture, for instance, may in theory create new job opportunities for female employees, discrimination and limited access to land (as well as other factors) may hinder women to grasp such opportunities in many parts

⁶ Using data gathered in 1992 for the Chinese Labour Market Project, Maurer-Fazio and Hughes (2002) find that the proportion of unexplained gendered wage gap (after controlling for differences in productivity) amongst private joint-venture firms is more than twice as large compared to state enterprises (47.35% and 22.96% respectively). Although at first glance it may appear that women in the private sector are worse off, this is only the case in relative terms. The authors state that women in joint-venture enterprises earn an average 16% more than their counterparts employed in state enterprises.

of the world (Wood 1994; Fontana 2003). In this section we go a step further to explore these mediating factors and conditions in place that influence the nature and magnitude of gender-trade relationships expounded in Section 2. We classify them in broad categories (production factor endowments, labour market conditions, cultural characteristics, and production standards) in an attempt to provide a list of general factors/initial conditions that complements our prior analysis and in part elucidates the divergent experience of gender-trade impacts across countries.

Production Factor Endowments

Economies differ greatly according to their relative endowments in production factors, such as land, physical capital and skilled and unskilled labour. The immense disparity in possession of production factors is reflected both at a macro level (across countries), as well as at a micro level (across individuals). The relative availability of production factors shapes the product specialisation patterns of individual countries, while the gendered control of these factors at an individual level influences the inequality between men and women in their capability to take advantage of opportunities arising from trade expansion.

Factor endowments at the macro level

Neoclassical trade theory suggests that relative abundance in production factors (labour, land, capital) determines comparative advantage in those goods that make intensive use of them. The relative abundance of most African and Asian nations in land and unskilled labour respectively, explains to a large extent why Africa has specialised more in agricultural commodities, whereas Asia in light manufacturing that depends on manual labour (Wood 1994). Women tend to constitute a disproportionately large share of the unskilled labour force in most developing countries, while men unevenly dominate in terms of land ownership. This disparity in trade specialization explains why trade expansion has benefited women to a larger extent in Asia (as unskilled workers, often employed in the garment and textile industry) rather than in Africa where female limited access to land as well as other factors has hampered their involvement in agricultural exporting activities.

Factor endowments at the micro level

Access to necessary factors to commence production, such as land, credit and information is typically more open to men than to women, who are thus restricted in their capacity to take advantage of new opportunities that arise in exporting sectors. In order to capture such gendered differences in access to production factors, the Gender, Institutions and Development Data Base (2006) constructs a 0 to 1 index of women's access to land, bank loans and other forms of property, where 0 indicates full access to resources. Women's access to resources is especially restricted in African and Middle Eastern Countries, where the index scores much above 0.5. This contrasts dramatically with women's access to resources in developed countries, where the index typically equals 0.

Due to this unequal access to resources, the commercialisation and mechanisation of the agricultural sector in developing economies has often resulted in a 'masculinisation' of the sector. Unless women gain broader access to credit, land, and information, their involvement will remain limited to low-return sectors and their capacity to penetrate male-dominated exporting sectors will be constrained. Especially in those countries where globalization favoured agricultural expansion in particular, women with generally limited access to land, and their labour power as their primary asset for production, did not reap the benefits of increased trade at the same extent as their male counterparts (Joekes 1999). It is worth emphasizing that land ownership by itself is one of the most common collaterals used to raise capital necessary to start new businesses, and in that respect women are thus doubly disadvantaged in terms of mobilizing assets for becoming involved in expanding economic activities. In that tune, the commercialisation of the groundnuts industry in Zambia, for instance, resulted in male farmers with relatively wider access to credit, land and information replacing their female counterparts, who previously dominated the sector (Wold 1997).

Education

Education is one of the most critical production factors for high-skilled exporting sectors, and we analyse its role separately in order to emphasise its contribution to reducing occupational segmentation and wage differentials between sexes. When trade expansion creates opportunities for employment in sectors that depend on a high-skilled labour force and the use of advanced technologies (e.g. banking services or electronics), many factors at play simultaneously determine the ability of women to seize such opportunities (stereotypes amongst them), but certainly their educational attainment and skills play a major role (Tzannatos 1999).

