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Female Labor Force Participation in Economic Development Process: The Case of Turkey

Bachelor Thesis NEKK01 /VT-10

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Finish Date: August, 2010

Abstract

In this study, the Female Labour Force Participation rate in Turkey between 1988 and 2008 is investigated. The main research was carried out by support of basic labour supply theories such as the Becker household model, the Gronau model and the u-shape hypothesis. Turkey is not a fully developed country which is why those theories are of fundamental importance to analyze the determinant factors of the female labour force participation in Turkey.

The economic growth, urbanization rate, fertility, and marriage seem to have negative impact on female labour force participation in developing countries. The level of education on the other hand shows a significant positive impact on women's labour force participation. The female labour force participation rate in Turkey was very high in 1988 which is the starting point of the selected data. It is found that the female labour force participation in Turkey decreases over time though, it shows a significant slowdown. This might indicate that Turkey is on the down-turn of the u-shape and can be believed to turn upwards for the coming decades.

Keywords: Turkey, Female Labor Force Participation, Economic Development, Gronau, Becker.

ACKNOWLEDGEMENTS

I would like to thank my supervisor Professor Inga Persson for her very kind, encouraging guidance throughout my thesis. I owe my appreciation to Professor Aysit Tansel for showing a friendly and encouraging response to my mails. I would also like to thank all my friends who supported and encouraged me for this thesis. Special tanks to Affan Dagasan for his comments.

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By submitting this thesis the author declares to have written this thesis completely by himself/herself, and not to have used sources or resources other than the ones mentioned. All sources used, quotes and citations that were literally taken from publications, or that were in close accordance with the meaning of those publications, are indicated as such.

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1 Introduction

The labour supply of women has been investigated in many dimensions. A majority of the studies are concerned with the factors that affect the wage differences between men and women. Thus, a well known concept is the Human Capital Earnings Function of Mincer (1958 and 1974). According to Mincer (1974), earnings are basically determined by years of schooling and years of experience. In this context the underlying factor of female labour force participation is one of the important aspects. At the beginning of the developing process women to a great extent are working within the families without any payment. Hence, issues like the gender wage gap or the glass ceiling are not relevant. However, resource allocation for women within the family can be important (Mammen, K. and Paxson, C. 2000, p. 141). In this paper we do not intend to investigate particularly the inequality in income, however, we will look at the factors that affect the female labour force participation in Turkey in an extensive perspective which might explain women's disadvantage in the labour market.

There is a considerably high growth of population in active ages in Turkey; the proportion of the population aged 15-64 in the total population has increased from 56.3 percent in 1955 to 67.2 percent in 2010. The total labour force participation rate[1] in Turkey was 47.9 percent in 2008. This is below the average for the developed countries. For instance in the same period the labour force participation rate in Sweden was a total of 65.1 percent, in the UK a total of 62.2 percent, in the US 65.4 percent and in Greece 54.0 percent. In the developing countries however, such as Rwanda, the labour force participation rate is 85.7 percent, in Uruguay 63.9 percent[2].

The female labour force participation rate however, has a considerably negative trend in Turkey. It declined from 65.4 percent in 1960 to 24.5 percent in 2008 (see Table 3 and Figure 9). This dramatic decline from the higher labour force participation rate in developing countries has contrary aspects which we will look at in detail later in this paper. In the early stage of the developing process labour force participation in the developing countries is expected to be higher due to dominance of the agricultural society. Yet, when the countries are in the process of the transformation from an agricultural society to a modern society, the labour force participation rates first decline and then, as countries get richer, the labour force participation rate is expected to increase again. Likewise, the migration from the rural areas to the urban areas causes decreasing female labour force participation in the developing countries. Because of the lack of education and lack of experience in the labour market, the majority of women are drawn back out of the labour market without a market job when

[1] Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period. Source: The World Bank.

[2] Source: The World Bank.
"http://data.worldbank.org/indicator/SL.TLF.CACT.ZS/countries/latest?display=default"

they settle in urban areas. Many developing countries including Turkey can be experiencing a dual economy during the developing process. Because of these characteristics of developing countries, the differences between the urban and rural areas appear to be very large. In Turkey for instance, the rural areas have much more underdeveloped countries characteristics. In contrast, urban areas can be surprisingly developed modern cities both from an institutional and a structural point of view. Development contributes to the urbanization but urbanization does not necessarily influence the development. Due to this contrast I will look at the gender differences and study the evolution of Female labour force participation in two dimensions, first in urban areas and then in rural areas.

1.1 Aim of the Study

This paper intends to investigate, based on economic theories the determinant factors of female labour force participation in Turkey between 1988 and 2008. By doing so, we will try to give an overall view of the structure of the Turkish labour market, the status of women in general and also in both in urban and rural areas. In order to better understand women's status in rural and urban areas, we will investigate the transformation process of the Turkish economy from an agriculture society to the modern Turkey. The core question is however, what do women's status look like in Turkey in general and how is this divided in terms of regions (rural, urban)? What does female labour force participation look like in Turkey, in the past and in the present? What are the determinant factors that affect women's decisions whether to join the labour force or stay out of the labour market?

