

# Openness to Trade and the Poverty of Female-Headed Households in Turkey\*

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**ABSTRACT** - This paper is an attempt to investigate the gender-biased distributional consequences of trade reform and openness in Turkey. Women are the most vulnerable group in developing countries, and are negatively affected by economic reforms in general, and liberalisation in trade regimes in particular. Therefore, they are considered as the main source of poverty in these countries. Despite this nature of women, the gender issue has largely been ignored in the literature. This paper aims to fill this gap in the literature. The present research shows that Female-Headed Households (FHHs) are poorer than Male-Headed Households (MHHs) in Turkey and that an involvement in an economic activity in internationally open and highly export-oriented sectors increases the possibility of being poor for FHHs.

**JEL Classification:** D31, O15, P46

**Key Words:** Poverty, income distribution, openness, trade reform, Turkey

## 1. INTRODUCTION

Turkey has gone through various structural economic transformations towards higher integration with the world economy since the 1980s, and Structural Adjustment Programmes (SAPs) have been put in place for this purpose with the guidance of the IMF and the World Bank (see Arıcanlı and Rodrik, 1990; Nas and Odekon, 1992). In many developing countries, SAPs exhibit a close association with trade reforms, deregulating price systems and the privatization of state-owned enterprises so as to restructure the economy in the medium and long term. In some cases, like in Turkey, they occasionally include some austerity measures to stabilise the economy in the short run. These reforms, by and large, tend to disassociate poverty in adjusting countries. It is expected that economic reforms and moves

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towards greater openness, and an increasing reliance on the market mechanism would improve income distribution. This is due to increasing the labour-intensive economic activities and providing new opportunities to increase income for the poor, especially in rural areas after the economic reform.<sup>1</sup>

These structural changes in an economy can be expected to have some distributional consequences. However, the empirical results appear to have been very mixed regarding the direction of these effects. The supporters of the SAPs generally put forward the fact that economic reforms restore the confidence of international lenders and encourage foreign direct investment. This in turn stimulates economic growth and ultimately helps everybody in adjusting countries to improve their living standards. Improvements in income distribution in adjusting countries could also happen through more liberal international trade, which brings about more efficient factor allocation and therefore generates economic growth and higher income. In addition, higher trade and openness are expected to bring about associated benefits such as technology and investment, stimulating economic growth and, in turn, the opportunity of having higher income for vulnerable groups within the countries in question. This could then be expected to generate positive distributional effects and alleviate poverty in the adjusting country.<sup>2</sup>

The critics of the reforms programmes, on the other hand, place emphasis mainly on the fiscal restraints imposed by austerity measures, and point out that external balance and reductions in aggregate demand worsen poverty in absolute terms. Besides, the mobilising of the labour force towards the production of exportable goods and new incentive structures of new trade regime may sometimes encourage formal and/or informal employment of vulnerable groups such as women and the unskilled labour force with extremely low wages,<sup>3</sup> and may even result in their unemployment, especially in import-competing sectors. This may contribute to an increase in poverty because vulnerable groups are often less able to insure themselves against the effects of such transformations.

In this respect Turkey is a promising case from which to launch an empirical investigation. This is mainly because it has been widely regarded as a successful example of countries implementing these economic reforms (Saraçoğlu, 1991).

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<sup>1</sup> The well-known theoretical support for this expectation has been provided by the Heckscher-Ohlin theorem of international trade theory. This theory postulates an exchange of relatively labour-intensive exports with capital-intensive imports in foreign trade for countries possessing more labour than capital.

<sup>2</sup> These positive effects would be subject to the share of wage earnings in total income. If this share is very small, then closing the wage gap as described above would have very limited positive distributional effects on inequality.

<sup>3</sup> Despite the general expectation that increased demand for unskilled labour would increase wages in exportable sectors, institutional or legal restrictions on the wage adjustment and high inflation could suppress the real wage for unskilled (or even skilled) labour (see Boratav, 1990)

However, the openness of the Turkish economy has never been evaluated on the basis of the consequences regarding poverty. There has also been little empirical attention to the income distribution issue in Turkey (see Gürsel, *et al.*; 2000; Yemtsov, 2001; Harrison *et. al.*, 2003). Using the cross-sectional survey data Gürsel *et al.* (2001), for example, finds that overall inequality in the Turkish economy from 1987 to 1994 slightly increased. They also find that almost 16 percent of total population was below the poverty line in 1987 while it was only 15 percent in 1994. Despite this slight improvement overall, there is no empirical evidence regarding the effects of trade reform and openness on the poverty of vulnerable groups such as women.

The purpose of this paper is therefore to examine the level of well being of women in Turkey, and also to assess how the poverty of women has changed over time. There could, in general, be various limitations for this kind of research. Most importantly, the published household survey data does not include any information according to the classification between men-and-women, but rather contains a classification with respect to male- and female-headed household division. Within this limitation, this paper aims to investigate the following questions: i) is there any difference between incidences of poverty of households in different sectors? ii) is there any significant difference in the incidences of poverty between male- and female-headed households? iii) to what extent have these benefits or losses created by trade reforms and openness been in favour of or against the female-headed households within the sectors? v) what happened to this difference over time? vi) Has the process of economic reforms in Turkey contributed positively to close the gap in poverty between male- and female-headed households?

The remainder of the paper is organised as follows. Section 2 summarises the interaction between trade reform and the well-being of women in adjusting countries. In Section 3, we briefly discuss the data and the methodology of measuring poverty. The empirical findings of the paper are presented in Section 4. Finally, Section 5 sets out our conclusions.

