

**IDS Working Paper 139**

**Modelling the effects of trade on women:  
a closer look at Bangladesh**

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September 2001

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## Summary

This paper builds on previous work on Bangladesh that set out the principles of a gendered computable general equilibrium (CGE) approach by accounting for household work and leisure in addition to standard market sectors. The accounting framework of the CGE model in this paper is extended to include a greater number of market activities, eight labour categories differentiated by both gender and level of education, and nine household types, each with its own social reproduction and leisure sectors. This level of detail permits a better understanding of how policy changes have a differentiated impact on female workers, depending on their educational level, on whether or not they live in urban areas or in rural areas, and are or not head of their household. The experiments conducted with the model describe the effects of a decline in garment exports, a rise in the world price of grains and an increase in natural gas exports.

This paper is an output of the IDS research project 'Modelling the effects of trade on women, at work and at home', directed by Professor Adrian Wood and funded by the UK's Department for International Development under Research Scheme R7240. Adrian Wood provided invaluable guidance and support. Many thanks go also to Hans Lofgren and Sherman Robinson for help with the model and to Caren Grown and Shahin Yaqub for useful suggestions. Further comments are welcome, and can be sent to [M.Fontana@cgiar.org](mailto:M.Fontana@cgiar.org)



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## 1 Introduction

Women in Bangladesh, as in many other parts of the world, face competing demands on their time. In their (often primary) role of mothers and wives they have to provide for the well-being of household members. They also often work as unpaid labour on the family farm in rural areas (mostly in raising poultry and livestock, and in homestead production of vegetables and fruits), or are engaged in paid employment (mainly as factory workers in the garment industry, or as maids). Social and cultural norms, as well as economic opportunities, determine the extent to which they can reallocate their time among paid and unpaid work, social reproduction (or household work) and leisure, when policy changes occur. A proper assessment of the welfare impact of economic reforms must take all these dimensions into account. However, applied economic models rarely do so.

An earlier paper (Fontana and Wood 2000) discussed the principles of a gendered economy-wide model. It also applied it to a simplified data set for Bangladesh. The social accounting matrix (SAM) upon which the model was based was gendered in the sense of differentiating between female and male workers in the labour market, and accounting for non-market activities (social reproduction and leisure) in addition to standard market activities. However, it was very aggregated, in that it distinguished only five sectors (agriculture, manufacturing and services in the market economy, plus social reproduction and leisure) and omitted much detail about workers' characteristics (for example their skill level and the type of household they belong to).

This paper uses an extended version of the earlier Bangladesh model. The SAM is updated to 1993–94, and defines 14 market activities (of which four are agricultural, four are manufacturing, and six are services). In addition, it has as many social reproduction and leisure sectors as the number of households (since these activities cannot be traded among households). It distinguishes nine household types (classified according to land holding size, occupation, educational level and gender of the household's head) and eight categories of workers (differentiated by both education and gender). This greater level of detail permits further insights into the lives of Bangladeshi women, and of their families. It is now possible, for example, to understand better how a policy measure might have a differentiated impact on female workers, depending on whether or not they have skills, live in urban areas or in rural areas, and are or not head of their household.

The main experiment in this paper describes a decline of the ready-made garment industry. Exports in this sector are reduced to their level in the mid-1980s, prior to the implementation of trade reforms. Over the last decade garments have become the main export of Bangladesh and provided many women, for the first time, with employment opportunities in formal manufacturing, positively contributing to their empowerment and well-being (see for example Kabeer 2000). The simulation provides an assessment of what happened to women as a result of the expansion of garment exports in reverse, by going back in time to the pre-reform situation. The same experiment is also re-run with alternative parameter values to test the sensitivity of the results to different degrees of responsiveness of gendered aspects of the division

of labour to economic change. Other trade-related experiments, such as an increase in natural gas exports and a rise in the world price of food imports, are also analysed.

The paper is organised as follows: section two describes the extended SAM, section three outlines the structure of the model, section four analyses the results of the three main experiments and section five discusses simulations with alternative gender-related parameter values. Section six concludes.

## **2 The 1993–94 gendered SAM**

The social accounting matrix used for the model experiments in this paper is a modified version of the Bangladesh SAM for 1993–94 documented in Fontana and Wobst (2001). The Fontana and Wobst SAM differentiates between 43 market sectors and nine household types and includes land and capital as non-labour factors of production. It also distinguishes between male and female labour of different skills<sup>1</sup> in the distribution of value added, but does not include the unpaid economy of social reproduction and leisure.

The eight labour types in the SAM are: female and male workers with no formal schooling (labelled in the tables ‘F no ed’ and ‘M no ed’); female and male workers with between one and five years of education (‘F low ed’ and ‘M low ed’); female and male workers with between five and ten years of schooling (‘F med ed’ and ‘M med ed’); and female and male workers with more than ten years of formal education (‘F high ed’ and ‘M high ed’).

The household types are described in Table 1. In the rural areas there are three agricultural households, classified according to land holding size, and three non-agricultural households, distinguished by both gender of the household’s head and assets ownership.<sup>2</sup> The three urban households are grouped by the educational level of the household’s head.

Income distribution among households is quite unequal: urban educated households receive 28 per cent of total income<sup>3</sup> but constitute only seven per cent of the total working population, while the landless receive only six per cent of total income despite comprising 18 per cent of the working population. As shown in Table 2, these latter households derive their income exclusively from (mostly unskilled) labour, while about 50 per cent of the urban educated households’ income comes from capital. Small farmers and large farmers are the only groups receiving income from land.

The SAM household types differ in gender and skill composition and, importantly, also in the extent of their female members’ involvement in market employment. Non-agricultural poor female-headed

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<sup>1</sup> Throughout the paper ‘skill’ is used in the meaning of educational level.

<sup>2</sup> The issue of the usefulness of male/female comparison that rely on headship is quite controversial. A recent study by Quisumbing, Haddad and Pena (2001) however shows that (rural) Bangladesh is one of the few countries in which differences in poverty between male and female-headed households are indeed significant, and females are constantly worse off. There is no indication from other sources that urban female-headed households in Bangladesh are a disadvantaged group, which is why only the rural female-headed households, with no or little land, were singled out as a household type in the SAM.

<sup>3</sup> Income refers here only to market-earned income, excluding the imputed income for social reproduction and leisure.

households have the highest proportion (80 per cent) of women working in paid employment. These households are smaller than most households, much poorer, and a much higher proportion of their members are women. On average, the proportion of female household members in paid work is higher in urban households, while agricultural small and large households have, as one would expect, the highest number of female unpaid family labour. Urban households have a greater proportion of (full-time) housewives among female members than rural households. In rural areas women's participation in paid work declines as the socio-economic status of their families improves (women work in landless and marginal households, as well as in female-headed households, only because of need), while in urban areas it declines only up to a certain point, increasing once again in the highly educated households.

**Table 1 – Household types and their definition**

1 Agricultural landless	Rural agricultural households who own no (or less than 0.5 acres of) land
2 Agricultural small	Rural agricultural households who own between 0.5 and 2.49 acres
3 Agricultural large	Rural agricultural households who own more than 2.49 acres
4 Non-agricultural poor female-headed	Rural households whose head is female and not engaged in agricultural activities, and who own less than 0.5 acres of land
5 Non-agricultural poor male-headed	Rural households whose head is male and not engaged in agricultural activities, and who own less than 0.5 acres of land
6 Non-agricultural rich	Rural households not engaged in agricultural activities, and who own more than 0.5 acres of land
7 Urban low educated	Urban households whose head has less than five years of education
8 Urban medium educated	Urban households whose head has between five and ten years of education
9 Urban highly educated	Urban households whose head has more than ten years of education

For the purpose of this paper the SAM was aggregated to 14 sectors,<sup>4</sup> so that experiments would be easier to run but a considerable level of detail would be kept, particularly with reference to gender aspects of the economy. So, for example, one of the agricultural sectors groups together all female intensive activities (poultry and livestock above all, but also vegetables, pulses and fruits), while the two other agricultural sectors, grains and, especially, commercial crops (such as jute and sugar), are more male intensive. In manufacturing, the ready-made garment sector is singled out, for its strategic importance in exports and for also being the most female intensive industry. Among services, domestic services (which include mainly female intensive housekeeping services, but also other low skill activities) are separated from financial and professional services (characterised by higher male intensity as well as higher skill intensity).

<sup>4</sup> A table showing the correspondence between sectors in the SAM used in this paper and the sectors of the Fontana and Wobst SAM is provided in an appendix.

The main modification to the Fontana and Wobst SAM, however, was the addition of social reproduction and leisure activities. Social reproduction includes services provided within households for own-consumption, which the standard System of National Accounts (SNA) defines as ‘economic’ but not ‘productive’ (UN 1993), such as: cooking and cleaning; care of children, the sick and the elderly; repairing the house, furniture and clothes; and personal, social and community support services. Leisure covers activities which the SNA defines as ‘non-economic’ (because they cannot be delegated to a third person) but excludes the minimum time needed for sleeping, eating, personal hygiene, and medical treatment (assumed to be 10 hours for both men and women).<sup>5</sup> A social reproduction sector and a leisure sector were estimated for each household type, since these activities cannot be traded among households. Members of each type of households ‘produce’ a particular kind of social reproduction and leisure (reflecting each household type’s educational and gender composition) which is then ‘consumed’ by the members of that household category only.

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<sup>5</sup> For further details on these classifications refer to Fontana and Wood (2000).

**Table 2 – Sources of household income (percentage of total income), Bangladesh 1993–94**

Household Type	Earnings from labour								Land	Capital	Total	Income	Population
	M no ed	M low ed	M med ed	M high ed	F no ed	F low ed	F med ed	F high ed					
Landless	43.5	17.6	5.9	1.1	23.4	6.6	1.4	0.5	0.0	0.0	100.0	6.1	17.7
Small farmers	20.7	17.2	11.5	6.9	12.5	7.2	2.8	1.5	17.5	2.1	100.0	12.0	19.8
Large farmers	9.6	10.2	12.6	11.3	6.1	5.0	3.4	2.2	35.3	4.3	100.0	14.1	11.5
Non ag rural poor female	8.6	5.8	3.2	3.7	25.5	6.1	1.8	3.6	0.0	41.5	100.0	0.8	1.0
Non ag rural poor male	21.6	18.3	10.1	8.0	12.8	6.7	2.9	1.5	0.0	18.1	100.0	9.5	14.6
Non ag rural rich	6.0	12.1	12.0	25.3	5.2	6.4	5.0	4.8	0.0	23.2	100.0	8.3	8.5
Urban low educated	23.9	27.9	6.7	4.0	15.1	9.2	3.0	1.3	0.0	8.8	100.0	8.7	15.2
Urban medium educated	0.2	1.3	31.0	6.1	2.2	4.3	6.3	2.1	0.0	46.5	100.0	12.3	4.8
Urban high educated	0.1	0.3	1.1	33.9	0.7	1.1	3.2	11.6	0.0	48.0	100.0	28.2	6.9
<b>Total</b>												100.0	100.0

Source: Bangladesh SAM (1993–94)

**Table 3 – Sectoral structure of Bangladesh, 1993–94**

	<b>Net output (% of GDP)</b>	<b>Exports as share of output (%)</b>	<b>Imports as share of domestic use (%)</b>
<b>All market sectors, of which:</b>	100.0	11.4	19.6
Grains	8.8	0.0	2.3
Commercial crops	3.6	0.1	6.6
Livestock and horticulture	6.9	0.2	1.9
Fishing	2.8	10.0	0.0
Food processing	4.5	1.4	1.8
Garments	1.5	87.5	8.2
Other textiles	2.7	18.5	28.3
Other manufacturing	3.9	1.9	45.8
Infrastructure	12.2	0.0	0.0
Trade	16.7	0.0	0.0
Transport	14.5	0.0	0.0
Public services	12.2	0.0	0.0
Financial services	5.5	0.0	0.0
Domestic services	3.9	0.0	0.0
<b>All social reproduction, of which:</b>	36.6		
Landless	4.5		
Small farmers	5.5		
Large farmers	3.5		
Non ag poor female	0.3		
Non ag poor male	4.4		
Non ag rich	3.1		
Urban low ed	5.8		
Urban med ed	2.8		
Urban high ed	6.7		
<b>All leisure, of which:</b>	52.6		
Landless	6.3		
Small farmers	8.8		
Large farmers	6.5		
Non ag poor female	0.2		
Non ag poor male	6.4		
Non ag rich	5.4		
Urban low ed	6.9		
Urban med ed	3.7		
Urban high ed	8.4		

Source: Bangladesh SAM (1993–94)

**Table 4 – Female share of total hours worked in each sector (per cent), Bangladesh, 1993–94**

		of which			
	<b>Total F</b>	<b>No ed</b>	<b>Low ed</b>	<b>Med ed</b>	<b>High ed</b>
<b>All market sectors</b>	23.6	14.8	5.2	2.4	1.2
Grains	16.6	10.7	3.9	1.7	0.3
Commercial crops	3.1	1.9	0.8	0.3	0.1
Livestock and horticulture	47.0	30.2	10.9	4.8	1.0
Fishing	29.2	23.0	2.9	2.1	1.2
Food processing	29.9	22.1	6.3	1.0	0.5
Garments	82.8	37.7	27.5	13.5	4.0
Other textiles	12.2	5.6	4.1	2.0	0.6
Other manufacturing	15.8	10.5	3.3	1.3	0.8
Infrastructure	5.2	4.4	0.3	0.0	0.5
Trade	4.8	3.6	0.7	0.4	0.1
Transport	1.3	0.6	0.4	0.0	0.3
Public services	19.8	1.7	0.9	2.8	14.4
Financial services	6.1	0.0	0.6	1.0	4.5
Domestic services	43.5	31.4	7.0	3.5	1.6
<b>All social reproduction</b>	76.4	44.5	17.3	10.2	4.5
Landless	76.8	63.0	11.5	2.1	0.2
Small farmers	75.0	50.0	17.8	6.2	1.2
Large farmers	71.2	37.7	19.3	11.5	2.8
Non ag poor female	91.9	74.4	12.2	3.1	2.2
Non ag poor male	75.6	50.9	17.0	6.5	1.3
Non ag rich	72.9	29.3	22.9	15.5	5.3
Urban low ed	78.7	51.8	20.0	6.0	0.9
Urban med ed	78.5	19.5	24.7	30.8	3.4
Urban high ed	79.1	7.9	10.7	27.4	33.1
<b>All leisure</b>	43.9	25.6	10.2	5.8	2.3
Landless	45.5	37.2	6.8	1.3	0.2
Small farmers	42.9	28.2	10.5	3.6	0.6
Large farmers	43.6	22.7	12.1	7.2	1.6
Non ag poor female	70.7	56.0	10.7	2.6	1.5
Non ag poor male	43.6	29.3	9.8	3.7	0.7
Non ag rich	47.2	18.7	14.8	10.4	3.4
Urban low ed	41.8	27.7	10.5	3.2	0.4
Urban med ed	44.2	11.1	13.6	17.5	2.0
Urban high ed	42.9	3.7	5.7	14.8	18.8

Source: Bangladesh SAM (1993–94)

Following the approach described in Fontana and Wood (2000), for each household type, the time spent by household members (of working age) on reproduction and leisure was estimated. Then the value of output in these sectors was calculated by valuing labour, for each skill and gender category, at its average market wage (considered to be the opportunity cost of each worker's time), assuming that all non-market sectors use neither capital (or land) nor intermediate inputs.<sup>6</sup>

Estimating the allocation of women's and men's time between market and non-market activities was not easy, as data on time-use in Bangladesh are sparse and cover neither all tasks nor all geographical areas (no detailed time-use study is available for the urban areas, for example). The task was further complicated by the number of categories of both workers and household types in the SAM, requiring knowledge, for instance, of how the time allocation of a given type of worker varies according to the type household they belong to (do medium educated women in rural households devote as much time to social reproduction as medium educated women in urban households?). Such information is rare. However, based on whatever was available (mainly from the 1995–96 Bangladesh Labour Force Survey (LFS) (BBS 1998) on hours worked in market activities and from Hamid (1996)<sup>7</sup> on non-market time) values were estimated for each type of worker in each type of household.

