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GENDER INDICATORS FOR MONITORING TRADE AGREEMENTS[1]

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INTRODUCTION

Although concerns have been raised about the negative impacts of trade liberalization, there is little attention to, and research on, the differentiated impact of trade agreements on women and men; and even less on the two-way relationship between gender and trade. Nevertheless, the pattern of gender relations *is* importantly related to trade, while at the same time gender relations do influence trade outcomes.

Most governments, in the South as well as in the North, have adopted policies on gender equality over the past decade. Since the UN Women's conference that was held in Beijing in 1995, a gender perspective is being integrated in a wide variety of policy areas. Gender equality and women's empowerment are no longer regarded as a separate policy area, independent of sectoral policies. This so-called *mainstreaming* of gender into a variety of policy areas reflects the acknowledgement that gender equality cannot be achieved without changes in a wide variety of policies, including for example labour market, fiscal and financial policies. Why then, should we assume it could be achieved in isolation from trade policy? The Beijing Platform for Action explicitly refers to trade policies as an area of concern for gender mainstreaming. One paragraph urges governments to ensure that trade agreements will not have negative impacts on women, while another paragraph advises governments to closely monitor trade and other policies, in order to prevent that negative impacts might arise (UN 1996). In these two paragraphs, governments are advised to:

Para 165 k: "Seek to ensure that national policies related to international and regional trade agreements do not have an adverse impact on women's new and traditional economic activities."

Para 165 p: "Use gender-impact analyses in the development of macro and micro-economic and social policies in order to monitor such impact and restructure policies in cases where harmful impact occurs."

But UN recommendations need to be turned into concrete policy measures in order to have an impact. NGOs have been lobbying the WTO, UN organizations, the EC, and individual governments, to take gender issues into account in the design, implementation, and monitoring of trade agreements.[1] However, the response has been limited. The European Commission, for example, adopted a Regulation on gender equality in development cooperation in 1998, which was followed up by a more elaborate Regulation in 2004, emphasizing gender mainstreaming in all EU policies and activities.[2] In practice however, only a few policy areas are mentioned; trade is not mentioned in the

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2004 regulation, and mentioned only as a potential area for mainstreaming in a report on equal opportunities in the EU (European Commission 2000: 26). At the same time, the EC Directorate General of Trade has developed an initiative for "sustainability impact analyses" of trade, which provides a clear opportunity for the European Union to mainstream gender concerns in its trade reviews, along with social and environmental concerns.

The objective of this briefing is to develop a tool for policy makers to mainstream gender equality goals in trade agreements. The proposed tool consists of a set of gender and trade indicators. The briefing discusses the methodology chosen for the development of the indicators; presents eleven indicators, and illustrates their use in relation to the bilateral trade agreement between the European Union (EU) and the four Southern American countries, Argentina, Brazil, Uruguay, and Paraguay, associated in Mercosur.

METHODOLOGY AND METHODOLOGICAL LIMITATIONS

A policy tool, even for a complex task such as the monitoring of impacts of trade agreements, should be clear in its formulation and user-friendly in its application if it is to be of any use for policy makers, or for others who may be interested in the monitoring of trade impacts, such as NGOs. Indicators for monitoring policy   should have the following characteristics:
- *simple*, to facilitate their use;
- *comparable*, to allow comparisons over different trading partners;
- *dynamic*, to enable the monitoring of gender impacts of trade over time;
- *feasible*, that is, constructed of variables for which information is available in national or international databases.

Elasticity indicators are likely to meet these criteria. An elasticity compares the percentage change in one variable, with the accompanying percentage change in another variable. An elasticity may be positive, indicating the change in both variables is in the same direction; or negative, indicating that the change in one variable is in the opposite direction to the other variable. The relationship is "inelastic" when value of the elasticity is between plus one and minus one and "elastic" when the value of the elasticity is greater than plus or minus one.

Here we construct a series of trade elasticities of gender equality, in which the denominator measures changes in trade, whereas the numerator measures changes in gender equality. An example is the trade elasticity of the gender wage ratio, which measures how women's wages as a share of men's wages has changed as trade has changed. Applying this to a case when trade has expanded following a new trade agreement, if the value of the ratio is positive this shows that trade expansion has been accompanied by an improvement in the gender wage ratio; if negative, it show that trade expansion has been accompanied by a deterioration of the gender wage ratio. If the elasticity is between plus and minus one that suggests that changes in the gender wage ratio have not been very sensitive to changes in trade, and conversely values outside this range suggest that changes in the gender wage ratio have been sensitive to changes in trade. Trade elasticities of gender equality may provide initial guidance on where trade expansion has been helpful for women's

empowerment, or signal where additional policy measures are required in order to prevent possible negative impacts of trade on gender equality.

Elasticity indicators have some attractions because they are relatively simple to calculate and to apply. But they suffer from serious limitations as well. In particular, elasticities by themselves do not imply any causal relationship between the two variables in the numerator and denominator. They have to be formulated and interpreted in the light of   theory and of other empirical evidence. Moreover they abstract from a wide range of other factors that may influence changes in the numerator and the denominator. This is a drawback because it is difficult to distinguish between effects of trade on gender equality and effects originating from other factors.[3] Changes in the degree of gender equality in the labour market, for instance, may arise from a variety of factors, such as labour supply trends, labour market policies, macroeconomic reform, technological change, investment choices or fluctuations in aggregate demand.