## **2. ADJUSTMENT, POVERTY AND WOMEN**

The distributional effects of structural adjustment have been discussed in great detail in the context of trade reform (*e.g.* Çağatay, 2001; Winters *et al.*, 2002; Harrison *et al.*, 2003). As an integral part of large-scale reform packages, trade reforms in developing countries are expected to expand the trade of these countries, and it is expected to become beneficial to not only reforming countries and their citizens but

also to all participating countries. This expected result derives from mainstream trade theory, which is built upon the presumption that specialisation in production according to the comparative advantages of a country leads to a more efficient allocation of economic resources and results in higher level of output and growth in reforming countries. Growth will, in turn, promote development and improve income distribution and reduce poverty. This belief is intellectually based on the fact that labour is the most abundant factor of production in many reforming developing countries, and that trade reform and greater openness should raise the earnings of those living in poverty earlier. Proponents of this view have grown more insistent, arguing that globalisation is good for the poor on account of its presumed impact on growth (see Edwards, 1993; Sarch and Warner, 1995; Dollar and Kraay, 2000). In an empirical study based on the panel data of a group of developing countries, Dollar and Kraay (2000), for example, find a favourable impact on the inequality of trade liberalisation. They then come to a conclusion that a more open trade regime positively contributes to economic growth and reduce inequality, *ceteris paribus*. Easterly (2001), which is another well-known empirical study in the literature, on the other hand, shows that the poor benefit from output growth generated by SAPs less in countries with many conditional loans than in countries with few loans. He hence implicitly reaches the conclusion that poor still remain poor after implementing the IMF-World Bank based SAPs. Additionally Garuda (2000) examines the distributional impacts of the IMF-supported programmes, and finds further evidence of a significant deterioration in income distribution in countries which implements the IMF programmes compared to those which do not.

Similarly, there have been great deal of empirical studies both against and in favour of the openness-and-growth relationship, but any positive link seems to have not yet been proven. However, there is no concrete evidence that they are harmful to growth either. More recently, Rodrigues and Rodrik (2000) investigate the reason behind this divergence among the results of empirical studies in the literature, and then criticize them for their misuse of econometrics. They ultimately argue that trade plays a secondary role compared to more influential factors, such as institutions and geography. They also demonstrate that there is no satisfactory evidence to support the assumption that trade liberalisation has a positive impact on economic growth. This inconclusive result of cross section studies in literature has prompted some economists to take into account of country specific factors and encouraged case studies which include the different features of each society and of population (see Harrison *et al.*, 2003).

Economic growth, certainly, is not the only channel, through which trade liberalisation affects poverty and income distribution. Trade reforms, and increased reliance on the market mechanism create other opportunities for the poor to increase their income levels more directly than through economic-growth. In this respect, Winters *et al.* (2002) report two additional channels, through which openness would influence income distribution and poverty of households. These channels relate to a certain features of the poor households in a typical developing country. First, a majority of poor households are occupied in self-employed economic activities and produce goods and services for the market. An increase (decrease) in the price of something that the household is net seller in response to trade reform may increase (decrease) its income level, and may alleviate (exacerbate) poverty. Second, these countries are labour abundant, and wage earning constitutes another major source of income for households. Structural adjustment associated with trade reform gives particular importance to external balance and aims to move available economic resources towards the production of exportable goods, which boosts demand for labour, and in turn may increase wages. However, this adjustment does not necessarily alleviate poverty. If the poor are mostly unskilled, while the production of exportable requires skilled or semi-skilled labour, then poverty will be unaffected or possibly worsened. Similarly if unskilled labour is employed primarily in the non-tradable goods sector, while exports need the use of skilled or semi-skilled labour, then the adjustment accompanied by real depreciations of domestic currency could even have a negative effect on poverty.

This is particularly true for women. Being a woman in a developing country is generally seen to be the key determinant of vulnerability. In the period of such an adjustment, women are likely to be even more vulnerable to increased unemployment and other types of insecurity. In comparison with men, women mostly suffer the burdens of economic crises and adjustment disproportionately not only in developing countries, but even in developed market economies. While men and women, for example, may lose their jobs in the case of an economic crisis and/or economic adjustment, women may find harder to regain new jobs than men due to the lack of education and skills, the life cycle issue (younger, and even single women may be favoured in job applications) and the lack of access to capital to set up their own business (*e.g.* Anker, 1997). Additionally the lives of women in many developing countries are centred around child-rearing at home and have their mobility in public

restricted by some social and religious norms.<sup>4</sup> They then become unable to benefit from new opportunities brought about by reforms. This nature of the female labour force naturally generates sex segregation in labour markets in LDCs with a male labour force in high paid manufacturing sector activities and a female labour force in relatively low paid manufacturing sector activities (for example; in the textile industry and service sectors) (İlkkaracan and Selim, 2002). Additionally, in the periods of economic reforms and stabilisation after economic crises, women become extremely vulnerable to the removal of subsidies, increasing charges for public services and rising prices. This issue requires particular attention in the case of a developing country like Turkey where primary sectors such as agriculture occupy a great extent of the total labour force in the economy despite their low share of the GDP. After changing the incentive structure against the agricultural sector, agricultural households, particularly female-headed households, are exposed to world competition and become unable to take advantage of new opportunities created by SAPs in other sectors. This is mainly because of lack of adequate education and skill, and above all, due to the limited mobility of the female labour force.

In addition to these elements of vulnerability of women in developing countries, economic reforms and trade liberalisation would also help establishing positive contributions to alleviating poverty of women and Female-Headed Households. Apart from new income opportunities, reforms towards more liberal trade regimes may change the pattern and condition of paid and unpaid work for women. Help closing the wage gap between men and women and in turn alleviating women's poverty, allow them to establish their own control over their assets, and even in some cases result in some changes in public provisioning of services (see Çağatay, 2001). Recent empirical studies have mostly put particular emphasis on women's participation rate into paid employment and have showed that female employment has globally increased during the particular period corresponding to trade liberalisation in developing countries. Çağatay (2001) implies that this is a clear support for the thesis that greater openness and export-orientation in developing countries are associated with the feminisation of paid employment. This is mainly because manufacturing exports in these countries appear to be female-labour-intensive economic activities such as textiles, apparel and food processing, the production of which requires labour intensive technology and mostly the use of a cheap and unskilled labour force. Increases in the demand for exportable goods in

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<sup>4</sup> Since the data we use in this paper utilise income data of households and do not contain any information that may show the social burden of the other responsibilities such as caring for children, or providing labour service to the recreation of the male labour force.

the period of adjustment towards the production of tradable goods boost demand for female labour, and in some case, substitute female for male labour. This helps to close the wage gap between men and women. Hence trade liberalisation and structural adjustment in this kind can, to some extent, be seen as beneficial for women in reforming countries.