As for market employment, unpaid labour<sup>8</sup> (mostly in agriculture) as well as paid employment was included in time spent on market activities by both women and men.<sup>9</sup> Women on average spend fewer hours than men in paid employment (about 40 hours per week, as compared with 50 hours for men), but constitute the majority of unpaid labour (about 80 per cent). According to this extended definition of the labour force, women constitute 24 per cent of the market economy's total working hours (while they would be only about 14 per cent of the total if only paid labour were accounted for). Details by sector are shown in Table 3.

As for non-market work, social reproduction time was calculated by adding, for each household type, the time spent in household work by paid workers, unpaid workers and an additional group of people of working age (mainly women) classified in the 1995–96 LFS as engaged full time in housework. Leisure was calculated residually, for each skill category in each household type, out of 14 hours (24 hours minus 10 hours of minimum personal care), after all other market and non-market activities were accounted for. Social reproduction is always female intensive and leisure is male intensive, but the gender and skill

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<sup>6</sup> For a discussion of the limitations of this approach see Fontana and Wood (2000).

<sup>7</sup> Hamid's estimates of unpaid work in the rural areas of Bangladesh suggest that: men spend less than half as much time as women on social reproduction, across all household types; there is variation across socio-economic groups (i.e. household types) in the amount of time spent on social reproduction among women, but not among men; women in relatively well-off households spend a little less time on social reproduction than women in other households.

<sup>8</sup> The definition of unpaid labour follows the 1995–96 LFS definition which conforms to the revised 1993 SNA and includes unremunerated family labour in activities such as: crop production, livestock, poultry, milk production, collection, processing and preservation of food, collection of firewood, vegetable production as well as construction and repairing.

<sup>9</sup> This required also imputing a value to the earnings of unpaid workers. For details on how this was done see Appendix 1 in Fontana and Wobst (2001).

composition of both social reproduction and leisure activities varies across households, reflecting differences in their gender and skill structure (details of this can also be found in Table 3).

The resulting aggregate time-use shares for each labour type (out of 5110 [365 x 14] hours in a year) are reported in Table 5.

**Table 5 – Allocation of time between market and non-market activities by gender and skill (per cent)**

	<b>F</b> <b>No ed</b>	<b>F</b> <b>low ed</b>	<b>F</b> <b>med ed</b>	<b>F</b> <b>high ed</b>	<b>M</b> <b>No ed</b>	<b>M</b> <b>low ed</b>	<b>M</b> <b>med ed</b>	<b>M</b> <b>high ed</b>
<b>Market</b>	14	13	11	12	42	43	42	39
<b>Social Reproduction</b>	53	53	54	56	16	16	16	17
<b>Leisure</b>	33	34	35	32	42	41	42	44
<b>Total</b>	100	100	100	100	100	100	100	100

Females, especially women with medium and high education, spend most of their time on social reproduction, while males spend equal shares of their time on market work and leisure, but little (less than one fifth of their total time) on social reproduction. On average, women work longer hours than men, in the market and the household combined (68 per cent of their total time, compared with 58 per cent for men).

### **3 The model** <sup>10</sup>

The next few paragraphs outline the model used in this paper<sup>11</sup> in its main specification. The experiments run with it are described in section four, while simulations with alternative specifications of the model are reported in section five.

The model is similar in spirit to the one used in Fontana and Wood (2000), but slightly more complex (and flexible) in its formulation. It is an adaptation of the IFPRI ‘standard’ computable general equilibrium (CGE) model described in Lofgren *et al.* (2001). This kind of model follows the neoclassical-structuralist modelling tradition presented in Dervis, de Melo and Robinson (1982) and incorporates additional features, of particular relevance to developing countries, developed in recent years in research conducted at the International Food Policy Research Institute.

The production function, which is important on the supply side of goods markets and on the demand side of factor markets, is a three-level CES (constant elasticity of substitution) function. At the lowest level, for each educational category, female labour and male labour of same skill are aggregated into a composite labour. The ratio of female to male labour depends on the share parameter of this aggregation function, which differs across sectors, and varies with changes in the wage rate of women

<sup>10</sup> This section draws on section four of Fontana and Wood (2000)

<sup>11</sup> The model and SAM are available on request.

relative to men, which induce substitution between them. To reflect the rigidity of gender roles, particularly within the household, female/male substitution is limited by setting elasticities lower than is usual in CGE models:  $-0.5$  in the market sectors and  $-0.25$  in social reproduction and leisure. The production function has an intermediate level which aggregates the four educational types of composite labour, with substitution elasticity close to one, into one larger labour bundle. This larger labour bundle is the ‘output’ of the reproduction and leisure sectors, which in the SAM use neither non-labour factors (capital and land) nor intermediate inputs. In the market sectors, however, the production function has an upper level which combines the composite labour with capital and land<sup>12</sup> to produce net output (which is then combined in fixed proportions with intermediate inputs to make gross output).

The relative quantities of female and male labour, capital and land demanded vary inversely with relative factor prices (due to substitution), while the absolute quantities demanded in each sector depend mainly on the level of demand for the sector’s output. The supply of capital and land in each sector is fixed<sup>13</sup> (so profit and rental rates may vary across sectors), but labour is mobile, so that the supply to each sector responds freely to demand, within limits set by the fixed total supplies of female and male labour. Economy-wide average factor prices are set to clear factor markets – that is, to employ all factors fully – and so vary with the economy-wide demand for each factor, relative to its fixed supply.

All wages, profits and rents accrue to households, who pay part in taxes, save part, and spend the rest. Households initially divide their expenditure among sectors in the proportions shown in the SAM, but the consumption function lets the mixture vary with relative prices (the ‘prices’ of social reproduction and leisure are the opportunity cost of the labour used in them, which is based on the average wage in the market sectors). The consumption function is a linear expenditure system (LES), in which the demand for each good consists of a subsistence minimum plus a fixed share of the residual income after meeting all the minima. The price elasticities of demand for market goods are based on estimates from various sources (mainly Ahmed and Shams 1994). The price elasticity for food<sup>14</sup> ranges among household types from  $-0.35$  to  $-0.45$ . In the absence of information on different households’ attitudes towards social reproduction, it is assumed that all households value it in the same way, and consider it a basic need. Hence the price elasticity of demand for social reproduction is set even lower than that for food, at  $-0.3$ .<sup>15</sup>

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<sup>12</sup> The value of the substitution elasticity at the upper level, following from another model of Bangladesh (Fontana, Wobst and Dorosh 2001) varies by sector, ranging from about  $-0.6$  in agricultural sectors to  $-0.8$  in most services and some manufacturing.

<sup>13</sup> A variant of experiment 4.2 is run assuming land is mobile.

<sup>14</sup> More specifically rice, which is the main staple in Bangladesh, and included in the food processing sector in the SAM.

<sup>15</sup> In reality, how much households alter the amount of time spent on social reproduction activities in response to changes in market wages varies with their composition and circumstances. It is plausible to think that some households, for example the poorest families both in rural and urban areas and the urban elite (although for different reasons), support more than other households women’s involvement in market activities and hence have often also a higher propensity to use market substitutes for social reproduction (to save on time such as child care). Some experiments were tried in which marginal farmers and poor female headed non agricultural households in the rural areas, and low educated and highly educated households in the urban areas were given both higher elasticities of substitution in non-market production and higher price elasticities of demand for social reproduction than other household types. The results showed no marked differences in impact across different types of skills.

In addition to household demands for the three market goods, there are demands from government and for investment and intermediate use. Government consumption in each sector is fixed in real terms, as is the demand for investment goods (since total investment is exogenous). Demand for intermediate use depends on the levels of output in all sectors and fixed input-output coefficients. The balancing of supply and demand in these three sectors also involves foreign trade flows. Buyers in each sector divide their expenditure between imports and domestically produced goods in shares which vary in response to changes in the ratio of domestic prices to import prices – the import share rising, for example, if the domestic price rises (import prices being determined by fixed world prices plus tariffs). Likewise, producers in each sector divide their output between the home and the export markets in shares which vary with the ratio of domestic prices to export prices (world prices net of export taxes and subsidies). These import (Armington) functions and export (CET) functions partially insulate domestic prices from world prices, unlike more standard trade models in which the domestic prices of traded goods are strictly determined by world prices. In the model used in this paper, the elasticity of substitution in these functions is set at  $-0.8$  and  $-2$  respectively, in all sectors. The balance between total exports and total imports must match a fixed inflow of foreign capital: this is achieved by letting the exchange rate float.

#### **4 Trade policy simulations**

This section analyses three trade-related policy changes: a rise in natural gas exports, a rise in the import price of grains, and a decline in garment exports. This latter experiment is the main focus of the paper, and it is re-run with alternative gender-related parameter values in section five. The policy changes that are simulated are similar to those in Fontana and Wood (2000), but with a much greater level of detail for activities, factors and households, which permits a richer and subtler analysis of the effects than in the earlier paper.

The discussion of each simulation is limited to a few gender related aspects of the results. For each skill category, the following features are analysed: (i) the allocation of female labour between employment in the market economy (and among its different sectors), social reproduction and leisure; (ii) the average female wage rate in the economy, both absolute and relative to male wages; and (iii) the female wage bill in manufacturing and services, as an indicator of women's cash income from employment, which might affect their bargaining power.

**Table 6 – Employment and wages in the base case**

	<b>F no ed</b>	<b>F low ed</b>	<b>F med ed</b>	<b>F high ed</b>	<b>M no ed</b>	<b>M low ed</b>	<b>M med ed</b>	<b>M high ed</b>
<b>Employment</b> (100 million hours)								
<b>All market sectors, of which</b>	<b>132.5</b>	<b>46.6</b>	<b>21.8</b>	<b>10.5</b>	<b>301.8</b>	<b>184.2</b>	<b>113.3</b>	<b>83.9</b>
Grains	20.4	7.4	3.3	0.7	91.2	41.3	19.9	6.6
Commercial crops	0.9	0.4	0.1	0.0	25.3	12.5	4.9	1.8
Livestock & horticulture	71.4	25.8	11.4	2.3	71.9	32.5	15.7	5.2
Fishing	1.4	0.2	0.1	0.1	0.8	0.8	1.5	1.1
Food processing	2.2	0.6	0.1	0.1	2.6	2.0	1.7	0.9
Garments	6.1	4.5	2.2	0.6	0.8	1.0	0.6	0.4
Other textiles	1.6	1.2	0.6	0.2	7.3	8.8	5.2	3.8
Other manufacturing	2.5	0.8	0.3	0.2	6.2	6.4	4.4	2.7
Infrastructure	1.0	0.1		0.1	10.4	6.4	2.7	2.9
Trade	5.5	1.1	0.6	0.1	40.5	43.2	36.0	27.3
Transport	0.4	0.2		0.2	34.0	15.7	6.8	3.9
Public services	0.6	0.3	0.9	4.7	0.9	2.3	4.8	18.3
Financial services		0.0	0.1	0.3	0.2	0.5	0.8	4.4
Domestic services	18.7	4.2	2.1	1.0	9.9	10.9	8.3	4.6
<b>All social reproduction, of which:</b>	<b>493.6</b>	<b>191.8</b>	<b>112.6</b>	<b>49.5</b>	<b>113.8</b>	<b>68.7</b>	<b>43.4</b>	<b>35.9</b>
Landless	117.1	21.3	3.9	0.4	31.6	9.0	2.2	0.2
Small farmers	95.8	34.1	11.8	2.2	24.3	14.1	7.0	2.4
Large farmers	37.6	19.2	11.5	2.8	10.4	7.7	7.0	3.6
Non ag poor female	8.2	1.3	0.3	0.2	0.5	0.2	0.1	0.1
Non ag poor male	79.0	26.3	10.1	2.0	19.5	11.5	4.7	2.1
Non ag rich	22.6	17.6	12.0	4.1	4.5	6.3	4.6	5.5
Urban low ed	111.1	42.9	12.8	1.9	22.5	18.7	3.3	1.1
Urban med ed	14.3	18.1	22.6	2.5	0.2	0.7	13.3	1.5
Urban high ed	8.0	10.9	27.7	33.4	0.2	0.5	1.1	19.4
<b>All leisure, of which:</b>	<b>312.0</b>	<b>123.6</b>	<b>70.9</b>	<b>28.4</b>	<b>295.6</b>	<b>178.4</b>	<b>114.1</b>	<b>94.2</b>
Landless	75.1	13.7	2.7	0.3	80.2	23.2	5.9	0.7
Small farmers	65.4	24.3	8.3	1.4	66.4	38.7	20.4	7.0
Large farmers	33.5	17.9	10.6	2.3	29.6	22.2	20.6	10.7
Non ag poor female	4.2	0.8	0.2	0.1	1.2	0.5	0.3	0.2
Non ag poor male	49.9	16.7	6.3	1.2	49.7	28.9	11.9	5.6
Non ag rich	19.5	15.5	10.9	3.5	11.7	16.6	11.9	15.1
Urban low ed	53.3	20.1	6.1	0.8	55.8	45.1	8.2	2.9
Urban med ed	7.7	9.4	12.2	1.4	0.4	1.9	32.2	4.2
Urban high ed	3.4	5.2	13.6	17.3	0.6	1.2	2.8	48.0
<b>Hourly wages</b> (Taka per hour)	2.2	3.4	3.8	10.9	4.5	6.3	8.6	15.6
<b>Female wage cash bill</b> (billion taka)	15.7	8.6	5.0	10.7				

Source: Author's calculations from Bangladesh LFS (BBS 1998)

#### **4.1 Natural gas exports**

Large reserves of natural gas have been recently discovered in Bangladesh. Opinions differ as to the potential impact of their exploitation, including the possible adverse effects of an appreciation of the real exchange rate on other more labour-intensive tradable sectors. This experiment simulates the effects of a rise in natural gas exports<sup>16</sup> by about Taka 23 billion, equivalent to about \$450 million – which is what most commentators estimate would be the revenue from gas exports (for example, Khondaker 1997). This would be equal to about 24 per cent of total exports in the base case (or about two per cent of GDP). The rise in revenues from gas exports causes an appreciation of the exchange rate by seven per cent. Exports other than natural gas fall, while total imports are unchanged. Exports fall especially in ready-made garments, leather and jute textiles (these latter two sectors are included in other textiles). Imports of agricultural products and processed food increase by about six per cent, while imports of other textiles decline, as this sector includes, among others, fabric, which is mostly used as intermediate input by the garment sector whose exports and output fall. These changes in exports and imports cause output to fall in manufacturing, especially garments (by 26 per cent), the most open sector. In agriculture, output declines only in commercial crops while other production is unchanged. In processed food (the main source of food consumption) and most services (which are non-traded), output increases slightly, as a result of the rise in domestic demand. Output increases moderately also in the non-market sectors (which are entirely non-traded and labour-only sectors) – social reproduction (which on average rises by less than one per cent) and leisure (which on average rises by about one per cent). The changes in reproduction and leisure are different in magnitude, although the same in sign, across different household types.