Despite significant improvements in female schooling in recent decades, the gendered gap in education still remains large. The International Labor Organization, for instance, explicitly states that: “still, almost 800 million adults have not had the opportunity to learn how to read and write, about two thirds of whom are women. In addition, 60 percent of school dropouts are girls, as they often have to leave school at early ages to help in housework or to work” (ILO 2007).⁷ Such educational discrepancies (alongside discrimination at work) often pose a serious obstacle for women to enter high-skilled professions and demand higher wages. For instance it has been observed that in exporting industries (such as textiles and electronics) in countries, such as Madagascar and Mexico (Nicita and Razzaz 2003; Fleck 2001), wages for skilled workers grow proportionately faster than those of unskilled employees. Since the unskilled labour force is dominated by women, this trend of increasing skill premia is particularly relevant for female workers. In Madagascar, for instance, the unskilled (mainly female) labour force has experienced minimal improvements in real wages in the textile and apparel industry following the liberalisation of the sector in the 1990s (contrary to their relatively more skilled male counterparts within the same sectors).

Although such divergent wage patterns are often attributed to discriminatory employment practices, much of the variation is in fact explained by gaps in educational attainments. This is supported by the observed role of schooling in incidences of wage inequality and occupational segregation across women themselves. For instance, there is a widening wage gap between skilled and unskilled women for Mexican formal employment (Ghiara 1999). Mostly-skilled female workers in the service sector received on average a higher wage compared to generally unskilled female workers in the manufacturing industry between 1987-1993 (with average wages being almost identical at the beginning of the period). If wage gendered differentials were mainly attributed to discrimination at the labour markets, one would expect –contrary to what we observe in practice– these differences across women themselves to be minimal. If education explains intra-gender wage differentials, then it should also be expected to contribute

⁷ To add to this, broad gender discrepancies in educational attainments are also likely to persist over time. To the extent that additional demand on female labour due to expansion of formal employment opportunities (arising from trade) leads to their daughters (rather than sons or husbands) taking on reproductive activities at the expense of their schooling, the educational gap between sexes is perpetuated across generations (Elson and Evers 1996).

largely to wage differences across sexes. Nevertheless, the role of education on gendered wage differentials is certainly not strictly confined to exporting sectors, but rather reinforces gendered inequalities more broadly across all sectors with observed gendered differences in schooling.

Labour Market Conditions

Anti-discrimination laws

Anti-discrimination laws need to be in place for women to take full advantage of arising employment opportunities (within expanding trading sectors, but not only). Following the 4th UN World Conference on Women in 1995, the Beijing Declaration recognised the need for anti-discrimination legal protection, within a wider platform of action for governments and institutions, to promote women's empowerment. The Declaration itself placed a particular emphasis on integrating gender perspectives in legislation and public policies planning, as a means to eliminate gender inequities. Nevertheless, the restricted representation of women in policy-making, parliamentary debates and decisive ministerial positions tends to significantly limit efforts to incorporate gender-equality clauses within national law (Durano 1999). Without necessary improvements in national law, such gender discrimination becomes in effect an obstacle for most women to engage into male-dominated expanding activities or reduce gendered wage differentials (to the extent that these do not reflect productivity differences). In that tune, the ratification of international agreements, such as the UN Convention on the Elimination of All Forms of Discrimination against Women, has been found to increase public awareness on gender issues and, hence, decrease discrimination based on sex (see, Gray et al. 2006).

Governments (and even trade unions) in developing countries often resist adopting anti-discrimination laws, as these are often associated with increased production costs and reduced competitiveness in international markets. In cases where the legal framework regarding labour rights protection is insufficient, gender discrimination becomes an endemic phenomenon, as it is well demonstrated in the case of Fiji, where restrictions to strike and establish trade unions in the 1990s resulted in discriminatory gendered wage policies, widespread sexual harassment and denial of maternity leaves (see ICFTU 1997).