Although women and men are affected by trade reforms and openness disproportionately, gender has largely been ignored in the discussions concerning the interaction between poverty and trade reform at both theoretical and empirical levels. This is primarily because of the difficulty to find gender-differentiated data in practice. Nevertheless, women are to the key determinant of vulnerability and would constitute the major source of poverty in some reforming countries like Turkey. It is therefore important to examine how reforms and adjustment affect the poverty level of this vulnerable group even with the limitations of the available data.

### **3. ISSUES IN MEASURING POVERTY**

Poverty is defined as a status of a person whose social welfare level is below the minimum level of a certain living standard of a society determined by some absolute or relative measures. These measures can be constructed by a choice of a proper variable such as wealth, permanent income, annual income or consumption as an indicator of living standards. Since the wealth of households is difficult to determine, any measure based on it can be seen as unreliable. The choice of permanent income, on the other hand, requires a formation of expectation on the flow of future income, and hence a poverty measure based on it is to be subject to uncertainty and expectational errors arising from the forecast of this future income. Nominal income, however, is readily available in all household surveys and shows the potential purchasing power of households, and it is used very often in the literature, as in this research, to construct a monetary measure of poverty (*see Atkinson, 1975 for further discussion*).

In empirical research there are three crucial issues that should be taken into account in measuring poverty. The first issue is the choice of an appropriate unit of analysis. The conventional analysis of poverty, which is based on the concept of income poverty or private consumption patterns, takes the *households* as the unit of analysis, implicitly assuming that all available resources are shared equally within the households. The second issue relates to the identification of the poor, and requires the construction of a monetary poverty line, so that all those below this line are considered as poor. Finally, the third issue involves the choice of proper aggregate measurement of poverty, which could capture all available information

about being poor. In the following analysis, these three issues are discussed in detail.

### ***Choice of Equivalent Scale***

The first issue that should be taken into account is to answer the question of among whom income distribution should be considered. Of course, the answer for this question is individuals. However the data in practice is collected for households but not for individuals. The standard units of assessment in statistical surveys are taken as the household, in which the incomes of all household members are aggregated. In order to have individual equivalent income measure in this respect, household income is divided by an appropriately calculated *equivalent scale*. In this regard, there are two different ways to calculate an equivalent scale ( $N$ ). In the first one,

$$N = 1 + \alpha(s_a - 1) + \beta s_k \quad (1)$$

where  $s_a$  and  $s_k$  are the number of adults and children in the household respectively and  $\alpha$  and  $\beta$  are their own constant parameters. Unlike (1), the equivalent scale can also be calculated as follows:

$$N = S^e, \quad 0 \leq e \leq 1 \quad (2)$$

where  $S$  is the household size,  $e$  is the elasticity of the rate of scale with respect to household size. Equation (2) is the most commonly used way of calculating an equivalent scale measure in the established literature. In the one extreme case where  $e$  equals unity, no economies of scale exist and a family of two requires twice as much disposable income as a family of one to reach the same level of welfare. At the other extreme situation where  $e$  equals zero, economies of scale are perfect, so that a household of two, or for that matter a household of any number, can live exactly as well as a household of one with no increase in their disposable income (*see* Burkhauser *et al.*, 1996 for further discussion).

Recent studies on income equality and poverty have used the equivalence scale, which is calculated as in equation (2), and the value of  $e$  varies slightly between 0.50 and 0.55. OECD (1998) and Atkinson (1995), for example, used 0.5 as a scale value of  $e$  in the studies for *OECD* and *EU* countries respectively. In the present research, the same equivalence scale measure as in OECD (1998) is employed to convert the disposable income of households to disposable income per equivalent adult. Then, the disposable income per equivalent adult is accordingly calculated as follows:



$$Y_{ij} = \frac{R_i}{S^e} \quad (3)$$

where  $R_i$  and  $Y_{ij}$  stand for household income and disposable income per equivalent adult. Having discussed equivalent scale, there are two further issues left in measuring poverty.

### ***Construction of a Poverty Line***

The second issue that we encountered in such a study on poverty is to identify the poor among the whole population. This problem is simply resolved by selecting a properly defined *poverty line*. However the identification of this poverty line is an arbitrary process, and any poverty measure constructed with respect to different poverty lines may give rise to different poverty rates. In the literature, a poverty line can be constructed in either absolute or relative sense. In absolute sense it is, for example, determined by the cost of minimum food requirement which is necessary for subsisting life. However, if someone wishes to compare the poverty lines of different countries, then it is appropriate to use the relative poverty line approach. This is also an arbitrary process, and generally one portion of median income (40%, 50% or 60%) is accepted as the poverty line.

There have been various independent individual attempts to construct a poverty line in Turkey. Celasun (1986) is the first of such attempts. He defines three poverty lines for three years (namely 1973, 1978 and 1980) and calculates the proportion of poor in total households. He estimates 32 % of total households being poor in 1973, 25% in 1978 and 30 % in 1980. He accordingly comes to the conclusion that both the rural-urban immigration and the relative smaller share of the poor within non-agricultural households accounted for this downwards trend over time. Dumanlı (1996) is another study, which determines poverty lines for Turkey for two years, namely 1987 and 1994, by using the minimum-food-energy-intake criterion. Using the poverty lines estimated by Dumanlı (1996), Dansuk (1997) calculates an absolute poverty rate for Turkey, which indicates 15.2 % of total population being poor in 1987. Erdoğan (2000), on the other hand, calculates an alternative poverty line based on the 1994 *Household Consumption and Expenditure Survey* and *Income Distribution Survey* data. In order to identify poverty, she uses two criteria, namely the cost of minimum food expenditure and the cost of basic needs (including housing, clothing, transportation and furniture expenditure). Using the first criterion she estimates the absolute poverty line being 8.4 % of the total population, whereas 23 % of the total population are below the poverty line with the second criterion.