The pattern of employment changes reflects that of the changes in output. Market employment declines in most sectors, for both women and men, apart from processed food and some services. The biggest fall is in ready-made garments, by about 29 per cent, for both women and men across all skills. The decline in absolute terms is much larger for women (as the garment sector employs many more female workers than male workers), which is why overall female labour market participation declines more than male participation. The decline in market employment is larger for women of low and medium education, whose participation falls by more than three per cent. Labour shifts from market activities into reproduction and leisure, with the increase in each non-market activity being proportionally similar for women and men, but with the absolute increases being largest for women in reproduction and for men in leisure. The highest proportional increase in time spent in both social reproduction and leisure for women, for most skill levels, is in poor female-headed households.

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<sup>16</sup> Because natural gas exports can reasonably be assumed to require no domestic resources (almost no labour, and mainly foreign capital), it seemed convenient technically to implement the simulation by increasing foreign capital inflow. This approach is commonly used in simulations of changes in the oil or gas sectors, for example Benjamin *et al.* (1989) on Cameroon.

**Table 7 – Natural gas exports (percentage changes from the base)**

	<b>F no ed</b>	<b>F low ed</b>	<b>F med ed</b>	<b>F high ed</b>
<b>Employment</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
<b>All market sectors, of which:</b>	<b>-1.76</b>	<b>-3.20</b>	<b>-3.40</b>	<b>-1.95</b>
Grains	-0.23	-0.07	-0.12	-0.30
Commercial crops	-3.58	-3.26	-3.68	-3.57
Livestock and horticulture	-0.22	-0.05	-0.14	-0.39
Fishing	-1.61	-1.18	-0.80	-2.74
Food processing	1.17	1.26	1.02	2.00
Garments	-29.34	-29.21	-29.33	-29.46
Other textiles	-13.04	-12.89	-13.01	-13.17
Other manufacturing	-4.90	-4.68	-4.68	-4.55
Infrastructure	-1.64	-1.25	-	-1.80
Trade	-1.11	-0.92	-0.92	-1.37
Transport	0.27	0.46	-	0.50
Public services	0.72	0.96	0.86	0.53
Financial services	-	2.70	1.61	1.09
Domestic services	0.48	0.70	0.63	0.32
<b>All social reproduction, of which:</b>	<b>0.14</b>	<b>0.33</b>	<b>0.27</b>	<b>0.14</b>
Landless	0.18	0.38	0.36	0.00
Small farmers	0.06	0.27	0.24	-0.05
Large farmers	0.03	0.22	0.20	-0.07
Non ag poor female	0.26	0.45	0.29	0.00
Non ag poor male	0.15	0.36	0.29	0.10
Non ag rich	0.21	0.42	0.35	0.17
Urban low ed	0.18	0.41	0.26	0.05
Urban med ed	-0.08	0.10	0.23	-0.12
Urban high ed	0.26	0.43	0.29	0.19
<b>All leisure, of which:</b>	<b>0.53</b>	<b>0.70</b>	<b>0.62</b>	<b>0.48</b>
Landless	0.66	0.87	0.85	0.33
Small farmers	0.42	0.62	0.62	0.35
Large farmers	0.26	0.45	0.44	0.21
Non ag poor female	0.75	0.99	1.04	0.90
Non ag poor male	0.58	0.79	0.76	0.51
Non ag rich	0.62	0.85	0.80	0.60
Urban low ed	0.65	0.88	0.80	0.60
Urban med ed	0.05	0.30	0.49	0.14
Urban high ed	0.48	0.65	0.54	0.53
<b>Hourly wages</b>	<b>0.43</b>	<b>-0.09</b>	<b>0.28</b>	<b>0.91</b>
<b>Female wage bill</b>	<b>-7.13</b>	<b>-15.66</b>	<b>-13.12</b>	<b>-3.17</b>

Source: Model simulations

Wage rates rise slightly for most female and male workers, especially for highly skilled women (by about one per cent). However, low educated female workers' wages marginally decline (because they are the most affected by the decline in the garment industry). The cash income of women decreases, especially for low educated workers, whose (non-agricultural) market participation and wages both decline.

The effect on the well-being of women is ambiguous, and differs by skill and household type. Women with low skills are the most adversely affected as both their market employment and their wages decline while women with high skills experience an increase in their wages (although their cash income still declines). Leisure however increases for most women and there is also a moderate increase in the number of hours devoted to social reproduction by women and men combined.

#### **4.2 Higher import price of food grains**

Reform of agricultural policies in OECD countries could cause a rise in the world price of food, which would adversely affect food-importing countries. Bangladesh is a net importer of food grains, especially wheat, which constitutes the bulk of food imports.<sup>17</sup> In the SAM about three per cent of domestic use of grains is supplied by imports (it is 33 per cent for wheat only). The effects would not be gender-neutral. In Bangladesh agriculture is a source of employment for more than 60 per cent of the female labour force. Women, however, are not heavily involved in the production of grains (in the 1993–94 SAM only about 22 per cent of total female hours in agriculture are spent in the rice and grains sector), but work mostly as unpaid family labour raising animals and growing vegetables and fruits.

The experiment increases (by an arbitrary 100 per cent) the world price of food grains. This reduces the volume of food imports by 41 per cent, as consumers switch to domestic sources of supply, and hence raises food grains output by about one per cent, while other agricultural activities, especially female intensive agriculture, decline moderately, as resources in agriculture are shifted towards grains which has become more profitable. It also makes food grains, the main staple for most families, in general more expensive, causing consumers to switch expenditure towards other goods and services.<sup>18</sup> Production of processed food,<sup>19</sup> which uses grains as main input, declines. Production of manufactured goods, especially ready-made garments, increases as a result of a small rise in their exports, due to a moderate depreciation

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<sup>17</sup> Wheat is imported in Bangladesh mainly in the form of food aid, while private commercial imports are only a small fraction of total imports (Dorosh 2000). A better experiment would have been to differentiate between the food aid component and the commercial component of wheat imports, and to simulate a cut in wheat aid. Fontana, Wobst and Dorosh (2001) discuss a similar experiment, but with little gender analysis. Moreover, it is rice which dominates food grain production and consumption in Bangladesh, while wheat constitutes a smaller share in the Bangladeshi diet and is eaten, in the form of *ata* flour, mainly in urban areas. Rice imports in the 1993–94 SAM are very small. The aggregated version of the SAM used in this paper, however, does not differentiate between wheat and rice and has only one food grain sector.

<sup>18</sup> There are however differences across households, depending on whether their total income has increased or declined following the rise in import prices of grains.

<sup>19</sup> The main item in processed food is 'rice milling', which is the main staple in Bangladesh. Rice is produced as 'paddy' (and hence included in 'grains' in the SAM) and consumed as 'rice milling' (and hence included in 'food processing' in the SAM)

of the exchange rate. The opportunity cost of spending time in social reproduction (and hence its price) declines for all households, but demand for it also declines in most household types as a result of reductions in their income, so that the net outcome is an overall (small) reduction of output. Leisure also declines on average, by about one per cent. Production (and consumption) of reproduction and leisure increases, however, in the landowner households whose total income rises because of the higher revenues they receive from land.

The increase in market labour force participation is small for all categories of workers (less than one per cent), indicating that this is not a big shock. There are however some changes in the sectoral composition of employment, for both women and men. Employment increases by more than two per cent in food grain production for women of all skills (with the absolute change being greater for unskilled women, who are the majority in agriculture), while it declines in other agricultural sectors, especially in the female-intensive activities, and in food processing. There is also an increase of about one per cent in garment employment. The increase in market participation is largest (in absolute terms) for unskilled female workers. Overall, time devoted to social reproduction is almost unchanged for women in all skill groups, while their leisure time marginally declines. There are however differences between agricultural households, especially the large farmers, in whose families women's involvement in both social reproduction and leisure increases, and non-agricultural households, where women's time input to reproduction and leisure declines. This reflects household income changes, with large farmers gaining the most and female-headed households in rural areas and highly educated households in urban areas being the most adversely affected (and hence experiencing the most marked fall in social reproduction and leisure time).

Male employment in food grain agriculture also increases, especially for workers with no or low education, and the change is greater than for female employment in absolute terms. Male workers reduce more than female workers their time input to social reproduction, which becomes more female intensive, and their leisure time.

Economy-wide female wages decline by about one per cent for highly skilled women, and marginally for all other skill categories. Male wages increase slightly for the unskilled and the low skilled while decline moderately for the medium and highly skilled. These changes in wages reflect the shift in sectoral demand toward an activity, grains production, which uses relatively more intensively land and unskilled male labour. The cash income of unskilled and highly skilled women declines, while that of low and medium skilled women (whose employment in garment production moderately rises) slightly increases.

In a variant of the same experiment, in which the use of land can be switched among different crops, the increase in agricultural female employment in grains is smaller, but a rise occurs also in livestock and horticulture. Production in this sector still falls but becomes more labour intensive, as part of the land previously used for horticulture and livestock is now allocated to grains. Overall market participation for women increases slightly more, while their time in both social reproduction and leisure declines more. The changes in their wages are slighter than in the previous simulation.

**Table 8 – Higher import price of food grains (percentage changes from the base)**

	<b>F no ed</b>	<b>F low ed</b>	<b>F med ed</b>	<b>F high ed</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
<b>Employment</b>				
<b>All market sectors, of which:</b>	<b>0.25</b>	<b>0.35</b>	<b>0.44</b>	<b>0.30</b>
Grains	2.16	2.20	2.30	2.55
Commercial crops	-0.11	0.00	0.00	0.00
Livestock and horticulture	-0.17	-0.13	-0.05	0.09
Fishing	-0.15	0.00	0.00	0.00
Food processing	-2.87	-2.99	-3.06	-2.00
Garments	1.22	1.19	1.27	1.40
Other textiles	0.32	0.43	0.53	0.60
Other manufacturing	0.20	0.26	0.33	0.57
Infrastructure	0.00	0.00	-	0.90
Trade	0.13	0.18	0.31	0.00
Transport	-0.27	0.00	-	0.50
Public services	-0.18	-0.32	-0.21	0.00
Financial services	-	0.00	0.00	0.00
Domestic services	-0.10	-0.14	-0.05	0.11
<b>All social reproduction, of which:</b>	<b>0.00</b>	<b>-0.03</b>	<b>-0.03</b>	<b>0.00</b>
Landless	0.02	0.02	0.08	0.24
Small farmers	0.08	0.08	0.13	0.27
Large farmers	0.15	0.17	0.21	0.36
Non ag poor female	-0.22	-0.30	-0.29	0.00
Non ag poor male	-0.07	-0.08	0.00	0.15
Non ag rich	-0.15	-0.16	-0.08	0.02
Urban low ed	-0.02	-0.04	0.08	0.21
Urban med ed	-0.09	-0.10	-0.16	0.04
Urban high ed	-0.23	-0.21	-0.12	-0.08
<b>All leisure, of which:</b>	<b>-0.10</b>	<b>-0.09</b>	<b>-0.10</b>	<b>-0.11</b>
Landless	-0.10	-0.07	0.00	0.00
Small farmers	0.06	0.09	0.17	0.35
Large farmers	0.23	0.26	0.33	0.51
Non ag poor female	-0.59	-0.50	-0.52	0.00
Non ag poor male	-0.27	-0.25	-0.16	0.00
Non ag rich	-0.35	-0.34	-0.26	-0.14
Urban low ed	-0.18	-0.17	-0.05	0.12
Urban med ed	-0.22	-0.27	-0.36	-0.21
Urban high ed	-0.36	-0.34	-0.25	-0.23
<b>Hourly wages</b>	<b>-0.33</b>	<b>-0.32</b>	<b>-0.44</b>	<b>-0.59</b>
<b>Female wage bill</b>	<b>-0.19</b>	<b>0.20</b>	<b>0.12</b>	<b>-0.36</b>

Source: Model simulations

The impact on women's well-being varies according to their educational level and the household type they belong to. Women's participation in agriculture increases, especially for unskilled women, but this is not a necessarily a positive change as women in this sector are rarely remunerated for their work. Moreover, the expansion of grain production occurs at the expenses of female intensive horticulture and livestock production, which, coupled with the fall in social reproduction, might have adverse effects on children's nutrition in poor rural households. Women's leisure time declines on average but increases for women in landowner households.

### **4.3 Decline in garment exports**

Since the late 1980s, when Bangladesh started its programme of trade liberalisation, Bangladesh's exports have more than quadrupled in dollar terms, with exports of ready-made garments accounting for most of the increase. In the 1993–94 SAM garments constitute 61 per cent of total exports. The ready-made garment sector is the most open in the economy, with exports being almost 90 per cent of total output. It is also the most female intensive, with a female employment share of 83 per cent (the economy-wide average is only 24 per cent), and one of the most labour-intensive sectors. It is one of the main sources of market employment for women (after agriculture and domestic services) and pays women higher wages than most other activities (in all educational categories, the female/male wage gap in this sector is smaller than in any other sector).