In addressing this problem, I share the position taken by Burda and Dluhosch (1999), as well as by Gregory (2000), who argue that trade and technology factors are not mutually exclusive explanations for labour market changes, but are inter-related phenomenon whose impact may be mutually reinforcing. A further problem is to distinguish between the impacts of a trade agreement between two trading partners on the one hand and impacts of trade agreements with third parties on the other hand. This problem can be addressed, at least partially, by only calculating the elasticities for trade between major trading partners, focusing on relatively high volumes of trade. In this context, it is important to check whether a trade agreement between two partners has resulted in a net expansion of trade or merely trade diversion, away from other trading partners (this point will be further explained later).

A final problem in using trade elasticities of gender equality is lack of appropriate data disaggregated by sex. Even if data is disaggregated by sex, it can be misleading due to difference in the coverage of males and females. For instance, labour market data undercounts informal employment, and because women are more concentrated in informal employment than men, their employment and incomes are more subject to undercounting than those of men (Standing 1999). Moreover, the measurement of gender equality requires data on variables that have traditionally not been included in most statistical surveys; for instance, time spent on unpaid work caring for families and communities.

Taking these methodological limitations into account, the gender and trade indicators to be presented in this briefing should be treated with considerable caution. Their advantage is their simplicity, but the disadvantages mean that they should be treated as diagnostic tools which reveal symptoms not causes. If the symptoms suggest cause for concern, then the elasticity indicators need to be complemented by more in depth analysis, using tools such as multiple regression analysis that would investigate the roles of factors other than trade, and historical case studies that can investigate transmission mechanisms between trade and gender equality.

Now, we turn to specification of the elasticities. Let us first consider the possibilities for the denominator, that is, the trade variables. The denominator can be calculated in at least four different ways for trade in any given period between two countries, blocks, or regions (in which subscript *i*

refers to the country for which the elasticities are to be calculated, and subscript *j* refers to a trading partner, or to all trading partners, so that EX_{ij} stands for the exports from country *i* to country *j* or al other countries). The formulations all include the delta sign, which means change in a variable over a period of time. The four options are listed below:[4]

- Total value of trade of a country or a region *(dEX_{ij} + dIM_{ij})* or separate values for exports and imports *(dEX_{ij})* and *(dIM_{ij})*;
- Total value of trade as a share of GDP of a country or a region *(dEX_{ij} + dIM_{ij})/ dGDP_i* or separate values for exports and imports *(dEX_{ij}/dGDP_i)* and *(dIM_{ij}/dGDP_i)*;
- Bilateral or regional value of total trade as a share of total trade of a country or region *(dEX_{ij} + dIM_{ij})/(dEX_i + dIM_i)* or separate values for exports and imports *(dEX_{ij}/dEX_i)* and *(dIM_{ij}/dIM_i)*;
- Openness measured as tariff reductions of x percent, hence *dTariff*.

The choice between the four options for the denominator of trade elasticities follows from the type of relationship one is interested in, bearing in mind a number of technical caveats (for an overview of such caveats, see Rodriguez and Rodrik 2001). The first trade variable measures the absolute value of trade, without separating the impact of trade agreements on trade values from the impact of other causes. The second variable is share of trade in GDP, which indicates the relative importance of trade in an economy. Hence, this measure is best used when trade policy leads to substantial shifts in the relative importance of trade, compared to the value of consumption of domestically produced goods, government expenditures, and investment. The third variable highlights trade with a particular trading partner, relative to trade with all other trading partners. This variable is relevant in cases of shifts in relative importance of trading partners or possible cases of trade diversion. Finally, the fourth trade variable is a direct measure of the change in trade policy. This is most closely related to the objective of monitoring policy, but does not throw any light on how changes in trade policy have affected trade values.

For the numerator, a wide variety of gender equality measures can in principle be identified, but data limitations mean there are only a small number of feasible measures. Moreover it is important to choose dimensions of gender equality which existing research suggests may be sensitive to trade. Feasibility and relevance suggest the use of measures of gender equality in income, employment, wages, and in unpaid domestic work. The next section brings together the trade and gender variables to create a number of trade and gender equality elasticities. It uses the change in the share of trade in GDP as the denominator, for illustrative purposes.

TRADE AND GENDER EQUALITY ELASTICITIES

In arguing for the relevance of the particular measures identified here, I will rely in particular on Çaĝatay, Elson and Grown (1995) and Grown, Elson and Çaĝatay (2000), two special issues of *World Development* dealing with relationships between gender and macro economic policies, including trade policies. The indicators will all be formulated in such a way that a positive elasticity refers to the case in which an increase in trade is accompanied by an increase in gender equality, whereas a negative elasticity implies gender equality is negatively associated with trade expansion.

Income

In the literature, there are only very few analyses of the relationship between trade and household or personal income. The dominant position, advanced by mainstream economics and international organizations like the WTO, World Bank, and IMF, is that trade liberalization has a positive effect on the personal incomes of poor people, via the intermediate variable of economic growth. Critics of the dominant position on the relationship between trade and income question the presumption of a trickle-down effect, and point out, that in any case, trade does not always lead to economic growth. Rodrik (2001) demonstrates with cross-country multiple regression analysis that there is no systematic positive relationship between trade liberalization and economic growth. The regressions actually indicate that the reverse may be true. "The only systematic relationship is that countries dismantle trade restrictions as they get richer." (Rodrik 2001: 22) He argues that only after countries have experienced economic growth, are they able to benefit from opening up their markets. Even if trade liberalization is associated with economic growth, it may also be associated with widening income inequality (Wade 2004; Cornia 2004).