Unlike these country specific measures, the 2.5 % proportion of total population is more commonly taken as the critical rate for absolute poverty in comparison with the internationally comparable one-dollar per day poverty line (World Bank, 2000). There is, nevertheless, no absolute poverty problem in Turkey with the low poverty rate 7.2 % (Yemtsov, 2001). This study put particular emphasise on the importance of economic vulnerability and its likely distributional consequences in Turkey. The study further brings about the fact that 36 % of the total population have consumption expenditure below the economic vulnerability line, which compromises the costs of both minimum food basket and basic non-food spending. A recent study by Gürsel *et al.* (2000) also uses the same methodology as the World Bank and shows that relative income poverty improved slightly from 1987 to 1994. The present research also employs the relative poverty approach, and the poverty line was determined by the income threshold, which is the equivalent of 50 % of the median disposable income per equivalent adult.

### ***Choice of Poverty Measures***

Another issue to be resolved is the choice of appropriate aggregate measures of poverty. For our empirical investigation we employed three widely used measures (Kakwani, 1980; Foster *et al.*, 1984; Atkinson, 1987; Ravallion, 1994). They are namely *head-count ratio* ( $P_0$ ), *poverty gap ratio* ( $P_1$ ) and the *Foster-Greer-Thorbecke* ( $P_2$ ) poverty index. The head-count ratio of poverty simply indicates the proportion of the population for whom income is less than the pre-determined poverty line; then  $P_0 = q/n$  where  $q$  is the number of persons whose income lies below the poverty line, and  $n$  is the total population.

The poverty gap ratio is defined as a percentage difference between the poverty line and income of the poor, and is given as follows:

$$P_1 = \frac{1}{n} \sum_{i=1}^q \left( \frac{z - x_i}{z} \right) = H \times I = \frac{q}{n} \left( \frac{z - \mu^*}{z} \right) \quad (4)$$

where  $\mu^*$  is the mean income of the poor and  $I$  measures the average proportionate shortfall of income below the poverty line.  $P_1$  also indicates the fraction of the poverty line income that would have to be generated in the economy in order to eradicate poverty under the assumption of perfect targeting. Both measures have been criticized because they may not capture differences in the severity of poverty among the poor (Ravallion, 1994). In response to this criticism, Sen (1976) develops a new measure, which takes this shortfall into account and allows the examination

of income distribution within the poor population. However, this measure is not additively decomposable in the sense that the total poverty is a weighted average of the subgroup poverty levels. Foster *et al.* (1984), on the other hand, suggest a decomposable measure of poverty, which is formulated as follows:

$$P_\gamma = \frac{1}{n} \sum_{i=1}^q \left( \frac{z-x_i}{z} \right)^\gamma, \quad \gamma > 1 \quad (5)$$

where  $\gamma$  is a constant parameter. The larger the value of  $\gamma$ , the greater the weight given to the severity of poverty. For  $\gamma=0$ ,  $P_\gamma$  reduces to  $P_0$ , and for  $\gamma=1$ , to  $P_1$  and  $\gamma=2$ , to  $P_2$ . Unlike others  $P_2$  measures the severity of poverty.  $P_0$  and  $P_1$  are not sensitive to income transfers among the poor, whereas  $P_2$  is. It may further be noted that all the three measures are additively decomposable. This enables us to examine the relative contributions of different subgroups to overall poverty. In the following analysis we use these three indices to measure the level of poverty in Turkey.

#### 4. DATA AND EMPIRICAL RESULTS

The cross sectional data on which this study is based is obtained from *Household Income and Consumption-Expenditure Surveys* conducted by the *State Institute of Statistics* (SIS) in 1987 and 1994. Each survey includes rural and urban sectors, and is sufficient to enable the estimation of income and expenditure of Turkish households, which serves as the basis for constructing a money metric measure of the standard of living. One difficulty with this data set is that both surveys classify households with respect to household heads and economic activities where household heads are occupied with earning the household income. However they do not allow us to see the other sources of income which may be obtained by other members of households through economic activities and occupations other than that of household head. Despite its importance we are therefore unable to examine the poverty level of females within the male-headed households because of the lack of disaggregated income and expenditure data at each household level.

In this study, households are divided into two groups according to the gender of their household heads: namely Male-Headed Households (MHHs) and Female-Headed Households (FHHs). Total household income was preferred for the construction of the standard of living. The measures of standard of living from both surveys were thus the total household income, which was adjusted by household size, and was then deflated by 1987 prices using consumer price indices.

Within the main technical limitations of the data sets there are also various conceptual issues that should be discussed before starting analysing the results of the paper. The *first one* is the lack of data for the period before trade reform, so that we are unable to present a comparison of the poverty levels before-and-after the trade reform. Even though the data is available only for the post-liberalisation period, it is still very difficult to distinguish the poverty effects of trade reform from those arisen from non-trade factors.<sup>5</sup> With the present data set we are unable to have a direct observation on the link between openness and poverty. However, we can establish a way of indirect observation on this link by comparing the poverty levels of households in relatively open and export-oriented sectors with those in less tradable sectors. In this type of comparison, we theoretically expect that greater openness would present opportunities to alleviate poverty levels of households by creating new job and income opportunities and closing wage differential between skilled and unskilled labour. If this theoretical expectation is proven to be true in the Turkish case, then it could be concluded that an involvement in an economic activity in a relatively open sector decreases the likelihood of a household being under the poverty line.

The *second issue* requires classifying and aggregating the sectors where the household heads are occupied, in accordance with the degree of those sectors' openness to international trade. The original data in Turkey is collected at the three-digit industry classification level, and some of these industries are relatively more internationally open industries (such as agriculture, food manufacturing and textiles) than others (such as services and construction). In aggregating sectors, we also pay particular attention to the presence of a significant number of female-headed households. Having classified all existing industries according to their openness levels and the sufficient number of female-headed households in each aggregated sector, three main sectors can be identified as being relatively open. These sectors are namely agriculture, food manufacturing, textiles and clothing.<sup>6</sup> The other

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<sup>5</sup> The Turkish economy has occasionally encountered deep economic crisis and had to undertake economic austerity programmes in order to stabilise the economy. Important components of such programmes, such as cuts in public expenditure and rises in the price of major public utilities, certainly have deteriorating effects on poverty. Our sample year, 1994, is one of these years in the Turkish economy. In addition, the time period spanning from 1987 to 1994 exhibits a highly volatile and insecure economic environment. In particular, the reform efforts were interrupted by a number of successive economic crises in 1988, 1991 and 1994, each of which was followed by austerity programmes that might have had deteriorating effects on poverty in general and on well-being of women in particular. Thus they make it even more difficult to distinguish the real effects of trade reforms on poverty directly.