This experiment describes a decline in garment exports by about 60 per cent. The simulation provides an assessment of what happened to women as a result of the expansion of garment exports over the previous decade by 'running history in reverse' – i.e. by reducing garment exports to their mid-1980s level.<sup>20</sup> The reduction in ready-made garment exports is simulated by modelling a 30 per cent decline in their world prices. This causes the volume of garment exports to more than halve, because of the severe fall in profitability of garment production, while exports in all other sectors increase (especially in leather and jute – which are included in other textiles, and shrimps) because of the significant depreciation of the exchange rate (by 32 per cent). As a result, garments fall to less than 30 per cent of total exports. Because of the exchange rate depreciation, imports decline (by about 20 per cent) in all market sectors. Output falls by about 55 per cent in the garment sector and increases for both agricultural and other manufactured goods. All services, which are non-traded sectors, experience a moderate output fall, and so do most of the non-market sectors, because of decline in domestic demand. However those households in which income rises, or only slightly declines (the small and large farmers in the rural areas, and the medium and highly educated households in the urban areas) increase their consumption of both social reproduction and leisure.

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<sup>20</sup> Of course the results tell also what would happen if exports were to halve in the future, for example as a possible outcome of the dismantling of the Multi-Fibre Arrangement (MFA), as some fear.

**Table 9 – Decline in garment exports (percentage changes from the base)**

	<b>F no ed</b>	<b>F low ed</b>	<b>F med ed</b>	<b>F high ed</b>
<b>Employment</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
<b>All market sectors, of which:</b>	<b>-1.02</b>	<b>-3.75</b>	<b>-4.43</b>	<b>-2.74</b>
Grains	2.25	2.48	2.21	2.25
Commercial crops	4.25	4.62	4.41	3.57
Livestock and horticulture	1.18	1.51	1.17	0.99
Fishing	14.44	14.79	14.40	13.70
Food processing	2.11	2.20	1.02	2.00
Garments	-59.42	-59.29	-59.39	-59.53
Other textiles	9.58	9.86	9.49	9.58
Other manufacturing	16.35	16.49	16.39	16.48
Infrastructure	0.87	1.25	-	0.90
Trade	0.88	1.01	0.77	0.68
Transport	-0.80	-0.46	-	-0.50
Public services	0.00	0.00	-0.21	-0.02
Financial services	-	0.00	-1.61	-0.72
Domestic services	0.55	0.50	0.19	0.21
<b>All social reproduction, of which:</b>	<b>0.26</b>	<b>0.63</b>	<b>0.54</b>	<b>0.33</b>
Landless	-0.18	-0.02	-0.51	-0.24
Small farmers	0.52	0.66	0.14	0.14
Large farmers	1.24	1.43	0.88	0.83
Non ag poor female	-0.18	-0.07	-0.59	-0.42
Non ag poor male	0.06	0.16	-0.20	-0.31
Non ag rich	0.33	0.46	0.10	-0.22
Urban low ed	0.10	0.14	0.07	-0.10
Urban med ed	1.67	2.07	0.80	1.04
Urban high ed	0.95	1.41	1.18	0.39
<b>All leisure, of which:</b>	<b>0.02</b>	<b>0.44</b>	<b>0.51</b>	<b>0.43</b>
Landless	-0.99	-0.98	-1.36	-0.98
Small farmers	0.56	0.58	0.12	0.28
Large farmers	1.85	1.93	1.43	1.54
Non ag poor female	-0.78	-0.74	-1.04	-0.90
Non ag poor male	-0.48	-0.50	-0.84	-0.76
Non ag rich	0.01	0.01	-0.34	-0.43
Urban low ed	-0.32	-0.41	-0.54	-0.48
Urban med ed	2.83	2.91	1.45	1.70
Urban high ed	1.31	1.63	1.37	0.53
<b>Hourly wages</b>	<b>-4.28</b>	<b>-5.46</b>	<b>-4.90</b>	<b>-4.16</b>
<b>Female wage bill</b>	<b>-16.00</b>	<b>-31.99</b>	<b>-28.10</b>	<b>-11.39</b>

Source: Model simulations

Employment in the garment sector falls by about 60 per cent for both women and men, but the absolute decline is larger for women than for men, reflecting their much larger initial share of garment employment. Although there is a moderate increase in female employment in other market sectors, the net effect for all women is a decline in labour market participation. Female workers with different skills are affected differently. The decline in market employment is largest for women with low and medium education (about four per cent), and slightly less for the highly skilled (three per cent), while labour participation declines only modestly (by one per cent) for women with no education, as in this group a larger proportion of those previously in the garment sector finds employment in agriculture, a low skill intensive sector.

As a result, the unskilled women experience also the smallest proportional increase, among female workers, in social reproduction, and no change in their leisure time. Time spent in social reproduction by women with low and medium education increases on average by about one per cent, while their leisure time increases slightly less. For female workers with high education, the (small) increase in their leisure time (0.4 per cent) is slightly greater than the increase in social reproduction time (0.3 per cent).

These overall changes in social reproduction and leisure however mask differences between households. While, for example, uneducated and low educated women in the poorest rural households, particularly female-headed, reduce the time they spend in both social reproduction and leisure, women of the same skill level in highly educated urban households increase both their reproduction and leisure time. This is because the poorest households, whose income derives largely from low skilled (especially female) labour, are the most adversely affected from the decline in garment production and must reduce their consumption of both social reproduction and leisure despite their lower prices.<sup>21</sup> Conversely, large and small farmers, who benefit from higher returns to land, and medium and high educated urban households, which derive a significant portion of their income from capital (the returns to which decline less than those to labour) increase both social reproduction and leisure. In the case of highly educated women, their reproduction time declines in a larger number of households than for women with lower skill levels, because, since their wages have declined the least (and hence their time has become relatively more expensive than that of other female workers) some substitution towards less educated women takes place. Thus social reproduction in most households becomes less skill intensive (as well as more female intensive).

For men of all educational groups there is a small increase in market participation, especially for unskilled workers and low skilled workers (one per cent), because the sectors which expand are more male intensive. Men's time in both social reproduction and leisure declines overall, and in most household types. The decline is larger in leisure than it is in social reproduction for all skill categories but the highly educated.

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<sup>21</sup> The price of non-market activities falls because the cost of labour declines, with the price of social reproduction falling more than the price of leisure, because it is more female intensive. The share of social reproduction and leisure in total consumption of the poor households increases, but their overall consumption declines (by more than two per cent in most cases).

Because the decline of the most female intensive sector reduces the economy-wide demand for female labour more than the demand for male labour, the wage rate of women declines both absolutely and relative to that of men. The fall is largest for women with low and medium education, who between them constitute the majority of workers in garment factories. Their wage declines by about five per cent in absolute terms, and by about four per cent relative to that of men with similar skills.

The combined effect of the decline in the female wage and the decline in female employment in the garment factories is a significant decline in women's cash income, particularly for women with low and medium education (by about 30 per cent) who are the most adversely affected by the decline in garment exports.

The impact on women's well-being is in this case unambiguously negative, especially for female members of poor households, in which consumption (including that of social reproduction and leisure) declines, and for women with low and medium education, whose both wages and market employment fall significantly. Overall the increase in women's non-market time is largely taken up by social reproduction activities, while the rise in women's leisure time is slight. These results also show, by contrast, how much the expansion of garment production in the last decade has benefited women, by increasing their employment, their wages and the incomes of their families, with relatively poor households gaining the most.

## **5 Different attitudes towards gender relations**

The simulation of a decline in garment exports was re-run with alternative elasticities in production and consumption, to reflect possible different attitudes of households and employers towards gender relations. Would the decline in garment exports have less negative effects on women, if firms had a greater inclination to change the mixture of female and male workers in market sectors in response to changes in their relative wages (as measured by the elasticity of substitution between male and female labour in market production)? What would be the outcome of the experiment, if households had a greater propensity to reallocate tasks between men and women in social reproduction and leisure (as measured by the elasticity of substitution between male and female labour in non-market production)? Does the degree of price responsiveness of the consumption by households of social reproduction matter? The experiments in this section try to answer these questions.

### **5.1 Higher elasticity of substitution in market production**

In this experiment the elasticity of substitution between male and female workers, for each skill category, is increased from 0.5 to 1.5 in all market sectors. The effect of increasing this elasticity is to reduce the fall in female labour participation resulting from the decline in the garment industry. The decline in market employment is now only three per cent for low and medium educated women, less than two per cent for highly educated women, and negligible for unskilled female workers. Because of their higher substitution elasticities and the fall in the relative wage of women, the other market sectors which expand absorb more

female labour than in experiment 4.3, so that women previously in the garment industry more easily find employment elsewhere. Conversely, male market participation increases less than before. As a result, female wages decline less than in the previous case, while male wages decline more and hence the wage gap between female and male workers, for each skill level, widens less. The rise in time spent on social reproduction by women of all skills is now smaller than in experiment 4.3, as is the rise in their leisure time (which in the case of unskilled women indeed marginally declines). Across households, female involvement in social reproduction increases less in those households in which it had increased in the main experiment and declines more in those households in which it had declined. Some workers (such as uneducated females in poor male-headed non agricultural households, low educated females in landless households and medium educated females in low educated urban households) reduce their time input in social reproduction whereas they had slightly increased it in experiment 4.3. Men's time in both social reproduction and leisure declines less overall. The combined effect of a smaller decline in the female wage and a smaller decline in female market employment is a still significant but smaller decline in women's cash income.

These results show that higher employers' propensity to substitute female workers for male workers would moderate the negative market impact of a potential decline in the textile sector. It would also make women's increased participation in social reproduction smaller (and men's involvement in it larger) but it would reduce the increase in their leisure time. The magnitude of the changes is quite small, however, given the chosen values of the elasticities in the experiment.

**Table 10 – Higher elasticity of substitution in market production (percentage changes from the base)**

	<b>F no ed</b>	<b>F low ed</b>	<b>F med ed</b>	<b>F high ed</b>
<b>Employment</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
<b>All market sectors, of which:</b>	<b>-0.28</b>	<b>-2.67</b>	<b>-3.12</b>	<b>-1.77</b>
Grains	3.27	3.95	3.87	3.30
Commercial crops	5.59	6.52	5.88	3.57
Livestock and horticulture	1.88	2.46	2.39	1.97
Fishing	14.88	16.57	16.80	15.07
Food processing	3.01	3.78	3.06	4.00
Garments	-59.49	-59.29	-59.35	-59.38
Other textiles	10.84	11.68	11.60	10.78
Other manufacturing	17.40	18.44	18.39	17.61
Infrastructure	2.03	3.75	-	2.70
Trade	1.95	2.77	2.62	1.37
Transport	0.27	1.38	-	0.50
Public services	0.89	1.60	1.61	0.95
Financial services	-	2.70	1.61	0.72
Domestic services	1.14	2.02	1.94	1.26
<b>All social reproduction, of which:</b>	<b>0.13</b>	<b>0.46</b>	<b>0.38</b>	<b>0.21</b>
Landless	-0.30	-0.18	-0.64	-0.48
Small farmers	0.40	0.51	0.03	0.00
Large farmers	1.13	1.27	0.77	0.69
Non ag poor female	-0.24	-0.15	-0.59	-0.42
Non ag poor male	-0.07	0.02	-0.34	-0.46
Non ag rich	0.19	0.29	-0.06	-0.32
Urban low ed	-0.03	0.02	-0.13	-0.31
Urban med ed	1.43	1.74	0.74	0.84
Urban high ed	0.79	1.15	0.91	0.28
<b>All leisure, of which:</b>	<b>-0.09</b>	<b>0.30</b>	<b>0.36</b>	<b>0.30</b>
Landless	-1.11	-1.12	-1.51	-1.30
Small farmers	0.47	0.47	0.02	0.14
Large farmers	1.77	1.81	1.33	1.41
Non ag poor female	-0.85	-0.74	-1.04	-1.80
Non ag poor male	-0.59	-0.61	-0.98	-0.93
Non ag rich	-0.11	-0.12	-0.48	-0.57
Urban low ed	-0.43	-0.51	-0.72	-0.73
Urban med ed	2.45	2.54	1.37	1.56
Urban high ed	1.10	1.32	1.05	0.41
<b>Hourly wages</b>	<b>-3.87</b>	<b>-4.94</b>	<b>-4.37</b>	<b>-3.58</b>
<b>Female wage bill</b>	<b>-15.05</b>	<b>-30.83</b>	<b>-26.69</b>	<b>-9.98</b>

Source: Model simulations

## ***5.2 Higher elasticity of substitution in non-market production***

In the second variant of the main experiment, it is the elasticity of substitution between male and female workers in non-market sectors which is increased, from 0.25 to 1.25. The result is to amplify the fall in female labour market participation. The decline in market employment is now almost five per cent for low and medium educated women, more than three per cent for highly educated women, and over one per cent for unskilled female workers. Because of the higher elasticities in the non-market sectors, leisure absorbs more of the outflow of women from the market, and hence becomes less male intensive. The change in women's social reproduction time compared to experiment 4.3 is marginal. The main difference is a larger increase in women's leisure time. Men's market participation increases more than in the main experiment, while both their social reproduction and leisure time increase less. It seems, under the new circumstances, that men take on more market employment to provide more leisure time to the female members of their households, but do not contribute more to social reproduction. Female wages decline less (even less than in the variant described in section 5.1) while male wages decline more. As a consequence, the price of social reproduction decreases less (being a female intensive sector) while the price of leisure falls more. This smaller decline in the price of social reproduction causes a larger decline in its consumption in households where there was a decline in experiment 4.3 and a smaller increase in households where there was an increase, with the net outcome being that, overall, less social reproduction is undertaken. The combined effect of a smaller fall in the female wage and smaller decline in female market employment is a smaller decline in women's cash income.

This experiment suggests that greater flexibility in gender roles in the non-market sphere would mitigate the negative impact of a decline in the garment industry on women. Not, as in experiment 4.1, in the sense of reducing the impact of a sharp decline in women's market employment, but rather by increasing women's leisure time and reducing their burden of social reproduction. Which of the two options – having more leisure or experiencing less of a decline in market participation – contributes more to women's well-being depends on the relative values women attach to being in paid employment and having more free time, which might differ across skills and households.