We now turn to the gender dimension of the relationship between trade and income. While most countries do not provide data on personal income disaggregated by sex, there is a wealth of evidence that women's personal incomes are less than those of men. Women, for instance, have fewer assets than men; on average their wages are lower; and they benefit as individuals less than do men from social insurance.[5] Personal income is often not a good measure of personal consumption because of intra-household income transfers. But it does signal personal command over resources, and is a measure of economic power. If an expansion of trade is associated with a rise in the personal incomes of the less well–off, this can be expected to contribute to an increase in gender equality in personal incomes.

The ratio of female income to male (Y^f/Y^m) measures women's personal income compared to that of men. A proxy for this is regularly published in the UNDP Human Development Report, which uses the ratio of female to male earned income as one of the components of the Gender Empowerment Measure. However, this is extrapolated from female labour force participation rates and the ratio of female to male non-agricultural wages, rather than being calculated from household survey data. The income data from the latter is rarely made available in sex-disaggregated form. Trade elasticity of gender equality in personal income:

$$d(Y^f/Y^m)/d(EX_{ij} + IM_{ij})/GDP_i) \qquad (13.1)$$

Employment

Cagatay and Özler (1995) have shown, based on cross-country regression analysis, that with increasing ratios of exports to GNP, the share of women in the labour force increases. Their model includes a variable measuring feminisation of the labour force and controls for the well-known U-shaped relationship between women's labour force participation and GDP per capita.[6] This suggests the following gender and trade indicator, with the female share of the labour force as the numerator. Trade elasticity of gender equality in labour force shares:

$$d(L^f/L)/d(EX_{ij} + IM_{ij})/GDP_i) \qquad (13.2)$$

However, this measure aggregates the behaviour of different sectors of the economy and masks differences in sector- specific behaviour with respect to trade expansion. Employment effects are likely to differ between agriculture, manufacturing and services; and for export sectors, and import-competing sectors. It also masks the difference between employed and unemployed members of the labour force. Thus additional employment-related indicators are required. First we consider sector-specific indicators, beginning with a review of some relevant evidence.

Joekes and Weston (1994) found that export expansion in developing countries is frequently accompanied by increases in female employment shares in manufacturing and services. Moreover, they argue that "(…) manufacturing export employment generally provides women in developing countries with better opportunities than alternative employment even if the conditions are poor compared to those available for men in the same country, or for women in manufacturing industries in developed countries." (Joekes and Weston 1994: 82) However, women in developing countries may also experience trade-related employment loss, as has happened, for example, in Mexico since NAFTA (Benería and Mendoza 1995; Oxfam International 2002).

There has been some debate about the impact of expansion of manufacturing exports from developing countries on women's employment in developed countries. Wood (1991) found that while female manufacturing employment in developing countries has increased in absolute terms, and as a share of manufacturing employment in those countries, the share of female manufacturing employment in total manufacturing employment in developed countries has not fallen. Wood attributes this asymmetry, at least in part, to competition from developing countries, suggesting that developed countries might have replaced male labour with cheaper female labour in import competing industries. Others, however, have challenged Wood's research findings on empirical grounds, arguing that the female share of manufacturing employment did go down in OECD countries, as predicted by trade theory. Kucera and Milberg (2000 and in this volume) have applied factor content analysis showing that trade-related employment losses have disproportionately affected women workers in OECD countries. The explanation they provide for this gender bias in employment losses is that the industries that suffer particularly from import penetration from developing countries, such as textiles, apparel, leather, and leather goods, are all female-labour intensive industries.

A study of the labour market position of the low skilled in Europe (Gregory 2000) found that on average labour market policies and social policies in the EU have helped to protect disadvantaged workers, but in doing so, they benefited women less than men. Despite women's increased educational attainments, in many European countries now equal with that of men, women earn lower wages, are more likely to be employed in low skilled jobs and experience higher unemployment rates. This makes women in Europe more vulnerable to trade- related employment-loss than men.

Armah (1994) studied trade effects on women's employment in the services sector in the USA. He found that women are more often employed in trade- sensitive services sectors than men, even more so for black and hispanic women. Moreover, women appeared to be more vulnerable to employment losses due to international trade than men, with minority women being most vulnerable. In a follow-up article, Armah (1995) found that male workers in the USA benefited more from trade-related

employment gains in the services sector than female workers, even though men in this sector were less educated and less skilled compared to female employees. He argued that over time, employment gains from trade in the services sector are decreasing, and women's gains, particularly minority women's gains, are decreasing at the fastest rate.

To take account of sectoral differences in trade-related employment changes, two further elasticities are proposed. Indicator number three focuses on the export sectors. It is the trade elasticity of gender equality in shares of export employment:

$$d(L^f_{ex}/L_{ex})/d(EX_{ij})/GDP_i) \tag{13.3}$$

This indicator uses the female employment share in the export sector (L^f_{ex}/L_{ex}) as the gender equality measure, but may just as well, if data permits, use more detailed sectoral measures such as female employment shares in agricultural, manufacturing, or services export production. The rationale for this is that an increase in the female share in export employment may be regarded as an increase in gender equality (even though the conditions of employment may fall short of ILO standards), because it is an increasing share of an expanding sector.