<sup>6</sup> Erlat and Şahin (1998), Erlat (1999) and Çakmaklı and Günçavdı (2005) note that these sectors are the traditional exporting sectors in the Turkish economy. In particular, Çakmaklı and Günçavdı (2005) indicates that although Turkey is traditionally an exporter of primary products, there has been a significant structural shift in the traditionality of exports towards more labour intensive manufactured goods after the 1980s such as food processing, textiles and clothing.

manufacturing industry group appears to be another sectoral group after aggregation, and it is also open to international trade, but possesses an insignificant number of FHHs in the survey to allow us to draw statistically reliable conclusion. With this classification it is most likely to establish a link between greater openness and poverty; greater openness as a consequence of reform would have generated more income opportunities in export-oriented sectors than others. The feminization of the labour force in these open sectors might have also acted in favour for (or against) FHHs and alleviated (or exacerbated) inequality between MHHs and FHHs by closing (or widening) the wage gap between these two groups.

In what follows, this research seeks answers for a number of questions regarding the link between openness and poverty of female-headed households. We first present a brief general descriptive summary of the general pattern of poverty in Turkey based on the survey data, and then examine the presence of any statistically significant difference between the poverty levels of FHHs and MHHs. Later, we investigate the importance of the sectoral difference in the FHHs and MHHs's poverty levels. In this regard, we examine whether or not FHHs engaged in economic activities in relatively more open sectors were poorer than MHHs in the same sector and, to what extent openness helped to close (or widen) the income gaps between these two groups of households from 1987 to 1994. With a theoretical expectation that openness provides more income opportunities for vulnerable groups and alleviates their poverty levels, we examine the differences in the poverty levels of FHHs and MHHs which are engaged in different income earning activities. With this investigation, it is also possible to see whether or not the sources of households' income can be accounted for the difference in the poverty levels of FHHs and MHHs. If there is a poverty difference between two groups of households, then we examine to what extent this difference exists in relatively more open sectors.

### ***General Summary Measures of Samples***

Table 1 reports the sample size and some summary statistics such as mean per household annual income (at 1987 prices) and the Gini coefficients of the per household income distribution among individuals. Both surveys possess slightly more than 26000 households, most of which are headed by males. As seen in Table 1, FHHs constitute a very small proportion of total households in the samples; almost 5 % in both years. Over the period of 7 years from 1987 to 1994, the real mean annual income of household in the Turkish economy seems to have declined from 3.77 YTL in 1987 to 3.57 YTL in 1994. Whereas this decline has been very limited among MHHs, it has been very much for FHHs. Consequently the MHHs / FHHs ratio of

mean real annual income per household has widened almost by 25 % from 1.24 in 1987 to 1.55 in 1994. However, the estimates of Gini-coefficients for both MHHs and FHHs appear to have improved slightly.

*(Table 1 and 2 about here)*

Table 2 presents estimates of head-count ratio, poverty gap ratio, and Foster-Greer-Thorbecke poverty index separately for the whole economy, MHHs and FHHs. For the whole economy, the level of poverty in 1994 seems to have become less severe than in 1987; about 16 % of total population lived under the poverty line in 1987 with the corresponding figure being 15.5 % in 1994. While the same trend in poverty level prevailed for MHHs, the number of households under the poverty line has declined only by 5.6 % from 1987 to 1994. This is an improvement in the poverty level of MHHs, and is also statistically significant as it implies that there have been poverty reducing economic policy changes for MHHs in this period. The most striking feature of Table 2 is that the level of FHHs' poverty has drastically increased over seven years; as about 19 % of total FHHs were below the poverty line, this ratio raised to almost 22 % in 1994. This approximately 13 % increase in head-count ratio for FHHs is statistically significant, referring not to a random increase, but to something systematically happening that negatively affects the well-being of FHHs in the Turkish economy during the period of analysis. Table 2 also indicates that the poverty gap has narrowed for MHHs as well as for FHHs during this period.

When we look at the values of  $P_2$  in Table 2 the severity of poverty seems to have reduced both in total and at the household level. Interestingly, the result shows that while the extent of poverty increases among FHHs the distribution of income among these poor households appears to have become better between 1987 and 1994. However, poverty still remains more severe among poor FHHs than MHHs. The ratio Foster-Greer-Thorbecke poverty indices of MHHs and FHHs increased from 0.55 in 1987 to 0.64 in 1994, indicating a 16 % increase in the gap between these two household groups.

So far our initial examination shows that poverty appears to have slightly decreased from 1987 to 1994 mostly in favour of MHHs, and inequality between FHHs and MHHs has deteriorated. Following this general observation from the data, we next investigate whether or not openness alleviates (exacerbates) poverty and creates increasing inequality (equality) between MHHs and FHHs.

## ***Openness and Poverty***

As we discussed earlier, there are some highly export-oriented sectors in Turkey which are more exposed to international market conditions. These sectors are chosen by relying on the past records of the composition of Turkish exports. These relatively more open sectors are namely; *agriculture, food processing, textiles and clothing*. In addition to these sectors our samples composes of households in other sectors such as *other manufacturing* and *services*. Although economic activities in the other manufacturing sectors compromise the production of tradeable goods, this sector contains only few FHHs.<sup>7</sup> The service sector in our sample, on the other hand, is mostly inward-oriented sector with less exposure to international competition.

From Table 3, it is evident that the great extent of FHHs are classified as non-working, which was almost 44 % in 1987 and 55 % in 1994. This numbers are smaller for MHHs than FHHs in both years. The data also shows that poverty for both household groups seems to have deteriorated in general, but become even worse for FHHs than MHHs.

The second largest group of FHHs are occupied in agricultural economic activities in both years.<sup>8</sup> Whereas almost 40 % of all FHHs earn income in the agriculture sector in 1987, this share declined to almost 29 % in 1994. This can be taken as an evidence for immigration from rural to urban areas from 1987 to 1994. It seems that this is mainly because of the widespread poverty among FHHs in agriculture; almost 31 % of all FHHs were under the poverty line in the agriculture sector in 1987. Despite a decline in the number of FHHs, there was almost no change in this proportion of poor *FHHs* in the agriculture sector in 1994.