**Table 11 – Higher elasticity of substitution in non-market production (percentage changes from the base)**

	<b>F no ed</b>	<b>F low ed</b>	<b>F med ed</b>	<b>F high ed</b>
<b>Employment</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
<b>All market sectors, of which:</b>	<b>-1.43</b>	<b>-4.36</b>	<b>-5.12</b>	<b>-3.35</b>
Grains	1.71	1.72	1.32	1.50
Commercial crops	3.91	3.80	3.68	3.57
Livestock and horticulture	0.85	0.90	0.49	0.47
Fishing	13.86	14.20	13.60	12.33
Food processing	1.75	1.57	1.02	2.00
Garments	-59.70	-59.69	-59.85	-59.84
Other textiles	9.14	9.26	8.79	8.98
Other manufacturing	15.78	15.84	15.38	15.91
Infrastructure	0.39	1.25	-	0.90
Trade	0.27	0.28	0.00	-0.68
Transport	-1.34	-0.92	-	-1.50
Public services	-0.36	-0.64	-0.75	-0.68
Financial services	-	0.00	-1.61	-1.09
Domestic services	0.01	-0.07	-0.49	-0.42
<b>All social reproduction, of which:</b>	<b>0.25</b>	<b>0.58</b>	<b>0.49</b>	<b>0.36</b>
Landless	-0.16	0.01	-0.31	-0.48
Small farmers	0.54	0.71	0.40	0.18
Large farmers	1.28	1.45	1.14	0.94
Non ag poor female	-0.22	-0.07	-0.59	-0.42
Non ag poor male	0.06	0.24	-0.09	-0.26
Non ag rich	0.28	0.45	0.12	-0.05
Urban low ed	0.08	0.27	-0.11	-0.26
Urban med ed	1.23	1.37	1.16	0.92
Urban high ed	0.70	0.85	0.48	0.42
<b>All leisure, of which:</b>	<b>0.22</b>	<b>0.74</b>	<b>0.80</b>	<b>0.62</b>
Landless	-0.78	-0.59	-0.92	-1.30
Small farmers	0.82	1.02	0.70	0.42
Large farmers	2.12	2.31	1.99	1.80
Non ag poor female	-0.66	-0.37	-0.52	-0.90
Non ag poor male	-0.26	-0.06	-0.38	-0.59
Non ag rich	0.12	0.32	-0.02	-0.23
Urban low ed	-0.09	0.12	-0.24	-0.36
Urban med ed	2.08	2.27	2.09	1.84
Urban high ed	1.01	1.17	0.80	0.73
<b>Hourly wages</b>	<b>-3.43</b>	<b>-4.22</b>	<b>-3.49</b>	<b>-2.87</b>
<b>Female wage bill</b>	<b>-15.71</b>	<b>-31.58</b>	<b>-27.62</b>	<b>-10.81</b>

Source: Model simulations

### **5. 3 Higher price elasticity of demand for social reproduction**

In this third version of the main experiment the price elasticity of demand for reproduction is set higher, to values ranging from  $-0.5$  to  $-0.7$  in different households (from  $-0.3$  in the main specification). The effect of it is that women's non-market time increases slightly more in leisure and slightly less in social reproduction (for all female workers except the highly educated), by contrast with the main experiment, in which female time spent on social reproduction rises more than female leisure time. Moreover the decline in female market participation is slightly smaller than in experiment 4.3. Because of the higher price elasticity of demand, in this simulation, consumption of social reproduction increases more in those household types in which it had increased in the main experiment, while it declines much more in those households (the majority) where it had declined, with the net outcome being a smaller overall increase in social reproduction (and female participation in it). Women who belong to households in which income and consumption decline are mainly of low skills, while highly educated women belong mainly to households in which demand for social reproduction increases more than in the main experiment. This is why, for this latter skill category, in this simulation women's participation in social reproduction on average rises more than their participation in leisure.

Because of lower demand in most social reproduction sectors, which are all low skill female intensive, the wages of women decline slightly more (except once again for the highly skilled, for reasons explained in the previous paragraph) while the wages of men decline slightly less, so that the female/male wage gap widens more. The decline in the female cash bill in this variant of the simulation is similar to that in experiment 4.3. It is achieved, however, for most women, with a smaller decline in market participation, higher leisure, and less social reproduction.

It is difficult to say which of these changes improves women's well-being the most. Some women may prefer to work more for the market, enjoy higher personal income and have less leisure while others, depending on circumstances, attach greater value to more leisure. It is also likely that some of the changes in values described separately in each experiment (for example, higher elasticity of substitution in non-market sectors and higher price demand elasticity for reproduction) would occur simultaneously, with some of the effects offsetting each other and some reinforcing each other.

**Table 12 – Higher price elasticity of demand for social reproduction (percentage changes from the base)**

	<b>F no ed</b>	<b>F low ed</b>	<b>F med ed</b>	<b>F high ed</b>
<b>Employment</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
<b>All market sectors, of which:</b>	<b>-0.79</b>	<b>-3.56</b>	<b>-4.32</b>	<b>-2.72</b>
Grains	2.41	2.59	2.24	2.25
Commercial crops	4.69	4.89	4.41	3.57
Livestock and horticulture	1.41	1.68	1.25	0.99
Fishing	15.03	14.79	14.40	13.70
Food processing	2.29	2.20	1.02	2.00
Garments	-58.95	-58.84	-58.98	-59.22
Other textiles	10.08	10.38	10.02	10.18
Other manufacturing	16.79	16.88	16.39	16.48
Infrastructure	1.16	1.25	-	1.80
Trade	1.08	1.20	0.92	0.68
Transport	-0.80	-0.46	-	-0.50
Public services	0.18	0.00	-0.11	-0.06
Financial services	-	0.00	0.00	-0.72
Domestic services	0.72	0.58	0.19	0.21
<b>All social reproduction, of which:</b>	<b>0.12</b>	<b>0.54</b>	<b>0.51</b>	<b>0.38</b>
Landless	-0.80	-0.72	-1.27	-0.95
Small farmers	0.64	0.72	0.10	0.05
Large farmers	1.42	1.54	0.89	0.76
Non ag poor female	-0.65	-0.60	-1.17	-1.27
Non ag poor male	0.17	0.20	-0.25	-0.41
Non ag rich	0.49	0.53	0.08	-0.29
Urban low ed	-0.18	-0.22	-0.37	-0.63
Urban med ed	1.92	2.23	0.80	0.96
Urban high ed	1.42	1.79	1.44	0.55
<b>All leisure, of which:</b>	<b>0.14</b>	<b>0.51</b>	<b>0.51</b>	<b>0.34</b>
Landless	-0.81	-0.84	-1.29	-0.98
Small farmers	0.69	0.67	0.15	0.28
Large farmers	2.04	2.07	1.49	1.58
Non ag poor female	-0.87	-0.99	-1.55	-1.80
Non ag poor male	-0.38	-0.45	-0.85	-0.85
Non ag rich	0.13	0.06	-0.35	-0.48
Urban low ed	-0.31	-0.45	-0.63	-0.60
Urban med ed	3.13	3.09	1.49	1.70
Urban high ed	1.43	1.66	1.32	0.40
<b>Hourly wages</b>	<b>-4.57</b>	<b>-5.65</b>	<b>-4.97</b>	<b>-4.11</b>
<b>Female wage bill</b>	<b>-15.99</b>	<b>-31.82</b>	<b>-27.94</b>	<b>-11.31</b>

Source: Model simulations

## **6 Conclusions**

The purpose of this paper was to see what insights can be gained into the gender effects of trade in Bangladesh by using a highly disaggregated SAM and CGE model. The trade policy experiments analysed were similar to those discussed in Fontana and Wood (2000), but with a much greater level of detail for sectors, factors and households. The new expanded SAM used in this paper had 14 market sectors, differentiated workers not only by gender but also by four educational categories, accounted for land as well as for capital among non-labour factors, and distinguished nine household types, each with its own social reproduction and leisure sectors. This greater level of detail permitted a richer analysis of the effects than in the earlier paper. In the simulation of a decline in garment exports, for instance, it emerged that women of low and medium education were more adversely affected than women of other skill levels. It was also possible to note that changes in social reproduction and leisure varied across households: while female members of poor households reduced their time inputs into social reproduction and leisure, women in relatively well off households increased both. The distinction between female intensive and male intensive crops, when modelling a rise in world price of food imports, made apparent a less positive impact on women's employment and wages than in Fontana and Wood (2000). It highlighted that the resulting increase in grain production occurred in a male intensive sector. The simulation made also visible the distributional impact of the price change, with the landowners gaining at the expenses of all other households. Finally, in the experiment of a rise in natural gas exports, it became clear that wages did not increase for all women (as observed in a similar experiment in the earlier paper), but instead marginally declined for the low educated.

## Appendices

**Table A1 – Correspondence between SAM sectors**

	<b>SAM in this paper</b>	<b>Fontana and Wobst SAM</b>
1	Grains	Paddy, wheat, other grains
2	Commercial crops	Sugar, tobacco, tea, cotton, jute and forestry
3	Livestock and horticulture	Potato, vegetables, pulses, spices, poultry and livestock
4	Fishing	Fish and shrimps
5	Food processing	Rice milling, ata and flour, other food, tobacco
6	Ready-made garments	Garments
7	Other textiles	Leather, jute text, mill cloth, yarn, other clothing, other textiles
8	Other manufacturing	Wood products, chemicals, fertilisers, petroleum products, clay, steel, machinery, other industries
9	Infrastructure	Urban buildings, rural buildings, construction, utilities
10	Trade	Trade and hotels
11	Transport	Transport and communications
12	Public sector	Public administration, health, education and housing
13	Financial services	Financial services
14	Domestic services	Other services
15	Social reproduction landless	
16	Social reproduction small farmers	
17	Social reproduction large farmers	
18	Social reproduction poor non ag female	
19	Social reproduction poor non ag male	
20	Social reproduction rich non ag	
21	Social reproduction urban low ed	
22	Social reproduction urban med ed	
23	Social reproduction urban high ed	
24	Leisure landless	
25	Leisure small farmers	
26	Leisure large farmers	
27	Leisure poor non ag female	
28	Leisure poor non ag male	
29	Leisure rich non ag	
30	Leisure urban low ed urban	
31	Leisure urban med ed urban	
32	Leisure urban high ed urban	

**Table A2 – Natural gas exports (absolute and percentage changes from base)**

Employment	F no ed		F low ed		F med ed		F high ed		M no ed		M low ed		M med ed		M high ed	
	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%
<b>All market sectors, of which:</b>	-2.34	-1.76	-1.49	-3.20	-0.74	-3.40	-0.20	-1.95	-2.34	-0.78	-1.93	-1.05	-1.11	-0.98	-0.77	-0.92
Grains	-0.05	-0.23	0.00	-0.07	0.00	-0.12	0.00	-0.30	0.04	0.04	0.10	0.23	0.05	0.25	0.00	0.02
Commercial crops	-0.03	-3.58	-0.01	-3.26	-0.01	-3.68	0.00	-3.57	-0.82	-3.26	-0.39	-3.07	-0.15	-3.05	-0.06	-3.29
Livestock and horticulture	-0.15	-0.22	-0.01	-0.05	-0.02	-0.14	-0.01	-0.39	0.04	0.06	0.08	0.24	0.04	0.26	0.00	0.06
Fishing	-0.02	-1.61	0.00	-1.18	0.00	-0.80	0.00	-2.74	-0.01	-1.30	-0.01	-0.95	-0.02	-0.99	-0.01	-1.21
Food processing	0.03	1.17	0.01	1.26	0.00	1.02	0.00	2.00	0.04	1.41	0.03	1.67	0.03	1.73	0.01	1.41
Gamments	-1.80	-29.34	-1.31	-29.21	-0.65	-29.33	-0.19	-29.46	-0.24	-29.14	-0.28	-29.04	-0.17	-29.16	-0.12	-29.11
Other textiles	-0.21	-13.04	-0.15	-12.89	-0.07	-13.01	-0.02	-13.17	-0.93	-12.80	-1.11	-12.63	-0.66	-12.61	-0.49	-12.81
Other manufacturing	-0.12	-4.90	-0.04	-4.68	-0.01	-4.68	-0.01	-4.55	-0.29	-4.63	-0.28	-4.40	-0.20	-4.38	-0.12	-4.62
Infrastructure	-0.02	-1.64	0.00	-1.25	-	-	0.00	-1.80	-0.15	-1.40	-0.08	-1.20	-0.03	-1.17	-0.04	-1.43
Trade	-0.06	-1.11	-0.01	-0.92	-0.01	-0.92	0.00	-1.37	-0.34	-0.84	-0.27	-0.63	-0.22	-0.62	-0.23	-0.85
Transport	0.00	0.27	0.00	0.46	-	-	0.00	0.50	0.22	0.66	0.13	0.85	0.06	0.87	0.02	0.61
Public services	0.00	0.72	0.00	0.96	0.01	0.86	0.03	0.53	0.01	1.08	0.03	1.26	0.06	1.23	0.17	0.96
Financial services	-	-	0.00	2.70	0.00	1.61	0.00	1.09	0.00	1.26	0.01	1.38	0.01	1.46	0.06	1.30
Domestic services	0.09	0.48	0.03	0.70	0.01	0.63	0.00	0.32	0.07	0.75	0.11	1.01	0.09	1.04	0.04	0.78
<b>All social reproduction, of which:</b>	0.67	0.14	0.63	0.33	0.30	0.27	0.07	0.14	0.31	0.27	0.34	0.50	0.19	0.45	0.12	0.34
Landless	0.21	0.18	0.08	0.38	0.01	0.36	0.00	0.00	0.10	0.32	0.05	0.52	0.01	0.54	0.00	0.00
Small farmers	0.06	0.06	0.09	0.27	0.03	0.24	0.00	-0.05	0.05	0.20	0.06	0.42	0.03	0.43	0.00	0.21
Large farmers	0.01	0.03	0.04	0.22	0.02	0.20	0.00	-0.07	0.02	0.17	0.03	0.38	0.03	0.40	0.01	0.17
Non ag poor female	0.02	0.26	0.01	0.45	0.00	0.29	0.00	0.00	0.00	0.40	0.00	0.83	0.00	0.00	0.00	0.00
Non ag poor male	0.11	0.15	0.09	0.36	0.03	0.29	0.00	0.10	0.05	0.28	0.06	0.51	0.02	0.49	0.00	0.24
Non ag rich	0.05	0.21	0.07	0.42	0.04	0.35	0.01	0.17	0.02	0.33	0.04	0.57	0.03	0.54	0.02	0.40
Urban low ed	0.20	0.18	0.17	0.41	0.03	0.26	0.00	0.05	0.07	0.32	0.10	0.56	0.01	0.45	0.00	0.27
Urban med ed	-0.01	-0.08	0.02	0.10	0.05	0.23	0.00	-0.12	0.00	0.00	0.00	0.27	0.06	0.42	0.00	0.13
Urban high ed	0.02	0.26	0.05	0.43	0.08	0.29	0.06	0.19	0.00	0.41	0.00	0.65	0.01	0.45	0.08	0.41
<b>All leisure, of which:</b>	1.67	0.53	0.86	0.70	0.44	0.62	0.14	0.48	2.03	0.69	1.59	0.89	0.91	0.80	0.65	0.69
Landless	0.50	0.66	0.12	0.87	0.02	0.85	0.00	0.33	0.64	0.80	0.24	1.02	0.06	1.04	0.00	0.61
Small farmers	0.27	0.42	0.15	0.62	0.05	0.62	0.00	0.35	0.37	0.56	0.30	0.77	0.16	0.81	0.04	0.58
Large farmers	0.09	0.26	0.08	0.45	0.05	0.44	0.00	0.21	0.12	0.40	0.13	0.60	0.13	0.64	0.04	0.42
Non ag poor female	0.03	0.75	0.01	0.99	0.00	1.04	0.00	0.90	0.01	0.88	0.01	0.97	0.00	1.18	0.00	0.97
Non ag poor male	0.29	0.58	0.13	0.79	0.05	0.76	0.01	0.51	0.35	0.71	0.27	0.94	0.11	0.94	0.04	0.74
Non ag rich	0.12	0.62	0.13	0.85	0.09	0.80	0.02	0.60	0.09	0.76	0.16	0.99	0.12	0.99	0.12	0.82
Urban low ed	0.35	0.65	0.18	0.88	0.05	0.80	0.01	0.60	0.44	0.79	0.46	1.03	0.08	0.99	0.02	0.79
Urban med ed	0.00	0.05	0.03	0.30	0.06	0.49	0.00	0.14	0.00	0.27	0.01	0.41	0.22	0.68	0.02	0.38
Urban high ed	0.02	0.48	0.03	0.65	0.07	0.54	0.09	0.53	0.00	0.50	0.01	0.74	0.02	0.72	0.35	0.74
<b>Hourly Wages</b>	0.01	0.43	0.00	-0.09	0.01	0.28	0.10	0.91	0.01	0.20	0.00	-0.04	0.00	-0.05	0.04	0.28
<b>Female Wage Bill</b>	-1.12	-7.13	-1.35	-15.66	-0.66	-13.12	-0.34	-3.17								