Indicator number four focuses on the importing competing sectors. It is the trade elasticity of gender equality in shares of employment in import-competing sectors:

$$d(L^m_{imc}/L_{imc})/d(IM_{ij})/GDP_i) \tag{13.4}$$

The gender variable for this elasticity (L^m_{imc}/L_{imc}) measures male share of employment in import-competing sectors. Again, this variable could be further disaggregated by sector. The reason why this indicator includes the male share, rather than the female share, of employment is that in the context of trade liberalization, the import-competing sector is a shrinking sector. An increase in the female share in employment in this sector points to an increase in the vulnerability of women's jobs, relative to those of men; i.e. an increase in inequality rather than equality.

The review of some relevant sector-specific evidence shows that women can lose, as well as gain, jobs from trade expansion. Trade expansion may be accompanied by a rise in female unemployment rates, as Ghosh (1996) shows for Asia over the 1980s and early 1990s. Indicator (13.5) brings unemployment into the frame. It is the trade elasticity of the gender gap in unemployment rates:

$$d(U^m/U^f)/d(EX_{ij} + IM_{ij})/GDP_i) \tag{13.5}$$

The gender variable in this elasticity measures the ratio of the male unemployment rate to the female unemployment rate (U^m/U^f), and may also be disaggregated over export or import competing sectors. However, in many developing countries unemployment data is a poor indicator of lack of an adequate means of making a living, because in the absence of welfare support, people will try to make a living in the informal economy, as low paid temporary, part-time or seasonal workers. This may be regarded as a form of under-employment, either because the worker is not able to work as many hours as they would wish, or because the worker is unable to achieve the level of productivity that they are capable of. Indicator 6 focuses on under- employment (denoted by L_x, in which x may refer to a variety of proxies for under-employment, such as temporary work, part-time work, and seasonal work). Trade elasticity of the gender gap in under-employment:

$$d(L^m_x/L^f_x)/d(EX_{ij} + IM_{ij})/GDP_i) \tag{13.6}$$

The indicators considered so far are indicators of employment quantity. They do not indicate whether trade expansion challenges occupational sex-segregation or intensifies the crowding of women into a few highly "female" occupations. To examine this we need an indicator that includes a measure of occupational sex-segregation. Indicator (13.7) incorporates a well-known measure of the latter; i.e. the Dissimilarity Index, or Duncan Index, *(DI)*.[7] An increase in the inverse of this index signals a decrease in job segregation, and thus an increase in gender equality. Indicator (7) could be measured for the economy as a whole (7a) or by sector (7b and 7c).

Trade elasticity of gendered job segregation:
$$d(1/DI)/d(EX_{ij} + IM_{ij})/GDP_i$$ (13.7a)

Trade elasticity of gendered job segregation in the export sector:
$$d(1/DI_{ex})/d(EX_{ij})/GDP_i$$ (13.7b)

Trade elasticity of gendered job segregation in the import competing sector:
$$d(1/ID_{imc})/d(IM_{ij})/GDP_i$$ (13.7c)

Wages

There is a considerable literature on the relationship between trade and the gender wage gap. Some contributions investigate the impact of the gender wage gap on trade; others investigate the impact of trade on the gender wage gap. An example of the first type of contribution is provided by Seguino (2000a and 2000b), who analyses the how the gender wage gap affects exports, investment, and growth, in a group of semi-industrialized countries. Using cross-country regression analysis, she shows that wage inequality and GDP growth are strongly positively correlated. She finds that the link works via the positive effect of the gender wage gap on the growth of exports and investment.

Some of the investigations of the impact of trade expansion on the gender wage gap find a positive impact, and some a negative impact. An example of positive impact is provided by Black and Brainerd (2003) who argue, on the basis of US data, that import competition reduces the ability of firms to discriminate against women, and hence, that trade expansion reduces the gender wage gap via this mechanism. This conclusion is disputed by Kongar (this volume) who provides an alternative explanation for the reduction in the gender wage gap in the USA. A cross-country analysis of 62 developed and developing countries by Weichselbaumer and Winter-Ebmer (2003) finds that national equal treatment laws are significant, as well as international competition, in reducing the gender wage gap. Oostendorp (2004) confirms this finding in a study covering more than 80 developed and developing countries. He also found evidence that the impact of trade is different on the gender gap in low skilled work and high skilled work: the expansion of trade narrows the gender wage gap for low skilled labour in developing countries but not for high skilled labour in these countries.

In a study on effects of import competition on the gender wage gap in Taiwan and Korea, Berik and van der Meulen (2004) have challenged the hypothesis that more competition reduces gender discrimination in wages. They found that increased competition was positively correlated with wage discrimination against women, probably due to a reduction in women's bargaining power.

This brief literature review on the relationships between trade and the gender wage gap suggests that the relationship may be different for different countries and groups of workers. So, whatever the relationship may be, it seems plausible to expect some effect of trade expansion on the gender wage gap. This is reflected in the following indicators.