(Table 3 about here)

The textiles and clothing sector is another highly export-oriented sector in the Turkish economy, and compromises 3.6 % of total FHHs in 1987 and 4.1 % in 1994. However the same figures for MHHs are 2.8 % in 1987 and 2.9 % in 1994, increasing the feminisation of the labour force in this sector. Despite this relatively large

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<sup>7</sup> This sector may have the working conditions which are most likely not to be suitable for the employment of women. Economic activities in this sector require a certain level of education and established experience which most Turkish women lack.

<sup>8</sup> The Turkish economy in the 2000s still shows highly agricultural features. In 2004 the agriculture sector produced only 12.5 % of total GDP while employing almost 35 % of the total labour force (SPO, 2005). Despite this low productivity, the same sector requires large public funds for subsidization. Recent studies show that the total monetary value of subsidies given to the agriculture sector reached 11.3 billion US dollars in 1998 (Çakmak et al., 1999). Budgetary transfers to the sector, on the other hand, amount to an average of 3.5 billion US dollars per annum over the last five years (Doğruel et al, 2004). Despite all these costs, the sector still possesses its importance in current political debates, and any economic measure taken for reforming this sector draws considerable amount of public attention mainly because of the income distribution effects of such reforms.

number of FHHs in the sector, the proportion of poor is clearly higher for FHHs than MHHs. Our results show that the poverty level for FHHs seems to have deteriorated drastically from 13.6 % in 1987 to 26.5 % in 1994. MHHs, on the other hand, appear to have become better off from the 10.4 % poor households in 1987 to 9.2 % in 1994. The most striking deterioration in the poverty of FHHs appears to have taken place in the food-manufacturing sector. Despite its lower share of FHHs among other sectors (around 1 % in both years), the proportion of poor FHHs appears to have jumped from 2.6 % in 1987 to 17.8 % in 1994. However, Table 3 also shows that there is a slight improvement in the proportion of poor MHHs in the same sector from 1987 to 1994.

*(Table 4 about here)*

So far, it has been evident from the results of Table 3 that FHHs in open and highly export oriented sectors were poorer than the MHHs in the same sectors. Despite a general improvement in the well-being of MHHs in these sectors, it is obvious that the poverty level of FHHs seems to have deteriorated from 1987 to 1994. A particular contribution to the poverty of FHHs in both years was made largely by non-working households and those in traditional Turkish export sectors such as agriculture, and textiles and clothing, and to some extent by households in the food manufacturing sector. FHHs in the service sector, on the other hand, comprise around 10% of total FHHs with less than 10% of them being below the poverty line in 1994 in comparison with 14% in 1987. It therefore seems that households in the relatively non-tradable sector were able to have improved their well-being from 1987 to 1994. More interestingly when we examine the poverty gap ratio ( $P_1$ ), income inequality among the poor FHHs seems to have alleviated only in the agriculture sector. This most probably due to the households which migrated from rural to urban areas from 1987 to 1994, and engaged in economic activities in other sectors (mainly in the textiles and clothing, food manufacturing sectors and service sectors). By examining  $P_2$  it, on the other hand, appears to have become more difficult to eradicate poverty in the food manufacturing and textiles and clothing sectors.

### ***Occupational Difference between Households and Poverty***

We now make a distinction between households in accordance with economic activities which the heads of households engage to earn their household income, and then examine whether or not there is a difference in poverty levels between FHHs and MHHs with respect to their occupations and the sources of income. This



classification, unfortunately, is available only for the 1994 household income and expenditure survey. There are 2018 Female-Headed Households, and six different economic activities in which each household engaged in the survey in 1994. These activities are namely; wage earning economic activities, casual working, being an employer, self employment, being an unpaid family worker and finally being a non-working household head. As seen in Table 4, only 9 percent of total *FHHs* are wage earners whereas the corresponding figure is about 37 % for *MHHs*. The table shows that the proportion of households living under the poverty line among these wage earner female-headed households is higher than those of *MHHs*, indicating that female wage earners are poorer than male. Furthermore, even if openness and reform had worked to close the poverty gap between men and female, and had promoted *FHHs* to engage into wage earning activities as indicated in the literature, then the share of wage-earning *FHHs* would have been higher, and the closing income gap between wage-earning male and female would have improved the levels of poverty between *FHHs* and *MHHs*. In fact, poverty gaps between female and male labour force could account for this larger share of the poor among wage earner *FHHs* than their male counterparts.

In Table 4, the largest proportion of *FHHs* is the non-working group, being 63 % of total *FHHs* in the 1994 sample. This share is noticeably far lower for *MHHs* than *FHHs*. The great majority of *FHHs* -which is about 23 %- engaged in self employed economic activities like *MHHs*, but the proportion of the poor is higher than that of *MHHs*. Poverty seems to have been widespread among the casual worker *FHHs* and *MHHs*. While 4.5 % of *FHHs* and 11.6 % of *MHHs* were occupied in casual earning economic activities in 1994, the almost 45 % of *FHHs* had a standard of living below the poverty line. This was the largest contribution made by one occupational group in the survey. For *MHHs*, the same figure is 34.6 %. Other occupational groups (employers and unpaid family workers) however are relatively small. The results from Table 4 consequently shows that high poverty can be observed among non-working and self-employed *FHHs*, which compromises the 85% of total *FHHs*. Between all occupational groups in the table, the proportions of households in poverty are much lower for *MHHs* than for *FHHs*. Wage-earner and self-employed *MHHs* predominantly compromise the 70% of *MHHs*, which seems to have had relatively lower poverty ratios. It can therefore be taken as an indication of occupational difference in the levels of poverty between *MHHs* and *FHHs*. Additionally *MHHs* had more attain a have the standard of living above the poverty line than *FHHs*, particularly when they were engaged in self-employment economic

activities. Based on these results obtained from the survey sample in 1994, it was also more likely for FHHs to be employed in relatively low wage jobs than MHHs.