In a recent paper, though, Neumayer and de Soysa (2007) rather than present the legal framework as a fixed factor mediating the impact of trade on some gendered variable, suggest that trade expansion itself may positively influence the overall protection provided to women's economic rights. A measure of economic rights is used that extends beyond wage differentials and labour force participation to capture legal and institutional aspects such as equality in promotion practices, protection against discrimination at work, protection from sexual harassment and the right to work in male-dominated professions (i.e. military and police force). Moreover, the measure does not only capture the availability of legal protection but also its enforceability. A positive difference in the share of exports and imports in GDP by 100%, would translate approximately in an improvement by one unit in the 0-4 index of female economic rights.

Labour market institutions

There is some tentative evidence in the literature confirming the facilitating role of governmental and non-governmental labour institutions in enhancing the beneficial effects of trade on gender (Prügl and Tinker 1997, Tran-Nyugen and Bevigilia Zampetti 2004, Fontana et al. 1998). Incorporating legal clauses that deal with gender discrimination is not sufficient by itself, and most likely has a minimal effect in cases where female employment takes place informally or as domestic work. Countries often establish labour inspectorates to monitor labour standards and receive complaints regarding discriminatory employment practices (see Fontana et al. 1998). Additionally, labour market intervention in terms of retraining women that lose their jobs due to increased import competition is often facilitated by relevant labour market institutions in place.

In 1997 the participatory countries of the Mercosur Latin American common market decided to form a Women's Commission to represent female workers' needs, which exerted pressure in establishing a permanent gender advisory unit to promote gender issues related to trade between all Mercosur partners (Cagatay 2001). Governmental agencies in some developing countries are also working closely with women's organisations to draft national legislation that promotes gender equality and monitor their subsequent implementation (such as the Movimiento de Mujeres Trabajadoras y Desempleadas Maria Elena Cuadra collaborating with the Ministry of Labour in Nicaragua, see Carr and Chen 2004). In India, the Self-Employed Women's Association (SEWA) of Ahmedabad is an organisation providing self-employed women with micro-

credit and enabling them, hence, to acquire capital and reap the benefits of globalised markets (Prügl and Tinker 1997). SEWA also provides education classes (regarding labour rights), negotiates payments and keeps close ties with labour inspectorates and the parliament.

Company codes of conduct

Globalisation may well extend beyond integration of good markets and freeing flows of production factors, and include the spread of regulations, institutions and codes of conduct that inhibit gender discrimination, typically found in richer countries, to developing economies (Sachs and Warner 1995). Reputation is a major determinant of success for most exporting companies and consumers in the Western world pay nowadays much attention to a company's codes of conduct, including its labour conditions, before purchasing its produce (Neumayer and de Soysa 2007). Media attention and local NGOs highlight discriminatory practices and implicitly force exporting companies to comply with a minimum level of labour standards even if they are in essence voluntary. Even without consumer pressure, an ethos of egalitarian practices may be "exported" to developing countries trading with Western firms as a side-effect of increased globalization (Fontana 2003). In that context, there has been much exposure in recent years of female employees being exploited in industrial plants in Mexico (by Human Rights Watch and Amnesty International) and recent US Congressional Bills have put pressure on American firms operating in Mexico and elsewhere to adopt labour standards similar to those found at home (Fontana et al. 1998). Although not exclusively targeting gender discrimination issues, anti-sweatshop activists in Indonesia in the 1990s achieved a 50 percent rise in real wages in the footwear, apparel and textile industry (Harrison and Scorse 2005). In a similar tune, Barrientos et al. (2003) specifically examine the impact of pressure on European and American retailers to adopt corporate responsibility throughout their supply chains and in particular focus on the company codes of conduct adopted in the horticultural sector in Kenya, South Africa, and Zambia (in the case of Kenyan flowers, for instance, almost 74% of all production was exported to EU markets in 1998-99, in a sector where 75% of all workers are women).

Gender Stereotypes

As discussed in Section 2.4, globalisation and opportunities for women to earn own income help to gradually erode social norms regarding the gendered division of labour, societal stereotypes regarding female and male strengths and weaknesses, and corresponding discriminatory practices. However, these practices are often deeply embedded and at least in the short to medium term remain amongst the reasons that trade has different effects for men than for women.