Trade elasticity of the gender wage gap in the export sector:[8]

$$d(W^f/W^m)/d(EX_{ij})/GDP_i) \qquad\qquad (13.8a)$$

Trade elasticity of the gender wage gap in the import competing sector:

$$d(W^f/W^m)/d(IM_{ij})/GDP_i) \qquad\qquad (13.8b)$$

Export expansion may also raise women's wages in the export sector, relative to women's wages in other sectors. This can be captured by the trade elasticity of women's wages in the export sector, relative to women's wages in other sectors *(Wf):*

$$d(W^f_{ex}/W^f)/d(EX_{ij} + IM_{ij})/GDP_i) \qquad\qquad (13.9)$$

Unpaid domestic work

The expansion of trade may have impacts on unpaid domestic work as well as impacts on paid work. Unpaid domestic work is primarily done by women and girls, and includes tasks such as housework, childcare, care for sick and infirm household members, production of food for the family, and collecting water and fuel. Floro (1995) analysed a variety of case studies on combined effects of macroeconomic reform and export orientation on women's unpaid domestic work in developing countries. She concludes that women bear most of the burden of adjustments, increasing both their paid and their unpaid labour time and increasing the intensity of their work. Export expansion may provide more paid work to women while trade liberalization will likely have indirect effects on women's unpaid work via its effects on public finance. Tax revenue from trade taxes has fallen in many developing countries (Khattry and Rao 2002). This has lead to reductions in public expenditure (measured as share of GDP) on infrastructure, education and health (Khattry 2003). In turn, this is likely to increase women's unpaid work burden, as they will try to produce substitutes for public services.

A key aspect of women's unpaid domestic work is providing meals for their families, either from food they have grown themselves, and/or from food they have purchased. The literature suggests that trade may affect food security in several ways. When the volume of food exports increase, domestic food prices may rise (Pinstrup-Andersen 2003; and for Argentina, see Gerchunoff and Llach 2003). When, however, the volume of food imports increases, food prices tend to fall. A rise in food prices will not be gender neutral. It will tend to increase the time spent on providing meals by women who purchase most of their families' food, as they try to offset the price rises by spending more time in shopping for bargains, and in buying food which is less processed and takes more time to prepare. For women farmers who produce food for their families and sell surpluses on local markets, a rise in food prices will tend to increase their incomes. However, it may also lead to pressure from their husbands to divert their time from production of food for the family to produce food crops for export, the proceeds from which are controlled by their husbands. (For a discussion of these complex possible effects on farming women, see Darity, this volume, and Warner and Campbell 2000).

In order to capture the effects of trade on gender equality on unpaid domestic work, the following indicator can be formulated, where $UNPT^m/UNPT^f$ is the ratio of time that males spend in unpaid domestic work to the time spend by females. Trade elasticity of the gender gap in unpaid labour time:

$$d(UNPT^m/UNPT^f)/d(EX_{ij} + IM_{ij})/GDP_i) \qquad (13.10)$$

However, time series data on time spent on unpaid work is only available for a few countries. It is easier to obtain data on food prices, and use changes in food prices as a proxy for changes in time spent in purchasing food and preparing meals for families. The change in the inverse of the food price index (100/FPI) is an indicator of the affordability of food. An improvement in food affordability is likely to reduce the time that women who buy food have to spend in providing meals for their families, and thus to reduce the gender gap in time spent in unpaid work. Trade elasticity of food affordability in relation to exports:

$$d(100/FPI)/d(EX_{ij})/GDP_i) \qquad (13.11a)$$

Trade elasticity of food affordability in relation to imports:

$$d(100/FPI)/d(IM_{ij})/GDP_i) \qquad (13.11b)$$

Positive values for indicators (13.10), (13.11a) and (13.11b) would imply that trade expansion would improve gender equality in time spend in unpaid domestic work.

AN EXAMPLE: EU-MERCOSUR TRADE RELATIONS

In this section, I will illustrate how the gender indicators may be applied to a particular trade relation. A trade agreement between the European Union and Mercosur was initiated in 1995 and ratified in 2000, hence, it came gradually into being since 1995. Trade between the partner regions has increased since 1995, and is expected to increase further when the trade agreement is followed by a more wide-ranging association agreement, including a free trade area, as is currently being negotiated between the two blocks.[9] Trade between the two partners follows a traditional North-South pattern of specialization (see Table 13.1).

Table 13.1 Composition of Mercosur trade with EU (2002)*

Sector	Mercosur Exports to EU (%)	Mercosur Imports from EU (%)
Agriculture	70	7
Manufacturing	30	90

Source: EUROSTAT, 2006.

* The import data do not add up to 100% because of other relevant categories not included in the table.

The Mercosur economies have experienced falls in their GDP in various years since 1995, particularly for Argentina (10.8 percent decline in GDP) and Uruguay (12.7 percent decline in GDP).[10] Since 2002, Mercosur GDP growth rates have been positive. The data will be taken for a ten-year

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period 1995-2004, but it must be noted that this period includes a serious economic crisis, especially for Argentina. At the same time Mercosur members have had currency devaluations, boosting their exports and discouraging their imports, which is reflected in the trade data. The combination of falling GDP and rising trade has dramatically increased trade as a share of GDP in the Mercosur, but this is primarily due to the economic crisis and the monetary and fiscal polices used to address this, rather than the trade agreement with the EU. Hence, the denominator of the elasticities to be presented in this section will measure percentage changes in trade values between Mercosur and the EU, not in the trade share in GDP.