**Table A3 – Higher import price of food grains – land activity specific (absolute and percentage changes from base)**

	F no ed		F low ed		F med ed		F high ed		M no ed		M low ed		M med ed		M high ed	
	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%
<b>Employment</b>	0.32	0.25	0.16	0.35	0.10	0.44	0.03	0.30	0.86	0.28	0.44	0.24	0.26	0.23	0.16	0.19
<b>All market sectors, of which:</b>	0.44	2.16	0.16	2.20	0.08	2.30	0.02	2.55	1.69	1.85	0.81	1.96	0.41	2.06	0.15	2.26
Grains	0.00	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	-0.08	-0.32	-0.03	-0.22	-0.01	-0.10	0.00	0.11
Commercial crops	-0.12	-0.17	-0.03	-0.13	-0.01	-0.05	0.00	0.09	-0.33	-0.46	-0.12	-0.38	-0.04	-0.29	-0.01	-0.11
Livestock and horticulture	0.00	-0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.39	0.00	-0.48	-0.01	-0.33	0.00	-0.09
Fishing	-0.06	-2.87	-0.02	-2.99	0.00	-3.06	0.00	-2.00	-0.08	-3.17	-0.06	-3.09	-0.05	-2.99	-0.02	-2.82
Food processing	0.08	1.22	0.05	1.19	0.03	1.27	0.01	1.40	0.01	0.99	0.01	0.92	0.01	1.03	0.01	1.17
Gaments	0.01	0.32	0.01	0.43	0.00	0.53	0.00	0.60	0.00	0.07	0.02	0.18	0.01	0.27	0.02	0.50
Other textiles	0.00	0.20	0.00	0.26	0.00	0.33	0.00	0.57	0.00	-0.06	0.00	0.00	0.00	0.09	0.01	0.30
Other manufacturing	0.00	0.00	0.00	0.00	-	-	0.00	0.90	-0.04	-0.34	-0.01	-0.23	0.00	-0.15	0.00	0.07
Infrastructure	0.01	0.13	0.00	0.18	0.00	0.31	0.00	0.00	-0.07	-0.17	-0.03	-0.08	0.01	0.03	0.07	0.25
Trade	0.00	-0.27	0.00	0.00	-	-	0.00	0.50	-0.20	-0.57	-0.07	-0.46	-0.02	-0.35	-0.01	-0.13
Transport	0.00	-0.18	0.00	-0.32	0.00	-0.21	0.00	0.00	-0.01	-0.54	-0.01	-0.52	-0.02	-0.42	-0.03	-0.19
Public services	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.26	0.00	-0.79	-0.01	-0.66	-0.02	-0.39
Financial services	-0.02	-0.10	-0.01	-0.14	0.00	-0.05	0.00	0.11	-0.04	-0.40	-0.04	-0.37	-0.02	-0.27	0.00	-0.07
Domestic services	-0.01	0.00	-0.05	-0.03	-0.03	-0.03	0.00	0.00	-0.16	-0.14	-0.08	-0.12	-0.05	-0.11	-0.02	-0.06
<b>All social reproduction, of which:</b>	0.02	0.02	0.01	0.02	0.00	0.08	0.00	0.24	-0.04	-0.13	-0.01	-0.10	0.00	0.00	0.00	0.00
Landless	0.07	0.08	0.03	0.08	0.01	0.13	0.01	0.27	-0.02	-0.07	-0.01	-0.04	0.00	0.01	0.00	0.21
Small farmers	0.06	0.15	0.03	0.17	0.02	0.21	0.01	0.36	0.00	0.01	0.00	0.05	0.01	0.10	0.01	0.28
Large farmers	-0.02	-0.22	0.00	-0.30	0.00	-0.29	0.00	0.00	-0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non ag poor female	-0.06	-0.07	-0.02	-0.08	0.00	0.00	0.00	0.15	-0.04	-0.22	-0.02	-0.19	0.00	-0.11	0.00	0.05
Non ag poor male	-0.03	-0.15	-0.03	-0.16	-0.01	-0.08	0.00	0.02	-0.01	-0.31	-0.02	-0.29	-0.01	-0.22	0.00	-0.07
Non ag rich	-0.03	-0.02	-0.02	-0.04	0.01	0.08	0.00	0.21	-0.04	-0.17	-0.03	-0.17	0.00	-0.03	0.00	0.18
Urban low ed	-0.01	-0.09	-0.02	-0.10	-0.04	-0.16	0.00	0.04	0.00	-0.60	0.00	-0.27	-0.04	-0.28	0.00	-0.07
Urban med ed	-0.02	-0.23	-0.02	-0.21	-0.03	-0.12	-0.03	-0.08	0.00	0.00	0.00	-0.22	0.00	-0.27	-0.04	-0.18
Urban high ed	-0.31	-0.10	-0.12	-0.09	-0.07	-0.10	-0.03	-0.11	-0.70	-0.24	-0.35	-0.20	-0.21	-0.19	-0.14	-0.15
<b>All leisure, of which:</b>	-0.07	-0.10	-0.01	-0.07	0.00	0.00	0.00	0.00	-0.20	-0.25	-0.04	-0.19	-0.01	-0.10	0.00	0.00
Landless	0.04	0.06	0.02	0.09	0.01	0.17	0.00	0.35	-0.06	-0.09	-0.01	-0.03	0.01	0.05	0.02	0.26
Small farmers	0.08	0.23	0.05	0.26	0.04	0.33	0.01	0.51	0.02	0.08	0.03	0.14	0.04	0.21	0.04	0.40
Large farmers	-0.03	-0.59	0.00	-0.50	0.00	-0.52	0.00	0.00	-0.01	-0.72	0.00	-0.78	0.00	-0.78	0.00	-0.48
Non ag poor female	-0.14	-0.27	-0.04	-0.25	-0.01	-0.16	0.00	0.00	-0.21	-0.42	-0.11	-0.37	-0.03	-0.29	0.00	-0.09
Non ag poor male	-0.07	-0.35	-0.05	-0.34	-0.03	-0.26	-0.01	-0.14	-0.06	-0.51	-0.08	-0.47	-0.04	-0.38	-0.03	-0.22
Non ag rich	-0.10	-0.18	-0.03	-0.17	0.00	-0.05	0.00	0.12	-0.18	-0.33	-0.13	-0.29	-0.01	-0.16	0.00	0.03
Urban low ed	-0.02	-0.22	-0.03	-0.27	-0.04	-0.36	0.00	-0.21	0.00	-0.27	-0.01	-0.41	-0.16	-0.48	-0.01	-0.26
Urban med ed	-0.01	-0.36	-0.02	-0.34	-0.03	-0.25	-0.04	-0.23	0.00	-0.50	-0.01	-0.49	-0.01	-0.36	-0.16	-0.33
Urban high ed	-0.01	-0.33	-0.01	-0.32	-0.02	-0.44	-0.06	-0.59	0.01	0.14	0.00	0.05	0.00	-0.05	-0.04	-0.26
<b>Hourly Wages</b>	-0.03	-0.19	0.02	0.20	0.01	0.12	-0.04	-0.36								
<b>Female Wage Bill</b>																

**Table A3a – Higher import price of food grains – land mobile (absolute and percentage changes from base)**

Employment	F no ed		F low ed		F med ed		F high ed		M no ed		M low ed		M med ed		M high ed	
	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%
<b>All market sectors, of which:</b>	0.46	0.34	0.21	0.45	0.11	0.53	0.03	0.31	0.77	0.25	0.39	0.21	0.23	0.20	0.14	0.16
Grains	0.30	1.46	0.11	1.49	0.05	1.60	0.01	1.80	1.13	1.24	0.55	1.32	0.28	1.41	0.11	1.60
Commercial crops	0.00	0.22	0.00	0.27	0.00	0.00	0.00	0.00	0.02	0.09	0.02	0.18	0.01	0.26	0.01	0.45
Livestock and horticulture	0.14	0.20	0.06	0.22	0.03	0.30	0.01	0.43	-0.02	-0.03	0.02	0.05	0.02	0.13	0.02	0.29
Fishing	0.00	0.07	0.00	0.00	0.00	0.80	0.00	0.00	0.00	-0.13	0.00	-0.12	0.00	-0.07	0.00	0.19
Food processing	-0.05	-2.24	-0.02	-2.36	0.00	-3.06	0.00	-2.00	-0.06	-2.50	-0.05	-2.43	-0.04	-2.33	-0.02	-2.24
Gaments	0.08	1.29	0.06	1.25	0.03	1.36	0.01	1.40	0.01	1.11	0.01	1.02	0.01	1.03	0.01	1.41
Other textiles	0.01	0.32	0.01	0.43	0.00	0.53	0.00	0.60	0.01	0.11	0.02	0.19	0.01	0.27	0.02	0.47
Other manufacturing	0.00	0.20	0.00	0.26	0.00	0.33	0.00	0.57	0.00	0.00	0.00	0.06	0.01	0.13	0.01	0.34
Infrastructure	0.00	0.00	0.00	0.00	-	-	0.00	0.90	-0.03	-0.27	-0.01	-0.19	0.00	-0.11	0.00	0.07
Trade	0.00	0.02	0.00	0.09	0.00	0.15	0.00	0.00	-0.08	-0.19	-0.05	-0.11	-0.01	-0.03	0.05	0.16
Transport	0.00	-0.27	0.00	0.00	-	-	0.00	0.50	-0.17	-0.49	-0.06	-0.40	-0.02	-0.31	-0.01	-0.13
Public services	0.00	-0.18	0.00	-0.32	0.00	-0.21	0.00	-0.04	0.00	-0.43	-0.01	-0.43	-0.02	-0.37	-0.03	-0.18
Financial services	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.63	0.00	-0.79	0.00	-0.53	-0.01	-0.34
Domestic services	-0.02	-0.12	-0.01	-0.14	0.00	-0.10	0.00	0.11	-0.03	-0.34	-0.03	-0.31	-0.02	-0.23	0.00	-0.07
<b>All social reproduction, of which:</b>	-0.11	-0.02	-0.08	-0.04	-0.04	-0.04	0.00	-0.01	-0.14	-0.12	-0.08	-0.11	-0.04	-0.09	-0.02	-0.05
Landless	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.24	-0.04	-0.11	-0.01	-0.09	0.00	0.00	0.00	0.00
Small farmers	0.04	0.04	0.02	0.05	0.01	0.10	0.01	0.23	-0.02	-0.07	-0.01	-0.04	0.00	0.01	0.00	0.17
Large farmers	0.04	0.10	0.02	0.10	0.02	0.16	0.01	0.29	0.00	-0.02	0.00	0.01	0.00	0.07	0.01	0.22
Non ag poor female	-0.02	-0.20	0.00	-0.22	0.00	-0.29	0.00	0.00	0.00	-0.20	0.00	0.00	0.00	0.00	0.00	0.00
Non ag poor male	-0.06	-0.08	-0.02	-0.08	0.00	-0.01	0.00	0.15	-0.04	-0.19	-0.02	-0.17	0.00	-0.09	0.00	0.05
Non ag rich	-0.03	-0.15	-0.03	-0.16	-0.01	-0.08	0.00	0.02	-0.01	-0.27	-0.01	-0.24	-0.01	-0.17	0.00	-0.05
Urban low ed	-0.04	-0.04	-0.02	-0.05	0.01	0.05	0.00	0.21	-0.03	-0.15	-0.03	-0.14	0.00	-0.03	0.00	0.09
Urban med ed	-0.02	-0.10	-0.02	-0.11	-0.03	-0.14	0.00	0.04	0.00	-0.60	0.00	-0.27	-0.03	-0.22	0.00	0.00
Urban high ed	-0.02	-0.23	-0.02	-0.21	-0.04	-0.13	-0.03	-0.08	0.00	0.00	0.00	-0.22	0.00	-0.18	-0.03	-0.15
<b>All leisure, of which:</b>	-0.35	-0.11	-0.13	-0.11	-0.07	-0.10	-0.03	-0.10	-0.63	-0.21	-0.32	-0.18	-0.19	-0.16	-0.12	-0.13
Landless	-0.08	-0.11	-0.01	-0.07	0.00	0.00	0.00	0.00	-0.17	-0.22	-0.04	-0.16	0.00	-0.09	0.00	0.00
Small farmers	0.02	0.02	0.01	0.05	0.01	0.12	0.00	0.28	-0.06	-0.09	-0.01	-0.04	0.01	0.03	0.01	0.21
Large farmers	0.05	0.14	0.03	0.17	0.03	0.23	0.01	0.38	0.01	0.03	0.02	0.09	0.03	0.15	0.03	0.32
Non ag poor female	-0.02	-0.49	0.00	-0.50	0.00	0.00	0.00	0.00	-0.01	-0.64	0.00	-0.78	0.00	-0.78	0.00	-0.48
Non ag poor male	-0.13	-0.25	-0.04	-0.23	-0.01	-0.14	0.00	0.00	-0.18	-0.37	-0.09	-0.32	-0.03	-0.24	0.00	-0.07
Non ag rich	-0.06	-0.32	-0.05	-0.30	-0.03	-0.23	0.00	-0.11	-0.05	-0.43	-0.07	-0.40	-0.04	-0.32	-0.03	-0.17
Urban low ed	-0.09	-0.18	-0.03	-0.16	0.00	-0.05	0.00	0.12	-0.16	-0.29	-0.11	-0.25	-0.01	-0.15	0.00	0.03
Urban med ed	-0.02	-0.22	-0.02	-0.25	-0.04	-0.31	0.00	-0.14	0.00	-0.27	-0.01	-0.36	-0.13	-0.40	-0.01	-0.22
Urban high ed	-0.01	-0.33	-0.02	-0.33	-0.03	-0.25	-0.04	-0.21	0.00	-0.50	-0.01	-0.41	-0.01	-0.33	-0.13	-0.28
<b>Hourly Wages</b>	-0.01	-0.28	-0.01	-0.26	-0.01	-0.36	-0.05	-0.51	0.00	0.07	0.00	-0.01	-0.01	-0.09	-0.04	-0.27
<b>Female Wage Bill</b>	-0.02	-0.11	0.03	0.31	0.01	0.22	-0.03	-0.29								