Occupational segregation

Gender segmentation between sectors and professions limits the extent to which women seize opportunities in expanding economic activities in general, and in expanding trading sectors in particular. Women often face severe difficulties in accessing male-dominated sectors (that often expand due to increased trade) due to widespread discriminatory recruitment practices and female employees are particularly disadvantaged when there is an urgent need to relocate from sectors that contract upon exposure to international competition (such as traditional agriculture). Even though occupational segregation is partly explained by gendered differences in human capital and norms regarding responsibility for productive and reproductive activities, stereotypes and embedded discrimination against female employees are often the main determinants of female exclusion from male-dominated high-skilled professions or gendered wage gaps (Mitter 2003; Tzannatos 1999).

Joeke (1999) claims that cultural stereotypes and discrimination remain a severe obstacle to female workers in the agricultural sector in most parts of the developing world. The substitutability of male and female employment is far from perfect for most economic sectors, but is particularly limited for agriculture (Fontana (2007) uses a Computer General Equilibrium Model to suggest that a loss of a unit of male labour is only substituted by half a unit of female employment). Segregation of course is widespread also within manufacturing activities; in Mexico, women become segregated in low-skilled professions (Fleck 2001) while there is a trend of rising male employment in the maquila industry in recent years. As for the services sector, women are usually concentrated in relatively low-paid professions such as those involving data capturing and processing, or hotel and car rental reservations, with men on the other hand occupying managerial positions. Nevertheless, further research along these lines would be useful. Although occupational segregation has negatively influenced female employment in many exporting industries (especially in agriculture), there is no

evidence that the extent of segregation is larger in traded rather than non-traded activities. The extent of segregation will rather depend on the sector and country of reference, rather than suggest any strict dividing line between exporting and strictly-domestic economic activities.

Domestic constraints on female labour force participation

Cultural differences, in particular with reference to the patriarchic nature of households in many developing countries and the corresponding intra-household allocation of tasks (between productive and reproductive activities) explain to a large extent cross-country divergent experiences on female labour participation (Agarwal 1997; Moghadam 1999). When women's role is widely perceived to be confined to domestic activities, women face obstacles in seeking employment in the formal economy and receiving help in carrying out reproductive tasks at home. In rural areas in Tanzania and Mexico, for instance, husbands often forbid their wives to seek employment outside their households (see Kabeer 1996, and Willis 1993 respectively). In Uganda, female participation in non-traditional agricultural exports worsened the quality of child care, as male partners are not generally prepared to take over reproductive duties (Elson and Evers 1996). Again, further research should aim to establish the trade specificity of these gendered constraints.

Research Gaps

In recent decades progress has been made in bringing gender perspectives within the trade literature. Still many of the studies remain small scale and suffer from several methodological weaknesses. The purpose of this section is, hence, to identify research gaps within existing work on gender and trade and provide some preliminary suggestions for expanding the current research focus. More generally there is a need for cross-country comparison studies, covering different trajectories of export expansion, with a rigorous approach that combines quantitative with qualitative, locally-based studies, that can pinpoint more clearly who benefits from trade, and why.

A Need to Further Refine Empirical Analysis

A series of recent econometric studies have contributed to verifying empirical links between trade and gender-disaggregated outcome variables such as employment and wages (i.e. Neumayer and De Soysa 2007; Gray et al. 2006; Busse and Spielmann 2006). Although much progress has been made in empirically testing for causal mechanisms (despite often severe limitations in data availability for developing countries), extensions of existing analyses should attempt to address several weaknesses that restrict the validity of their results. Much attention has to be devoted to ensure that statistical relationships are not spurious. Correlations between trade and gender variables may be driven by underpinning omitted variables capturing institutional, educational and other socio-economic dimensions. Furthermore, the direction of causality may be hard to verify, unless time-lagged explanatory variables are used. Furthermore, econometric analysis remains often restrictive in terms of the set of explanatory variables used to explain gender-based differentials. For improving such analysis, the factors in Section 3 could provide a guide for the selection of variables that should be included in a gender-trade empirical evaluation, which ideally in a general econometric specification should be interacted with the trade-openness proxy.