As recommended in the discussion of methodology, it is important to check that trade between the two trading partners is substantial, vis-à-vis other trading partners; and to consider the possibility that an expansion of trade between the chosen trading partners is simply the result of diversion away from trade with other partners. Table 13.2 shows that the EU was the most important trading partner for Mercosur, both in 1995 and in 2004. The changes in trade shares in the table suggest that the EU-Mercosur agreement has not implied trade diversion away from other regions, since it shows that the EU's share of the total trade of the Mercosur declined slightly from almost 27 percent to just over 24 percent. However, the EU's share of Mercosur exports has increased. For the EU, however, Mercosur is only a minor trading partner, representing about 2 percent of EU trade (Eurostat, 2006). Because of this marginal importance, only gender and trade indicators for the Mercosur trading partner will be presented in this briefing, not for the EU.

Table 13.2 Values and shares of Mercosur trade with major trading partners (million USD)[a]

	1995 (%)				2004 (%)			
	EU	**USA & Canada**	**Mercosur[b]**	**World**	**EU**	**USA & Canada**	**Mercosur[b]**	**World**
Imports	22055 (27.7)	17354 (21.8)	14495 (18.2)	79528 (100)	24835 (25.3)	20926 (21.3)	17910 (18.2)	98276 (100)
Exports	18217 (26.0)	11026 (15.7)	14199 (20.3)	70008 (100)	32299 (32.9)	27135 (19.5)	16721 (12.0)	138892 (100)
Total Trade	40272 (26.9)	28380 (19.0)	28694 (19.2)	149536 (100)	57134 (24.1)	48061 (20.3)	34631 (14.6)	237168 (100)

Source: UNCTAD Handbook of Trade Statistics, 2006.

Notes: [a] The major regional trade shares do not add up to the world share because other regions are not included in this table.
[b] The differences between the import and export totals for intra-Mercosur trade are due to measurement errors.

From these data, we can now calculate the denominator values for the gender trade elasticities between Mercosur and the EU, for the period 1995-2004 as follows:

Increase in value of total Mercosur-EU trade: $d(EX_{ij} + IM_{ij})$ of 41.9 percent
Increase in value of Mercosur exports to EU: dEX_{ij} of 77.3 percent

Increase in Mercosur imports from EU: dIM_{ij} of 12.6 percent

For the numerator values, available data for relevant gender variables and changes in them over time in the Mercosur is presented in Table 13.3.[11]

Table 13.3 Gender equality indicators, Mercosur 1995-2004

	1995	2004	Change (%)
Food affordability index (100/food price index, 2000 = 1)	1.15	0.67	-42.0
Gender gap in unemployment (male unemployment rate as % of female)[a]	72.4	71.1	-1.8
Female share of agricultural employment (%)[b]	31.6	29.8	-5.7
Male share of manufacturing employment (%)[b]	62.2	44.5	-28.5
Agricultural gender wage ratio (female as % of male)[c]	101.5	87.21	-14.1
Manufacturing gender wage ratio (female as % of male)[c]	56.9	61.3	7.7

Sources: Human Development Report 2004, New York: UNDP; LABORSTA, ILO, 2006; ECLAC Gender Indicators, 2006. All values are calculated with weighted for share of population size for each country in Mercosur.
Notes: [a] 2003 data.
[b] No data available for Paraguay; all data for 2003.
[c] There is no annual data for the gender wage gap, hence, for Argentina 1997 was used, for Brazil 2001, for Uruguay 1994 and for Paraguay 1996 and 2001.

In combination with the denominator values presented above, the gender data result in the following gender and trade elasticities, presented in Table 13.4.

Table 13.4 Gender and trade indicators for Mercosur trade with EU 1995-2004

Trade elasticity of:	Value	Elastic?
Food affordability	-1	Yes, negative
Gender gap in unemployment	0	No
Gender equality in export employment (i.e. in agriculture)	-0.1	No
Gender equality in import competing employment (i.e. in manufacturing)	-2.3	Yes, negative
Gender wage gap in export sector (i.e. in agriculture)	-0.2	No
Gender wage gap in import competing sector (i.e. in manufacturing)	0.6	No

Source: Author's calculations from ILO data base (LABORSTA) and UNCTAD Trade Statistics, both online 2006.

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As noted in the discussion above about methodological limitations, the indicators are tools for diagnosis. If they show that an expansion of trade has been accompanied by a decline in gender equality (i.e. the elasticity is negative), then there is a need for further research, either quantitative (multiple regression analysis including other factors than trade influencing gender inequalities) and/or qualitative (case studies on the trade agreement and its institutional context, and the transmission mechanisms through which trade expansion impacts on gender equality). So, the values of the elasticities in Table 13.4 should be regarded as providing a preliminary assessment, that may signal areas of concern in future negotiations between the Mercosur and the EU.

The trade elasticity for food affordability is unity and negative (-42/41.9 = -1). Mercosur exports mainly food items, the same that are consumed domestically. This may have led to a crowding out of domestic food supply by foreign demand, following the currency devaluations. The indicator suggests that it has become more difficult for women to perform their assigned roles in household as food providers, because women in Mercosur are net food buyers, not growers (over 80 percent of the population lives in urban areas). This is even more so the case, because absolute female (and male) income levels have declined over the period.

Table 13.3 shows that the ratio of male unemployment to female unemployment has declined slightly. Since there has been a substantial increase in trade, the indicator is inelastic. It appears that trade expansion has not helped much in reducing the gender gap in unemployment rates.