*(Table 5 about here)*

In order to examine whether or not sectoral allocation, particularly being in a relatively more open sector, accounted for the differences in the poverty levels among FHHs, we have prepared Table 5. The important difference between Table 5 and the previous tables is the sectoral aggregation level. Earlier, three sectors, namely agriculture, food manufacturing and textiles & clothing, have been considered as open and exporting sectors basing on their large shares in total exports in the Turkish economy. In Table 5, however, we aggregate them all and name the more aggregated sector as a primary exports sector. The reason for this aggregation is that earlier disaggregation of the sectors together with occupational distribution leaves us with very few numbers of FHHs in each sector, and becomes very difficult to draw statistically significant inferences about the poverty level of such a small number of households. With this aggregation level of the economic activities in which households engage in the 1994 survey, four sectoral groups are identified, namely non-working, primary exports, other manufacturing and services. Despite this aggregation, the small cell sizes which arise in some cases when two criteria are taken into account should be noted in interpreting the values by sectors and occupational groups of the poverty indices.

As we did earlier, the sector, which is defined as the primary export sector in Table 5, is considered as the relatively more exposed to international markets than the others. With this aggregation level, the distribution of FHHs and MHHs with respect to occupation and sectors can be seen in the first panel of Table 5. The largest numbers of households are the non working group and those in the primary exports sectors and services. The majority of those in the primary exports sectors appear to have been self-employed. FHHs in the service sectors, on the other hand, are employed mostly in wage-earning economic activities.

The second panel giving the values for  $P_0$  (the head-count ratio) indicates that 21.6 % of FHHs were under the poverty line in 1994. This ratio is remarkably higher than the 15 % of the poor among MHHs. The 29 % of those in the primary export sectors were poor FHHs. Considering the occupational distribution, the 28 % of all FHHs in the primary export sectors which were occupied with self-employed economic activities can be defined as poor. This ratio becomes smaller with 12.4 % value of  $P_0$  for those which were engaged in wage-earning economic activities in the same sector, implying that wage-earner FHHs were relatively better off than the self-

employed households. Looking at the wage-earner FHHs in the service sector, the proportion of the poor was smaller and 7.6 % in 1994. Table 5 also indicates that being a casual working FHH in the primary exports sector increases the likelihood of being below the poverty line in the same year. The high proportion of households engaged in agricultural activities among casual working FHHs in the primary export sector seems to account for this high proportion of the poor.

## 5. CONCLUSION

Since the 1980s, economic reforms and liberalisation of international trade regime have been widespread practice among developing countries. As one of them, Turkey began to liberalise her trade regime in 1983. Apart from the potential benefits of more liberal and open trade regime, it is also inevitable that this would have distributional effects on individuals. The literature has, so far, paid considerable attention to the reform-and-growth relationships and could not reach any concrete agreement on the direction of this interaction. The distributional consequences of the reform have, on the other hand, recently gained importance in the literature. The gender issue has however been largely ignored. The present research is an attempt, *to some extent*, to fill this gap with empirical evidence from a well-known reforming country in the literature, namely Turkey.

The present research shows that there is a significant difference between the well-being of FHHs and MHHs, and this inequality increased against FHHs from 1987 to 1994. It is also noted that the number of FHHs involved in economic activities in relatively open sectors are lower than MHHs, and they appear to be poorer. FHHs in Turkey appear to concentrate largely in the non-working household group, so that the interaction between trade reform and the well-being of FHHs would be very limited. The poverty level of FHHs in traditionally more open sectors in Turkey, namely textiles and clothing, is higher than that of MHHs, and moreover deteriorated from 1987 to 1994. It has, therefore, been evident from the empirical result of his research that FHHs in open and highly export-oriented sectors are poorer than MHHs in the same sector. Whereas trade reform is expected to close the wage gap between FHHs and MHHs, our findings show that female wage earners are still poorer than male wage earners. In addition, self-employed FHHs, which constitute the largest fraction of total FHHs in our survey data, still remained poorer, as the Turkish trade reform failed to create income opportunity for self-employed FHHs through the prices of products that the self-employed households were net sellers. The results presented in this paper should, however, not be considered as

conclusive. The limitations of the existing data and the need of more observations that would be drawn from the future surveys allow for understanding better the distributional consequences of openness in Turkey.

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## Appendix

### Aggregation of Economic Activities by Commodity by Commodity

Commodity Group	ISIC
<i>1- Agriculture</i>	011 - 012 - 013 - 014 - 015 - 020 - 050 - 101 - 102 - 103 - 111 - 112 - 120 - 131 - 132 - 141 - 142 - 231
<i>2- Food Manufacturing</i>	151 - 152 - 153 - 154 - 155 - 160
<i>3- Textile-Clothing</i>	171 - 172 - 173 - 181 - 182 - 191 - 192
<i>4- Other Manufacturing</i>	201 - 202 - 210 - 221 - 222 - 223 - 232 - 233 - 241 - 242 - 243 - 251 - 252 - 261 - 269 - 271 - 272 - 273 - 281 - 289 - 291 - 292 - 293 - 300 - 319 - 311 - 312 - 313 - 314 - 315 - 321 - 322 - 323 - 331 - 332 - 333 - 341 - 342 - 343 - 351 - 352 - 353 - 3591 - 3591 - 3592 - 3599 - 361 - 3691 - 3692 - 3693 - 3694 - 3699 - 371 - 372 - 401 - 402 - 403 - 410 - 451 - 452 - 453 - 454 - 455
<i>5-Service</i>	501 - 502 - 503 - 504 - 505 - 511 - 512 - 513 - 514 - 515 - 519 - 521 - 522 - 523 - 524 - 525 - 526 - 551 - 552 - 601 - 602 - 603 - 611 - 612 - 621 - 622 - 630 - 641 - 642 - 651 - 659 - 660 - 671 - 672 - 701 - 702 - 711 - 712 - 713 - 721 - 722 - 723 - 724 - 725 - 729 - 731 - 732 - 741 - 742 - 743 - 749 - 751 - 752 - 753 - 801 - 802 - 803 - 809 - 851 - 852 - 853 - 900 - 911 - 912 - 919 - 921 - 922 - 923 - 924 - 930 - 950 - 990