A Need For Disaggregation of Trade Effects Across and Within Sectors

In most macroeconomic studies (such as those by Neumayer and De Soysa 2007, Standing 1999 and Kucera and Milberg 2000 to mention a few), the effects of trade on wages or employment are aggregated at the sector level or for the economy as a whole. Even when the impact of trade on gender equality is beneficial at the aggregate level, there is a need to disentangle individual effects. Trade, for instance, may create employment opportunities for female workers in expanding trading sectors but at the same time destroy sources of employment for inefficient economic activities when exposed to international competition. For instance, while women often find new employment opportunities in non-traditional agriculture (such as the production of flowers or processed fruit), female workers producing traditional agricultural commodities at home may find it difficult to compete with the influx of cheaper imports. Further research needs to identify vulnerable segments of the female labour force. This implies disaggregating country level information at employment by sector (export tradeables, import-competing tradeables, and non-tradeables), sex and employment status, showing changes over time as to who has lost and gained in income and employment terms.

A Need to Quantify the Trade-Induced Changes in Relative Prices on Real Income and Consumption

Little attention has been paid so far to the impact of trade expansion on relative prices of commodities and the consequences thereof for female and household welfare. As a rule of thumb, following an increase in trade volumes, prices of imported commodities generally decrease, whereas those exported increase. Such price movements obviously affect producers and consumers in opposite directions. The expansion of traded agricultural commodities may result both in increasing female employment and in rising domestic prices of food. While some women undoubtedly benefit from new employment opportunities, the rise in food prices largely and negatively affects women in the economy (as those household members mainly responsible for purchasing and providing food). This reduces the purchasing power of income for most women, and makes food security a critical issue for particularly poor households (Elson and Evers, 1996). The increase in prices of basic commodities may also follow as an indirect effect of trade expansion. Trade liberalisation (and consequent elimination of tariffs) induces governments to resort to VAT taxes on consumption as a means to compensate for losses in public revenues (Peralta et al. 2006; Grow 2006; Palmer 1995). Integrated welfare analysis, hence, ought to take into account not solely increases in female wages and income, but also gender-disaggregated impact of changes in relative prices on real income.

A Need For An In-Depth Understanding of the Impact of Trade on Intra-Household Dynamics

There is often an overemphasis on the general impact of trade expansion on female employment and earnings, neglecting the effect of trade on male employment patterns, and its overall impact at household level. As Standing (1999) points out, the increased feminisation of many manufacturing sectors in particular (i.e. electronics, textiles, garments) has not only created employment opportunities for women in such sectors but also substituted existing male jobs. Standing (1999) claims that between 1975 and 1995, the female employment rate not only increased in 74 percent of all developing countries (of his sample), but notably the corresponding male rate also decreased in 66 percent of them. This suggests that any beneficial impacts of trade on female employment may be simply counterbalanced by decreases in male participation and loss of their contribution to household income.

Another important dimension of intra-household dynamics that requires further study is the impact of trade on gendered workload (jointly at home and outside) and its particular implications for the schooling of younger household members. Increased female labour participation often results in an excessive workload of women, as they continue to perform unpaid domestic tasks, with older children often taking over some reproductive tasks, at the expense, though, of school attendance. If indeed mainly girls rather than boys take over their mothers' reproductive labour, reduced attendance and school dropouts are likely to disproportionately affect young female household members. This in turn is likely to contribute to perpetuating gender wage gaps and job segregation across the generations, although the magnitude of such effects needs to be empirically established. What is certain is that often the literature overemphasizes the short-term positive impacts of trade-induced female labour and ignores any long-term effect this may have on gender inequality. Micro, intra-household level studies are needed to capture these market and non-market implications of trade related change, and the short and long term risks they place on the wellbeing of household members.