For changes in the female employment share, it is important to distinguish between the two main trade sectors with the EU: agriculture and manufacturing. As Table 13.1 has already indicated, the exports to EU largely consist of agricultural products, whereas the imports from the EU are mainly manufactured products. The elasticities, therefore, need to distinguish between these two sectors. The indicator for the female employment share in the major export sector, agriculture, is negative and inelastic (-5.7/77.3 = -0.1). So, the enormous increase in agricultural exports has not helped to increase the female employment share in this stable and expanding export sector in Mercosur.

At the same time, we find that the trade indicator for the male employment share the major import sector, manufacturing, is negative and elastic (-28.5/12.6 = -2.3). Thus there has been an increase in women's share of jobs in the sector that faces import competition. Further research needs to be done in order to find out whether this process is paralleled by increasing flexibility and vulnerability of these jobs, and pressure on labour standards. Also, there may be different gender impacts for sub-sectors in manufacturing, for example depending on the capital intensity of a sub-sector. Such detailed analysis within a sector may reveal whether the position of women is improving vis-à-vis men because the position of both improves while women are catching up, or, alternatively, whether, the positions of both are deteriorating but men's position is deteriorating faster than women's. But, whereas in many other developing countries, a move of women from agriculture to manufacturing is generally an improvement of their employment condition since manufacturing is an expanding factor, in Mercosur it implies a shift away from an expanding stable export sector towards an import-competing sector.

Table 13.3 shows that the aggregate gender wage gap in Mercosur has improved by 8.3 percent, but the indicators for the responsiveness of the gender wage gap to trade in both export and import sectors are inelastic. It is interesting to note that the gender wage gap has worsened for agriculture and improved for manufacturing. This may reflect shifts in relative labour scarcity along gender lines, because, as we have seen, the female employment share in agriculture has declined, while it has increased in the manufacturing sector. Again, further analysis, preferably at industry level, is required in order to find underlying mechanisms. Most of the values for the gender equality indicators of Mercosur-EU trade over the 1995-2004 period are inelastic. This suggests that trade expansion with the EU does not do a great deal to help to improve gender equality in the Mercosur region, at least, not in terms of women's relative unemployment rates, women's employment share in the expanding export sector, and the gender wage gap. The indicators for food affordability and for gender equality in employment in the import competing sector are elastic and negative. This suggests that the expanded trade with EU may actually have contributed to worsening food affordability and hence, made women's task of providing food for the household more difficult. Moreover, the negative elasticity for the male share of employment in the import competing sector (manufacturing) indicates that women's share of jobs had increased in the sector that is most vulnerable to imports from the EU, and hence most vulnerable to job losses and informalization of work.

The value of these indicators for policy makers and other stakeholders (including NGOs and trade unions) is that they signal possible negative gender impacts of the Mercosur-EU trade agreement. It should be emphasized that the indicators presented here need to be complemented with further analysis. Moreover, the indicators, aided by further analysis, can provide an information basis for policy measures that could become part of the trade agreement in the future, or can function as complementary measures to the trade agreement. Examples of such policy measures would be training in gender analysis for members of the trade delegations, effective legislation on equal pay for jobs of equal worth, food assistance for poor households, and skills training programs for unemployed women for jobs in export growth sectors.

Finally, combining the information from all four tables, the case study also suggests that there may be impacts from persistent gender inequalities in Mercosur, such as in the labour market, on its trade relationship with the EU. In particular, the data seem to suggest that the 'lock-in' situation of Mercosur in a traditional trade pattern with EU (exports of primary products and imports of manufactures) may actually be reinforced by the gender inequalities in the labour markets of the four countries in South America. Whereas women's average level of education is higher than that of men, they are paid less and find themselves increasingly employed in a sector which is threatened by imported manufactured goods from the EU. This does not seem to be the most efficient allocation of human resources and is not very likely to help Mercosur to move into higher value-added exports, because that would require a better use of human resources, partly through higher returns to female human capital (which is higher than male human capital in Mercosur), which in turn would help to stimulate labour productivity. Trade with other external partners, as well as intra-Mercosur trade, appears to be less traditional. Catão and Falcetti (2002), for example, have shown the importance of the Brazilian market for the expansion of Argentinean manufacturing exports, at least during the first seven years of Mercosur (1991-1997). A recent Mercosur report shows that currently, exports to the rest of the world have an increasing share of higher technology (IDB 2004). Hence, it is not unlikely that these other trading partners provide more opportunities for higher value-added exports than the trade

relationship with the EU. In short, a possible two-way relationship between trade and gender should be taken into account in any follow-up research for the monitoring and evaluation of the Mercosur-EU trade agreement.

CONCLUSIONS

The literature reviewed in this briefing for the development of gender and trade indicators shows that mainstreaming gender into trade policies is not an unimportant matter: trade does appear to be capable of impacting upon gender relations in a variety of ways. The set of eleven gender and trade indicators presented above is constructed in such a way that the indicators are likely to reflect at least a part of such impacts. However, the indicators need to be complemented by detailed research, at regional level, country level, and sub-sector level, taking into account the peculiarities of each trade relation and institutional setting in which trade takes place. As the literature indicates, gender impacts may be positive or negative, depending on the pattern of trade, the values of imports and exports, the sectoral distribution of exports and import competition, the skill level of male and female employment, labour market policies and institutions, laws and the enforcement of anti-discrimination laws, the gender division of labour in households, and the cultural pattern of male and female roles in the economy at large, including the unpaid economy.