1.2 Method and Data

In order to analyze the issue I need to use both theoretical and empirical approaches. The theoretical approach will treat the supply side of female labour force participation and give fundamental keys for the analyses such as women reservation wage and specialization between members in the family. The empirical analyses will treat the issue in two dimensions for both in urban areas and in rural areas to see the evaluation process of female labour force participation in Turkey over time. In order to give support to my empirical research, I will use tables and figures mostly are based on the results of the Household labour force surveys which have been carried out regularly by the Turkish Statistical Institute (TURKSTAT) since 1988. The survey is based on of collecting of information about economical activities, professions, employment status and hours of work of employed persons; duration of job search, occupation sought and it is the base data source to inform (supply side) on characteristics of labour market in the country. TURSTAT included in their survey all private households member who are living in Turkey. I have included the age interval between 15 and 65 in my research and this age group is active labour force in Turkey. In addition, the European Union Statistical Office (Eurostat), International Labour Organization (ILO), The World Bank and OECD annual reports are used. Due to difficulties to find data from earlier dates, I will keep the time

interval between 1988 and 2008. I will not use any individual-level micro-data and econometric techniques in this paper, however, it may be done as an extension of this thesis. I have chosen and collected a number of articles and research papers which I am going to refer to in order to make the thesis even more reliable. For a better understanding, I will review three basic economic theories in section two.

1.3 Disposition

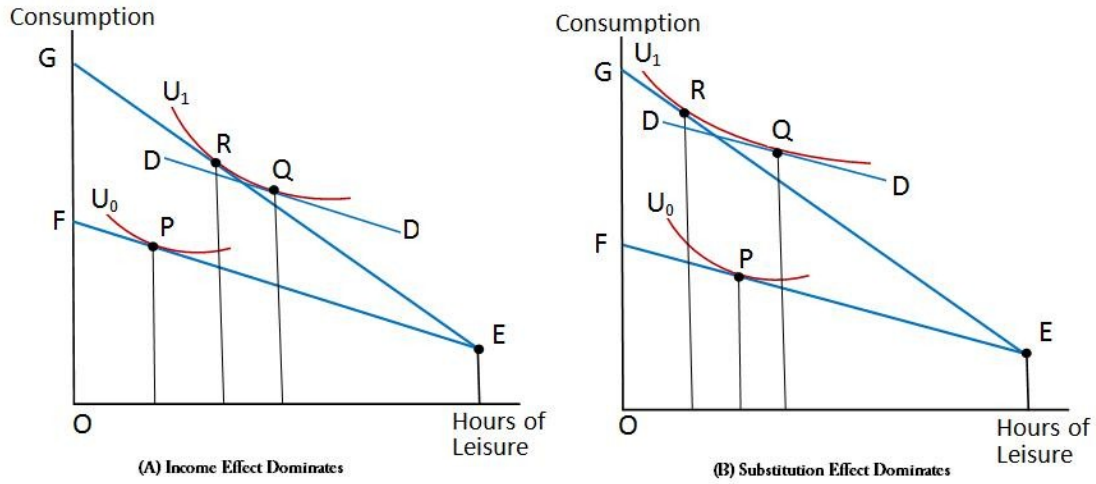
In Section 2, the theoretical framework will be presented. In section 3 the background of the Turkish economy; demographically, politically, and economically will be summarized and the general labour force structure will also be explained. In section 4 the evolution of Turkish female labour force participation will be analyzed. In section 5 is an empirical approach. In this section will look at both urban and rural areas in detail and the determinant factors of female labour force supply in Turkey will be investigated extensively. In section 6 a cross-country review will be done in order to compare Turkey with other countries. I will finish my thesis by conclusions in section 7.

I have also added an appendix which explains some definition and short information about the data sources.