Concluding Remarks

There are myriad ways in which trade and gender inequities are linked, with causation running in both directions, which we have attempted to summarize in this paper. Trade expansion alter relative prices, the relative and absolute size of productive sectors, and the use of and returns on factors of production (including labour). Given that the ownership of factors of production, factor mobility and factor market distortions are all gender-biased, trade is gender-biased in its effects. Furthermore, existing gender inequality co-determines where a country's comparative advantage lies and thus shapes its export strategies. East Asia's growth strategy provides the most powerful illustration. The overwhelming evidence that trade is not gender-neutral – and the long-term implications of this – suggests that the development rationale in the international trading system can be powerfully strengthened through adopting a gender perspective. In this context, we have highlighted a number of mediating factors (gendered access to production factors, education, labour policies, stereotypes) that influence the nature and magnitude of gender-trade linkages and hence deserve particular attention in gender-trade analysis. In that respect, we have not only pursued the ambitious task of

summarizing the general causal links between gender and trade, but also explored the conditionality of these trends on country-specific characteristics.

Should international trade agreements take note of such linkages between trade and gender inequality? An issue that should be considered is whether trade that exacerbates gender inequality may at the same time be beneficial for overall growth, employment creation and poverty reduction. If it is, then the tradeoffs involved need to be explicitly quantified and valued. Gender equality is of course an intrinsic development goal and valued in addition to and independently from goals such as poverty reduction, economic growth and food security. However, increasing gender inequality may coincide with overall growth, employment creation and poverty reduction brought about by trade. Indeed, although the evidence on poverty and inequality is mixed, the evidence that trade openness is associated with economic growth is considerably stronger, although even here there are dissenting voices (Sala-I-Martin et al. 2004; Ravallion 2001, 2006; Dollar and Kraay 2004; Lundberg and Squire 2003; Sachs and Warner 1995). In the most authoritative (in the sense of widely cited) studies, a strong link between trade and growth is found: A doubling of the value of exports and imports as a share of GDP has been found to raise per capita income by between 25 and 48 percent (Dollar and Kraay 2004), and an increase by 10 percent in a common indicator of the openness of borders to international trade (the Sachs and Warner index) to increase growth rates by 10 percent (Lundberg and Squire 2003). There might be situations, hence, in which trade openness is good for certain development goals, at least in the short to medium term, but bad for gender equality. Again, the most pertinent example of such a situation is the bi-polar export strategy that *maximized* growth in East Asia through occupational segregation with roots in the patriarchal structure of society (Seguino 2007, 2000a, 2000b).

Since tradeoffs between development goals are thus likely to occur, it is important to quantify them. For informed decisions about the optimal timing, pacing and sequencing of trade reforms, which sectors are in special need of protection, and so forth, it is necessary to be able to *predict* the impact of any proposed reform measures on progress towards *each* development goal in the future, and thus establish as precisely as possible the extent to which progress towards one development goal will be traded off against progress towards another. Predictions of this kind are demanding on both data and research methods and require resource-intensive research for each country separately, since the (gendered) ownership of factors of production, factor market distortions and factor mobility, as well as the other “initial conditions” analysed in Section 3, are

different at a country level; and so will therefore be the effect of trade liberalization on relative prices, the relative and absolute size of sectors, and the use of and return on factors of production (including male and female labour). Likely effects cannot be extrapolated from the experience of other countries or even from a country's own past.

In evaluating trade impacts on gender equity and other development objectives, the time dimension is crucial. Trade that leads to worsening gender inequality may be a risky strategy for long-term economic development (even when its short-term effects on certain development goals are favourable) because of the possibility that it thereby launches countries on a sub-optimal development trajectory (one of lower long-term economic growth, and thus prospects for employment creation and poverty reduction). The exclusion of women from participation in the paid economy has been shown in formal economic models to have deleterious consequences for innovation, for the choice of production techniques, for human capital investment and through all these channels for long-term economic growth (Esteve-Volart 2004). Studies that make use of cross-country regressions of economic growth on the gender gap in education (and a host of appropriate control variables) all find that long-term growth is negatively affected by the gender gap in education, a finding that is robust to differing definitions of the dependent and independent variables, varying estimation methodologies, and extensions of the dataset (Forbes 2000; Klasen 2002; Klasen and Lamanna 2003; Knowles et al. 2002; Abu-Ghaida and Klasen 2004). For this reason, any immediate positive effects of trade expansion on economic growth (and other development goals) are likely to be offset in the long run if accompanied by increased gender inequality.

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