If the indicators proposed here are to be used as a tool for gender mainstreaming in trade policy, more efforts will be needed in the collection of data. Sex-disaggregated employment and wage data need to be collected allowing for a distinction between export sectors and import-competing sectors. Data on time spent on unpaid work should be collected by regular national surveys and included in standard socio-economic statistical databases.

Policy makers, NGOs, trade unions, and other stakeholders may use these indicators at various stages of a trade agreement. Before an agreement is negotiated, the indicators may serve to provide a base line, showing how trade and gender variables have moved in the past between the trading partners. During negotiations (which may take several years) and various stages of the implementation of an agreement, policy makers may use the indicators in order to signal possible gender impacts of the trade agreement. When the agreement has been implemented for some time, the indicators may serve as a monitoring tool for policy makers as well as for civil society organizations, and possible negative indicator values may be used for the demand for and development of changes in trade policy measures or complementary policies. Overall, the indicators would serve to help in bringing consistency between trading partners' trade policies and gender policies, that is, in mainstreaming gender in trade agreements. Policy responses should include both direct and indirect measures. Direct policy measures would be needed to prevent or to redress negative gender impacts; and would include actions that are directly related to trade and the trade policy context, such as the inclusion of gender expertise in trade delegations, stimulation of foreign investment into particular sectors of the economy, technical support in the enforcement of labour laws in export processing zones, and stricter social accountability requirements for subsidiaries of companies that have their headquarters in the trading partner's country. Indirect policy measures are not part of trade policies but address the wider institutional setting in which trade takes place. They include labour market policies, in particular those addressing the problems of gendered job

segregation and the gender wage gap; fiscal policies including expenditure in services such as childcare; and policies in the area of human resource development.

The set of gender and trade indicators presented in this briefing is only one way to address possible linkages between trade and gender. They need to be integrated into a wider set of tools, such as a broader trade impact analysis; and used to inform trade negotiations and evaluations; agenda setting for WTO ministerial meetings; and civil society discussions about actual and desirable relationships between trade, on the one hand, and social issues on the other hand.

NOTES

1 It is mainly women's networks of activists and researchers that have pointed to the gender dimension of trade impacts. For example, the International Gender and Trade Network (IGTN) and the Informal Working Group on Gender and Trade (IWGGT) with members in Africa, Asia, Latin America, Europe and North America have lobbied the WTO on gender issues since it was set up (WIDE 1996; 1997; IWGGT 1998; WIDE and other NGO's 1999; Hale and Hurley 2001; IGTN 2001; IWGGT 2001). In addition, the UN has expressed concerns about gender inequality in trade liberalization: for example, the UN Economic and Social Council noted in 2000 that women were largely excluded from the WTO decision-making structures, and that the rules evolved by WTO are largely gender-insensitive.

2 Council Regulation No. 2836/98 and Council Regulation No 806/2004. The progress of gender equality in the EU is well documented, for example in European Commission (2000).

3 Some authors hold that they are able to separate trade and other factors. For example, Baldwin (1995) argues that shifts in employment and wages depend less on international trade than on technology, labour supply, and the demand for goods and services. Also Lawrence (1996) notes that it is not so much trade which is responsible for the loss in employment for low skilled labour in developed countries, but technological developments that reduce the ratio of blue collar to white collar labour everywhere, in OECD countries as well as in developing countries. Others argue that trade factors and other factors cannot be separated in the models used so far. For example, Leamer (1999) admits that models based on the Heckscher-Ohlin theory as well as the Stolper-Samuelson theorem are simply not able to disentangle trade and technological change as underlying causes of changes in relative wages for low skilled labour between developed and developing countries.

4 For a careful discussion about the choice of trade variable for impact analysis of trade liberalization, see Rodriguez and Rodrik (2001).

5 See, for example, UNIFEM (2002), which provides an overview with quantitative and qualitative data on the economic status of the world's women.

6 The U-shaped relationship between female labour force participation and economic growth reflects a global trend, that female labour force participation decreases as a country makes the transition from a least developed country to a middle income country; but then starts to increase again when countries further increase their GDP per capita. For literature on this phenomenon, see, for example, Mehra and Gammage (1999).

7 DI values range between 0 (no segregation) to 1 (total segregation). DI is calculated in its most simple version as the female share in occupation X over the female share in the labour force minus the male share in occupation X over the male share in the labour force. See Anker (1998) for a comprehensive analysis of gendered job segregation.

8 In the literature W^f/W^m is often referred to as the gender wage gap, but is in formal terms the ratio of female to male average wages. Strictly speaking, the gender wage gap is $(1 - W^f/W^m)$. In this briefing we follow the literature in the measuring the gender wage gap as a ratio rather than a difference.

[9] It is important to note that in the ten-year period for which data will be used, the EU increased from 15 to 25 member states in the last year. For 2004 the EU25 data will be used, whereas for 1995 EU15 data will be used. The difference is small, though, as the EU15 is the most important trading group in the EU25. In 2004 the EU15 export share was 93 percent of EU25 exports, while for imports the shares was 92 percent.

[10] Average data for the four Mercosur countries is weighted for population share, with Argentina 16 percent, Brazil 79 percent, Uruguay 2 percent and Paraguay 3 percent of the total Mercosur population of 235 million.

[11] For reasons of clarity and consistency, all indicators have been formulated in such a way that a positive elasticity implies an improvement of gender equality with the expansion of trade. This has led, in some cases, to non-standard formulations for numerator variables, such as male/female ratios instead of female/male ratios.

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