**Table 1 - Basic Statistics of Sample**

	1987	1994
<b>Total</b>		
Sample Size	26,400	26,236
Median household size	5	4
Mean Household size	5,02	4,50
Mean annual income per household (YTL)	3,77	3,57
Gini Coefficient	0,46	0,45
<b>Male-Headed Households</b>		
Sample Size	24,295	24,418
Mean annual income per household (YTL)	3,83	3,67
Gini Coefficient	0,46	0,45
<b>Female-Headed Households</b>		
Sample Size	2105	2018
Mean annual income per household (YTL)	3,01	2,37
Gini Coefficient	0,46	0,43

**Table 2 - Poverty Measures**

	1987	1994	% change
Poverty Line (YTL)	0,59*	0,58**	-
<b>Total</b>			
P <sub>0</sub> (%)	16.3	15.5	-4.9
P <sub>1</sub>	4.9	4.1	-16.3
P <sub>2</sub>	2.3	1.7	-26.1
<b>Male-Headed Households</b>			
P <sub>0</sub> (%)	16.1	15.2	-5.6
P <sub>1</sub>	4.8	4.0	-16.7
P <sub>2</sub>	2.2	1.6	-27.3
<b>Female-Headed Households</b>			
P <sub>0</sub> (%)	19.2	21.6	12.5
P <sub>1</sub>	7.5	6.1	-18.7
P <sub>2</sub>	4.0	2.5	-37.5

\* Poverty line is 50 % of median income of per equivalent adult.

\*\* It is at 1987 prices.



**Table 3 - Poverty Measures of FHHs and MHHs (%)**

Sectors	FHHs				MHHs			
	1987		1994		1987		1994	
	Population Share	Po	Population Share	Po	Population Share	Po	Population Share	Po
Non- working	43.7	<b>11.2</b>	55.0	<b>19.3</b>	6.4	<b>10.1</b>	10.1	<b>15.2</b>
Agriculture	39.6	<b>30.8</b>	28.7	<b>30.0</b>	32.4	<b>23.4</b>	31.2	<b>22.7</b>
Food Manufacturing	1.0	<b>2.6</b>	1.2	<b>17.8</b>	2.8	<b>12.0</b>	2.4	<b>9.5</b>
Textile & Clothing	3.6	<b>13.6</b>	4.1	<b>26.5</b>	2.8	<b>10.4</b>	2.9	<b>9.2</b>
Other Manufacturing	0.4	<b>3.4</b>	0.6	<b>3.4</b>	7.5	<b>10.6</b>	17.3	<b>16.6</b>
Service	11.7	<b>13.7</b>	10.3	<b>9.7</b>	48.2	<b>13.4</b>	36.0	<b>8.8</b>
Total	100.0	19.2	100.0	21.6		16.1	100.0	15.2

**Table 3 (cont.)**

Sectors	Poverty Gap Ratio P <sub>1</sub> (%)				Foster-Greer-Thorbecke Measure P <sub>2</sub> *100			
	FHHs		MHHs		FHHs		MHHs	
	1987	1994	1987	1994	1987	1994	1987	1994
Non-working	3.5	5.9	2.9	4.1	1.6	2.5	1.4	1.8
Agriculture	13.3	8.0	8.5	6.9	7.6	3.0	4.6	3.0
Food Manufacturing	0.5	7.6	2.2	1.9	0.1	3.6	0.7	0.5
Textile & Clothing	5.4	6.2	2.1	1.9	2.8	2.8	0.6	0.5
Other Manufacturing	0.6	0.1	2.2	4.0	0.1	0.0	0.8	1.4
Service	4.0	1.9	3.3	1.9	1.8	0.6	1.2	0.6
Total	7.5	6.1	4.8	4.0	4.0	2.5	2.2	1.6

**Table 4 – Income Groups of Households in 1994**

Employment Status of Household head	FHHs		MHHs	
	Population share	P <sub>0</sub>	Population share	P <sub>0</sub>
Wage/Salary	9.0	<b>12.0</b>	36.5	<b>9.2</b>
Casual	4.5	<b>44.5</b>	11.6	<b>34.6</b>
Employer	0.5	<b>0.0</b>	7.2	<b>1.8</b>
Self-Employment	23.1	<b>25.5</b>	33.7	<b>14.8</b>
Unpaid family worker	0.1	<b>0.0</b>	0.1	<b>4.7</b>
Not employed	62.8	<b>18.6</b>	10.9	<b>15.2</b>

**Table 5 – Sectoral and Occupational Distribution and Poverty Levels in 1994**

	Non- working	Wage/Salary	Causal	Employer	Self- Employment	Unpaid- Family Worker	Total
<b>Female-Headed Households</b>							
<b># of Households</b>							
Non-working	1331	0	0	0	0	0	1331
Primary Export	0	34	46	2	400	1	483
<b>Sectors</b>							
Other Manufacturing	0	9	3	0	1	0	13
Services	0	125	30	9	26	1	191
All	1331	168	79	11	427	2	2018
<b>Head-Count Ratio</b>							
Non-working	19.3	--	--	---	--	---	19.3
Primary Export	--	12.4	55.4	0.0	28.1	0.0	29.2
<b>Sectors</b>							
Other Manufacturing	--	0.0	15.9	--	0.0	---	3.4
Services	--	7.6	22.5	0.0	8.7	0.0	9.4
All	19.3	8.3	42.6	0.0	26.9	0.0	21.6
<b>Male-Headed Households</b>							
<b># of Households</b>							
Non-working	3169	--	--	--	--	--	3169
Primary Export	--	1451	361	226	4239	5	6282
<b>Sectors</b>							
Other Manufacturing	--	1952	1579	604	403	1	4539
Services	--	5701	633	954	2928	12	10228
All	3169	9104	2573	1784	7570	18	24218
<b>Head-Count Ratio</b>							
Non-working	15.2	--	--	--	--	--	15.2
Primary Export	--	13.0	44.0	3.1	21.5	9.7	20.8
<b>Sectors</b>							
Other Manufacturing	--	11.4	30.8	2.3	8.8	0.0	16.6
Services	--	7.7	27.6	1.6	9.3	0.0	8.8
All	15.2	9.4	32.3	2.0	17.6	2.0	15.2