**Table A4 – Decline in garment exports (absolute and percentage changes from base)**

Employment	F no ed		F low ed		F med ed		F high ed		M no ed		M low ed		M med ed		M high ed	
	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%
<b>All market sectors, of which:</b>	-1.35	-1.02	-1.75	-3.75	-0.97	-4.43	-0.29	-2.74	2.27	0.75	1.32	0.72	0.45	0.40	0.24	0.29
Grains	0.46	2.25	0.18	2.48	0.07	2.21	0.02	2.25	1.04	1.14	0.42	1.01	0.13	0.67	0.07	1.07
Commercial crops	0.04	4.25	0.02	4.62	0.01	4.41	0.00	3.57	0.81	3.20	0.38	3.03	0.14	2.73	0.06	3.18
Livestock and horticulture	0.84	1.18	0.39	1.51	0.13	1.17	0.02	0.99	0.05	0.08	0.01	0.04	-0.05	-0.33	-0.01	-0.11
Fishing	0.20	14.44	0.03	14.79	0.02	14.40	0.01	13.70	0.10	13.21	0.11	12.65	0.19	12.17	0.14	12.70
Food processing	0.05	2.11	0.01	2.20	0.00	1.02	0.00	2.00	0.03	1.02	0.02	0.76	0.00	0.30	0.01	0.71
Garments	-3.64	-59.42	-2.65	-59.29	-1.31	-59.39	-0.38	-59.53	-0.49	-59.88	-0.59	-59.92	-0.35	-60.03	-0.26	-59.86
Other textiles	0.15	9.58	0.11	9.86	0.05	9.49	0.02	9.58	0.61	8.42	0.72	8.27	0.41	7.90	0.32	8.38
Other manufacturing	0.40	16.35	0.13	16.49	0.05	16.39	0.03	16.48	0.94	15.10	0.95	14.76	0.64	14.35	0.40	14.93
Infrastructure	0.01	0.87	0.00	1.25	-	-	0.00	0.90	-0.02	-0.18	-0.03	-0.40	-0.02	-0.69	-0.01	-0.20
Trade	0.05	0.88	0.01	1.01	0.01	0.77	0.00	0.68	-0.09	-0.22	-0.20	-0.45	-0.27	-0.75	-0.07	-0.27
Transport	0.00	-0.80	0.00	-0.46	-	-	0.00	-0.50	-0.66	-1.93	-0.33	-2.09	-0.16	-2.40	-0.07	-1.89
Public services	0.00	0.00	0.00	0.00	0.00	-0.21	0.00	-0.02	-0.01	-0.97	-0.03	-1.39	-0.08	-1.66	-0.21	-1.14
Financial services	-	-	0.00	0.00	0.00	-1.61	0.00	-0.72	0.00	-1.89	-0.01	-2.16	-0.02	-2.39	-0.08	-1.85
Domestic services	0.10	0.55	0.02	0.50	0.00	0.19	0.00	0.21	-0.05	-0.56	-0.10	-0.94	-0.11	-1.28	-0.04	-0.87
<b>All social reproduction, of which:</b>	1.28	0.26	1.21	0.63	0.60	0.54	0.16	0.33	-0.38	-0.33	-0.20	-0.29	-0.15	-0.34	-0.09	-0.26
Landless	-0.21	-0.18	0.00	-0.02	-0.02	-0.51	0.00	-0.24	-0.23	-0.72	-0.07	-0.75	-0.03	-1.21	0.00	-0.83
Small farmers	0.50	0.52	0.23	0.66	0.02	0.14	0.00	0.14	-0.01	-0.03	-0.01	-0.06	-0.04	-0.60	-0.01	-0.38
Large farmers	0.47	1.24	0.27	1.43	0.10	0.88	0.02	0.83	0.07	0.69	0.05	0.70	0.01	0.13	0.01	0.28
Non ag poor female	-0.02	-0.18	0.00	-0.07	0.00	-0.59	0.00	-0.42	0.00	-0.80	0.00	-0.41	0.00	-1.11	0.00	-1.67
Non ag poor male	0.05	0.06	0.04	0.16	-0.02	-0.20	-0.01	-0.31	-0.10	-0.49	-0.06	-0.56	-0.04	-0.94	-0.02	-0.90
Non ag rich	0.07	0.33	0.08	0.46	0.01	0.10	-0.01	-0.22	-0.01	-0.22	-0.02	-0.27	-0.03	-0.65	-0.04	-0.76
Urban low ed	0.11	0.10	0.06	0.14	0.01	0.07	0.00	-0.10	-0.10	-0.45	-0.11	-0.58	-0.02	-0.66	-0.01	-0.62
Urban med ed	0.24	1.67	0.38	2.07	0.18	0.80	0.03	1.04	0.00	0.60	0.01	1.34	0.01	0.04	0.01	0.46
Urban high ed	0.08	0.95	0.15	1.41	0.33	1.18	0.13	0.39	0.00	0.41	0.00	0.65	0.01	0.45	-0.03	-0.17
<b>All leisure, of which:</b>	0.07	0.02	0.54	0.44	0.36	0.51	0.12	0.43	-1.89	-0.64	-1.12	-0.63	-0.30	-0.27	-0.15	-0.16
Landless	-0.74	-0.99	-0.13	-0.98	-0.04	-1.36	0.00	-0.98	-1.23	-1.53	-0.39	-1.69	-0.12	-2.11	-0.01	-1.69
Small farmers	0.37	0.56	0.14	0.58	0.01	0.12	0.00	0.28	0.01	0.02	-0.05	-0.14	-0.13	-0.62	-0.02	-0.27
Large farmers	0.62	1.85	0.34	1.93	0.15	1.43	0.04	1.54	0.38	1.30	0.26	1.19	0.14	0.67	0.10	0.97
Non ag poor female	-0.03	-0.78	-0.01	-0.74	0.00	-1.04	0.00	-0.90	-0.02	-1.29	-0.01	-1.56	-0.01	-2.35	0.00	-1.93
Non ag poor male	-0.24	-0.48	-0.08	-0.50	-0.05	-0.84	-0.01	-0.76	-0.51	-1.02	-0.35	-1.21	-0.19	-1.59	-0.07	-1.30
Non ag rich	0.00	0.01	0.00	0.01	-0.04	-0.34	-0.02	-0.43	-0.06	-0.54	-0.12	-0.72	-0.13	-1.08	-0.15	-0.98
Urban low ed	-0.17	-0.32	-0.08	-0.41	-0.03	-0.54	0.00	-0.48	-0.48	-0.86	-0.51	-1.13	-0.11	-1.29	-0.03	-1.06
Urban med ed	0.22	2.83	0.27	2.91	0.18	1.45	0.02	1.70	0.01	2.47	0.04	2.16	0.22	0.69	0.05	1.18
Urban high ed	0.04	1.31	0.09	1.63	0.19	1.37	0.09	0.53	0.00	0.67	0.01	0.82	0.02	0.62	-0.02	-0.04
<b>Hourly Wages</b>	-0.09	-4.28	-0.19	-5.46	-0.19	-4.90	-0.45	-4.16	-0.07	-1.63	-0.09	-1.46	-0.09	-1.04	-0.25	-1.59
<b>Female Wage Bill</b>	-2.52	-16.00	-2.76	-31.99	-1.41	-28.10	-1.22	-11.39								

**Table A5 – Higher elasticity of substitution in market production (absolute and percentage changes from base)**

Employment	F no ed		F low ed		F med ed		F high ed		M no ed		M low ed		M med ed		M high ed	
	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%
<b>All market sectors, of which:</b>	-0.37	-0.28	-1.24	-2.67	-0.68	-3.12	-0.19	-1.77	1.96	0.65	1.10	0.60	0.32	0.29	0.18	0.21
Grains	0.67	3.27	0.29	3.95	0.13	3.87	0.02	3.30	0.96	1.05	0.34	0.82	0.09	0.47	0.06	0.95
Commercial crops	0.05	5.59	0.02	6.52	0.01	5.88	0.00	3.57	0.85	3.37	0.40	3.17	0.14	2.79	0.06	3.24
Livestock and horticulture	1.34	1.88	0.64	2.46	0.27	2.39	0.05	1.97	-0.22	-0.31	-0.21	-0.64	-0.15	-0.96	-0.02	-0.31
Fishing	0.20	14.88	0.03	16.57	0.02	16.80	0.01	15.07	0.10	12.44	0.11	12.53	0.19	12.24	0.14	12.79
Food processing	0.07	3.01	0.02	3.78	0.00	3.06	0.00	4.00	0.02	0.78	0.01	0.66	0.01	0.48	0.01	0.82
Gamments	-3.65	-59.49	-2.65	-59.29	-1.31	-59.35	-0.38	-59.38	-0.49	-60.37	-0.59	-60.53	-0.35	-60.72	-0.26	-60.33
Other textiles	0.17	10.84	0.14	11.68	0.07	11.60	0.02	10.78	0.62	8.51	0.73	8.29	0.41	7.91	0.32	8.44
Other manufacturing	0.43	17.40	0.14	18.44	0.06	18.39	0.03	17.61	0.93	14.88	0.95	14.79	0.64	14.41	0.40	14.86
Infrastructure	0.02	2.03	0.00	3.75	-	-	0.00	2.70	-0.01	-0.14	-0.02	-0.28	-0.02	-0.66	-0.01	-0.31
Trade	0.11	1.95	0.03	2.77	0.02	2.62	0.00	1.37	-0.09	-0.22	-0.16	-0.36	-0.26	-0.73	-0.09	-0.33
Transport	0.00	0.27	0.00	1.38	-	-	0.00	0.50	-0.59	-1.73	-0.30	-1.92	-0.15	-2.27	-0.07	-1.89
Public services	0.00	0.89	0.01	1.60	0.01	1.61	0.04	0.95	-0.01	-1.19	-0.03	-1.26	-0.08	-1.68	-0.24	-1.30
Financial services	-	-	0.00	2.70	0.00	1.61	0.00	0.72	0.00	-1.89	-0.01	-1.96	-0.02	-2.26	-0.08	-1.80
Domestic services	0.21	1.14	0.08	2.02	0.04	1.94	0.01	1.26	-0.10	-1.03	-0.12	-1.06	-0.12	-1.40	-0.04	-0.94
<b>All social reproduction, of which:</b>	0.66	0.13	0.88	0.46	0.43	0.38	0.10	0.21	-0.30	-0.27	-0.16	-0.23	-0.11	-0.26	-0.08	-0.21
Landless	-0.35	-0.30	-0.04	-0.18	-0.02	-0.64	0.00	-0.48	-0.21	-0.66	-0.06	-0.69	-0.03	-1.17	0.00	-1.25
Small farmers	0.38	0.40	0.17	0.51	0.00	0.03	0.00	0.00	0.01	0.03	0.00	-0.01	-0.04	-0.52	-0.01	-0.38
Large farmers	0.42	1.13	0.24	1.27	0.09	0.77	0.02	0.69	0.08	0.76	0.06	0.75	0.01	0.21	0.01	0.34
Non ag poor female	-0.02	-0.24	0.00	-0.15	0.00	-0.59	0.00	-0.42	0.00	-0.60	0.00	-0.41	0.00	-1.11	0.00	-1.67
Non ag poor male	-0.05	-0.07	0.01	0.02	-0.03	-0.34	-0.01	-0.46	-0.08	-0.43	-0.06	-0.49	-0.04	-0.87	-0.02	-0.85
Non ag rich	0.04	0.19	0.05	0.29	-0.01	-0.06	-0.01	-0.32	-0.01	-0.18	-0.01	-0.21	-0.03	-0.61	-0.04	-0.69
Urban low ed	-0.03	-0.03	0.01	0.02	-0.02	-0.13	-0.01	-0.31	-0.09	-0.39	-0.09	-0.49	-0.02	-0.66	-0.01	-0.62
Urban med ed	0.20	1.43	0.32	1.74	0.17	0.74	0.02	0.84	0.00	0.60	0.01	1.20	0.02	0.18	0.01	0.53
Urban high ed	0.06	0.79	0.13	1.15	0.25	0.91	0.09	0.28	0.00	0.41	0.00	0.65	0.00	0.36	-0.02	-0.10
<b>All leisure, of which:</b>	-0.29	-0.09	0.37	0.30	0.25	0.36	0.08	0.30	-1.66	-0.56	-0.95	-0.53	-0.21	-0.18	-0.11	-0.11
Landless	-0.84	-1.11	-0.15	-1.12	-0.04	-1.51	0.00	-1.30	-1.18	-1.47	-0.38	-1.62	-0.12	-2.06	-0.01	-1.69
Small farmers	0.31	0.47	0.11	0.47	0.00	0.02	0.00	0.14	0.07	0.11	-0.02	-0.04	-0.11	-0.54	-0.02	-0.24
Large farmers	0.59	1.77	0.32	1.81	0.14	1.33	0.03	1.41	0.42	1.41	0.29	1.29	0.16	0.78	0.11	1.02
Non ag poor female	-0.04	-0.85	-0.01	-0.74	0.00	-1.04	0.00	-1.80	-0.01	-1.21	-0.01	-1.36	-0.01	-1.96	0.00	-1.45
Non ag poor male	-0.29	-0.59	-0.10	-0.61	-0.06	-0.98	-0.01	-0.93	-0.47	-0.95	-0.32	-1.11	-0.18	-1.53	-0.07	-1.30
Non ag rich	-0.02	-0.11	-0.02	-0.12	-0.05	-0.48	-0.02	-0.57	-0.05	-0.47	-0.10	-0.63	-0.12	-1.03	-0.14	-0.94
Urban low ed	-0.23	-0.43	-0.10	-0.51	-0.04	-0.72	-0.01	-0.73	-0.44	-0.79	-0.46	-1.01	-0.10	-1.27	-0.03	-1.09
Urban med ed	0.19	2.45	0.24	2.54	0.17	1.37	0.02	1.56	0.01	2.20	0.04	2.01	0.26	0.81	0.05	1.18
Urban high ed	0.04	1.10	0.07	1.32	0.14	1.05	0.07	0.41	0.00	0.67	0.01	0.74	0.01	0.47	0.01	0.03
<b>Hourly Wages</b>	-0.08	-3.87	-0.17	-4.94	-0.17	-4.37	-0.39	-3.58	-0.08	-1.90	-0.11	-1.70	-0.10	-1.22	-0.27	-1.70
<b>Female Wage Bill</b>	-2.37	-15.05	-2.66	-30.83	-1.34	-26.69	-1.07	-9.98								

**Table A6 – Higher elasticity of substitution in non-market production (absolute and percentage changes from base)**

Employment	F no ed		F low ed		F med ed		F high ed		M no ed		M low ed		M med ed		M high ed	
	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%
<b>All market sectors, of which:</b>	-1.89	-1.43	-2.03	-4.36	-1.12	-5.12	-0.35	-3.35	3.10	1.03	1.86	1.01	0.69	0.61	0.30	0.36
Grains	0.35	1.71	0.13	1.72	0.04	1.32	0.01	1.50	1.22	1.34	0.50	1.21	0.16	0.80	0.07	1.07
Commercial crops	0.04	3.91	0.01	3.80	0.00	3.68	0.00	3.57	0.90	3.55	0.43	3.41	0.15	2.99	0.06	3.29
Livestock and horticulture	0.61	0.85	0.23	0.90	0.06	0.49	0.01	0.47	0.34	0.48	0.13	0.39	0.00	-0.03	0.01	0.15
Fishing	0.19	13.86	0.02	14.20	0.02	13.60	0.01	12.33	0.10	13.47	0.11	13.13	0.19	12.63	0.14	12.98
Food processing	0.04	1.75	0.01	1.57	0.00	1.02	0.00	2.00	0.03	1.37	0.02	1.21	0.01	0.72	0.01	1.06
Gamments	-3.66	-59.70	-2.67	-59.69	-1.32	-59.85	-0.39	-59.84	-0.49	-59.88	-0.59	-59.92	-0.35	-60.03	-0.26	-60.09
Other textiles	0.15	9.14	0.11	9.26	0.05	8.79	0.02	8.98	0.64	8.80	0.76	8.66	0.43	8.20	0.33	8.54
Other manufacturing	0.39	15.78	0.12	15.84	0.05	15.38	0.03	15.91	0.96	15.38	0.97	15.18	0.65	14.68	0.40	15.05
Infrastructure	0.00	0.39	0.00	1.25	-	-	0.00	0.90	0.00	-0.01	-0.01	-0.16	-0.01	-0.55	-0.01	-0.27
Trade	0.01	0.27	0.00	0.28	0.00	0.00	0.00	-0.68	-0.03	-0.09	-0.11	-0.25	-0.23	-0.64	-0.09	-0.35
Transport	-0.01	-1.34	0.00	-0.92	-	-	0.00	-1.50	-0.54	-1.58	-0.27	-1.72	-0.14	-2.10	-0.07	-1.81
Public services	0.00	-0.36	0.00	-0.64	-0.01	-0.75	-0.03	-0.68	-0.01	-0.65	-0.02	-0.87	-0.06	-1.29	-0.18	-0.98
Financial services	-	-	0.00	0.00	0.00	-1.61	0.00	-1.09	0.00	-1.89	-0.01	-1.57	-0.02	-1.99	-0.07	-1.60
Domestic services	0.00	0.01	0.00	-0.07	-0.01	-0.49	0.00	-0.42	-0.04	-0.37	-0.06	-0.57	-0.08	-0.98	-0.03	-0.72
<b>All social reproduction, of which:</b>	1.22	0.25	1.12	0.58	0.55	0.49	0.18	0.36	-0.79	-0.69	-0.53	-0.77	-0.31	-0.71	-0.15	-0.41
Landless	-0.19	-0.16	0.00	0.01	-0.01	-0.31	0.00	-0.48	-0.34	-1.08	-0.11	-1.25	-0.03	-1.57	0.00	-1.25
Small farmers	0.52	0.54	0.24	0.71	0.05	0.40	0.00	0.18	-0.09	-0.38	-0.08	-0.55	-0.06	-0.92	-0.01	-0.55
Large farmers	0.48	1.28	0.28	1.45	0.13	1.14	0.03	0.94	0.04	0.36	0.01	0.18	-0.01	-0.17	0.01	0.20
Non ag poor female	-0.02	-0.22	0.00	-0.07	0.00	-0.59	0.00	-0.42	-0.01	-1.21	0.00	-1.24	0.00	-2.22	0.00	-1.67
Non ag poor male	0.05	0.06	0.06	0.24	-0.01	-0.09	0.00	-0.26	-0.17	-0.85	-0.12	-1.01	-0.07	-1.38	-0.02	-1.04
Non ag rich	0.06	0.28	0.08	0.45	0.01	0.12	0.00	-0.05	-0.03	-0.65	-0.05	-0.81	-0.05	-1.20	-0.04	-0.78
Urban low ed	0.09	0.08	0.12	0.27	-0.01	-0.11	-0.01	-0.26	-0.19	-0.83	-0.18	-0.99	-0.05	-1.41	-0.01	-0.98
Urban med ed	0.18	1.23	0.25	1.37	0.26	1.16	0.02	0.92	0.00	0.00	0.00	0.13	-0.02	-0.16	0.00	0.20
Urban high ed	0.06	0.70	0.09	0.85	0.13	0.48	0.14	0.42	0.00	0.00	0.00	-0.43	-0.01	-0.81	-0.07	-0.34
<b>All leisure, of which:</b>	0.67	0.22	0.92	0.74	0.57	0.80	0.18	0.62	-2.31	-0.78	-1.33	-0.74	-0.38	-0.33	-0.15	-0.16
Landless	-0.59	-0.78	-0.08	-0.59	-0.02	-0.92	0.00	-1.30	-1.35	-1.69	-0.43	-1.83	-0.13	-2.20	-0.01	-2.00
Small farmers	0.54	0.82	0.25	1.02	0.06	0.70	0.01	0.42	-0.07	-0.10	-0.10	-0.25	-0.13	-0.61	-0.02	-0.29
Large farmers	0.71	2.12	0.41	2.31	0.21	1.99	0.04	1.80	0.35	1.19	0.23	1.03	0.14	0.66	0.11	1.00
Non ag poor female	-0.03	-0.66	0.00	-0.37	0.00	-0.52	0.00	-0.90	-0.02	-1.53	-0.01	-1.75	-0.01	-2.35	0.00	-1.45
Non ag poor male	-0.13	-0.26	-0.01	-0.06	-0.02	-0.38	-0.01	-0.59	-0.58	-1.17	-0.38	-1.31	-0.20	-1.70	-0.08	-1.37
Non ag rich	0.02	0.12	0.05	0.32	0.00	-0.02	-0.01	-0.23	-0.09	-0.79	-0.15	-0.94	-0.16	-1.32	-0.14	-0.96
Urban low ed	-0.05	-0.09	0.02	0.12	-0.01	-0.24	0.00	-0.36	-0.56	-1.00	-0.51	-1.13	-0.13	-1.54	-0.04	-1.20
Urban med ed	0.16	2.08	0.21	2.27	0.25	2.09	0.03	1.84	0.00	1.10	0.02	0.98	0.24	0.76	0.04	1.06
Urban high ed	0.03	1.01	0.06	1.17	0.11	0.80	0.13	0.73	0.00	0.00	0.00	-0.16	-0.01	-0.51	-0.01	-0.03
<b>Hourly Wages</b>	-0.07	-3.43	-0.14	-4.22	-0.13	-3.49	-0.31	-2.87	-0.10	-2.19	-0.13	-2.05	-0.13	-1.53	-0.29	-1.88
<b>Female Wage Bill</b>	-2.47	-15.71	-2.73	-31.58	-1.39	-27.62	-1.16	-10.81								

**Table A7 – Higher price elasticity of demand for social reproduction (absolute and percentage changes from base)**

Employment	F no ed		F low ed		F med ed		F high ed		M no ed		M low ed		M med ed		M high ed	
	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%
<b>All market sectors, of which:</b>	-1.04	-0.79	-1.66	-3.56	-0.94	-4.32	-0.29	-2.72	2.43	0.80	1.45	0.79	0.50	0.44	0.29	0.35
Grains	0.49	2.41	0.19	2.59	0.07	2.24	0.02	2.25	1.03	1.13	0.42	1.01	0.13	0.65	0.07	1.07
Commercial crops	0.04	4.69	0.02	4.89	0.01	4.41	0.00	3.57	0.87	3.45	0.41	3.30	0.15	2.97	0.06	3.46
Livestock and horticulture	1.00	1.41	0.43	1.68	0.14	1.25	0.02	0.99	0.10	0.14	0.03	0.10	-0.05	-0.31	0.00	-0.10
Fishing	0.21	15.03	0.03	14.79	0.02	14.40	0.01	13.70	0.11	13.60	0.11	13.01	0.19	12.50	0.14	12.98
Food processing	0.05	2.29	0.01	2.20	0.00	1.02	0.00	2.00	0.02	0.98	0.01	0.71	0.00	0.24	0.01	0.71
Gamments	-3.61	-58.95	-2.63	-58.84	-1.30	-58.98	-0.38	-59.22	-0.48	-59.51	-0.58	-59.51	-0.35	-59.69	-0.25	-59.62
Other textiles	0.16	10.08	0.12	10.38	0.06	10.02	0.02	10.18	0.64	8.76	0.75	8.62	0.43	8.22	0.33	8.75
Other manufacturing	0.42	16.79	0.13	16.88	0.05	16.39	0.03	16.48	0.96	15.35	0.96	15.00	0.65	14.57	0.40	15.16
Infrastructure	0.01	1.16	0.00	1.25	-	-	0.00	1.80	-0.01	-0.12	-0.02	-0.33	-0.02	-0.66	0.00	-0.10
Trade	0.06	1.08	0.01	1.20	0.01	0.92	0.00	0.68	-0.08	-0.19	-0.18	-0.41	-0.26	-0.72	-0.06	-0.22
Transport	0.00	-0.80	0.00	-0.46	-	-	0.00	-0.50	-0.66	-1.95	-0.33	-2.09	-0.16	-2.41	-0.07	-1.87
Public services	0.00	0.18	0.00	0.00	0.00	-0.11	0.00	-0.06	-0.01	-0.97	-0.03	-1.39	-0.08	-1.68	-0.21	-1.15
Financial services	-	-	0.00	0.00	0.00	0.00	0.00	-0.72	0.00	-1.89	-0.01	-1.96	-0.02	-2.26	-0.08	-1.73
Domestic services	0.13	0.72	0.02	0.58	0.00	0.19	0.00	0.21	-0.05	-0.54	-0.10	-0.96	-0.11	-1.31	-0.04	-0.89
<b>All social reproduction, of which:</b>	0.59	0.12	1.03	0.54	0.58	0.51	0.19	0.38	-0.65	-0.57	-0.34	-0.49	-0.19	-0.45	-0.08	-0.22
Landless	-0.94	-0.80	-0.15	-0.72	-0.05	-1.27	0.00	-0.95	-0.45	-1.43	-0.13	-1.50	-0.04	-2.02	0.00	-1.67
Small farmers	0.62	0.64	0.24	0.72	0.01	0.10	0.00	0.05	0.00	0.01	-0.01	-0.07	-0.05	-0.67	-0.01	-0.46
Large farmers	0.53	1.42	0.30	1.54	0.10	0.89	0.02	0.76	0.08	0.78	0.06	0.75	0.01	0.11	0.01	0.25
Non ag poor female	-0.05	-0.65	-0.01	-0.60	0.00	-1.17	0.00	-1.27	-0.01	-1.21	0.00	-1.24	0.00	-2.22	0.00	-1.67
Non ag poor male	0.14	0.17	0.05	0.20	-0.03	-0.25	-0.01	-0.41	-0.09	-0.46	-0.07	-0.57	-0.05	-1.02	-0.02	-0.99
Non ag rich	0.11	0.49	0.09	0.53	0.01	0.08	-0.01	-0.29	-0.01	-0.16	-0.01	-0.24	-0.03	-0.70	-0.05	-0.83
Urban low ed	-0.20	-0.18	-0.09	-0.22	-0.05	-0.37	-0.01	-0.63	-0.18	-0.80	-0.18	-0.99	-0.04	-1.14	-0.01	-1.16
Urban med ed	0.28	1.92	0.40	2.23	0.18	0.80	0.02	0.96	0.00	1.19	0.01	1.47	0.00	0.02	0.01	0.46
Urban high ed	0.11	1.42	0.19	1.79	0.40	1.44	0.18	0.55	0.00	0.83	0.00	1.08	0.01	0.63	0.00	0.00
<b>All leisure, of which:</b>	0.45	0.14	0.63	0.51	0.36	0.51	0.10	0.34	-1.78	-0.60	-1.11	-0.62	-0.31	-0.27	-0.21	-0.22
Landless	-0.61	-0.81	-0.12	-0.84	-0.03	-1.29	0.00	-0.98	-1.15	-1.43	-0.37	-1.61	-0.12	-2.06	-0.01	-1.69
Small farmers	0.45	0.69	0.16	0.67	0.01	0.15	0.00	0.28	0.04	0.06	-0.04	-0.11	-0.13	-0.63	-0.02	-0.27
Large farmers	0.68	2.04	0.37	2.07	0.16	1.49	0.04	1.58	0.41	1.40	0.28	1.27	0.15	0.71	0.11	1.02
Non ag poor female	-0.04	-0.87	-0.01	-0.99	0.00	-1.55	0.00	-1.80	-0.02	-1.53	-0.01	-1.75	-0.01	-2.75	0.00	-1.93
Non ag poor male	-0.19	-0.38	-0.07	-0.45	-0.05	-0.85	-0.01	-0.85	-0.50	-1.01	-0.35	-1.22	-0.19	-1.62	-0.07	-1.33
Non ag rich	0.02	0.13	0.01	0.06	-0.04	-0.35	-0.02	-0.48	-0.06	-0.51	-0.12	-0.72	-0.13	-1.12	-0.16	-1.03
Urban low ed	-0.16	-0.31	-0.09	-0.45	-0.04	-0.63	-0.01	-0.60	-0.52	-0.93	-0.55	-1.22	-0.11	-1.40	-0.03	-1.16
Urban med ed	0.24	3.13	0.29	3.09	0.18	1.49	0.02	1.70	0.01	2.47	0.04	2.26	0.22	0.70	0.05	1.18
Urban high ed	0.05	1.43	0.09	1.66	0.18	1.32	0.07	0.40	0.00	0.67	0.01	0.82	0.02	0.54	-0.07	-0.15
<b>Hourly Wages</b>	-0.10	-4.57	-0.19	-5.65	-0.19	-4.97	-0.45	-4.11	-0.07	-1.60	-0.09	-1.45	-0.09	-1.02	-0.25	-1.59
<b>Female Wage Bill</b>	-2.52	-15.99	-2.75	-31.82	-1.41	-27.94	-1.21	-11.31								

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