2 Theoretical Framework

The core theme of this paper is to study some dimensions of the theory of "labour supply". In this context the female labour force participation and women's behaviour in the labour market is one of the major concerns. This paper will concentrate particularly on the female labour force participation in Turkey and see how economic development affects women's behaviour in the labour market over time. The traditional neoclassical model of labour supply is about the decision to participate in the labour force and about the total number of hours that an individual is willing to work at a given wage rate. This basic model assumes that an individual's labour supply decision is not affected by other individuals. An individual makes a rational decision between leisure and hours of work in order to maximize her/his utility and this can simply be explained by the traditional income/leisure "trade-off" model (Bosworth 2006, p.26). On a daily basis she/he has 24 hours limited time which she/he has to allocate between work, leisure and some basic activities such as sleeping, eating and other activities. This basically means that the individual must forgo some of his/her activities in order to increase her/his working hours. Leisure is the activity mostly modeled as the one that the individual is willing to trade-off with market work. An increase in the wage rate might attract her/him to work more and she/he might be willing to give up some of her/his leisure in order to supply extended work hours. The size of labour supply that the individual is willing to offer is a function of the real wage rate that the market offers and individual preferences. The important point here is to make it clear how many hours that the individual is willing to forgo from his leisure at each given possible real wage rate in order to supply hours of work (Leisure is valued at the marginal cost of forgone work time (Bosworth 2006, p.27)). The labour supply curve is here derived from the labour/leisure trade-off as represented by the budget constraint. The individual's possible choice is all the points on the budget constraint and she/he can be expected to choose the point where the budget constraint is tangent to the individual's indifference curve. If the individual prefers to allocate all her/his available time to work this would increase her/his income. This is a` la Bosworth (2006) called "full income" and contains both earned income and the value of leisure time. It is important to mention here that work in market, work at home and leisure have inter-correlated relation as we will examine in the next sections. Every possible real wage rate level makes the individual behave differently depending on her/his preferences.

Figure 1. Impact of wage change (Income and substitution effect)



In Figure 1 the impacts of a wage change on an individual behavior, how to devote her/his hours of work and leisure is illustrated. The initial wage rate is EF, and the individual maximizes her/his utility at point P. When the wage increases the budget line rotates from EF to EG and becomes steeper and a new maximum utility of an individual occurs at point R. Though, this movement from P to R occurs in two steps which induce two effects. At the first step, we assume that an increase in none-labour income shifts the level of the budget line EF to a new budget line DD. The an income effect can be analyzed when the new budget line DD is tangent to the individual indifference curve U_1 at point Q, where the individual achieves her/his maximum utility by moving from point P to point Q keeping wage constant. The second step induces substitution effect as a movement from Q to R along the indifference curve U_1 occurs, keeping the income constant.

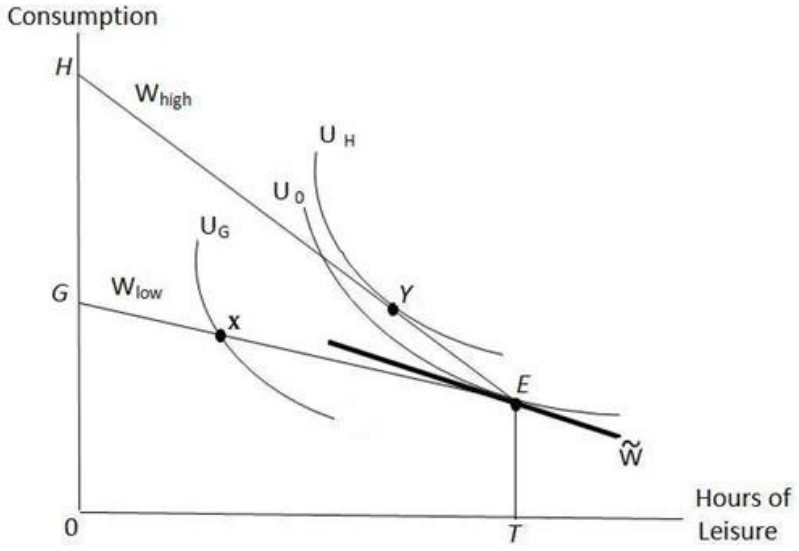
If the *income effect*[3] dominates individual preferences, then an increase in the wage rate makes an individual to demand more leisure and he/she decreases hours of work (see Figure 1A)[4]. On the other hand, if a *substitution effect*[5] dominates individual preferences, then she/he will increase her/his hours of work and decrease hours of leisure as it is illustrated in Figure 1B Borjas (2008, pp.37-39).

What makes an individual decide whether to enter the labour force or not Let us now analyze the factors that affect the individual's decision of either working or not. With this analysis we will have a better understanding of the relation between non-labour income, the wage rate and hours of work.

[3] Income effect; is change in hours of work of an individual with respect to changes in income keeping the wage rate constant.
[4] Figure 1 is replicated from Borjas (2008, p. 34)
[5] Substitution effect; is change in hours of work of an individual with respect to changes in real wage rate holding income constant.

This is generally attributed to the woman's decision whether to participate to the market work or not.

Figure 2: The basic Labour Supply and The Reservation Wage ($\tilde{w}$)



In Figure 2, we can see the indifference curve U_0 tangents to point E - called the endowment point- [6]. At this point the individual does not work at all and receives non-labour income to the amount of TE and she/he maximizes her utility at point E which satisfies her/him. On the other hand, if an individual is given a higher wage rate (W_{high}), she/he would probably prefer to join to the paid market work by trading some of her/his leisure time. Because, due to the increasing value of market work, leisure becomes more expensive to consume and she/he might decide to join the paid market work and chooses indifference curve U_H and maximizes her utility at point Y. Any point along the budget line EG gives her/him lowest utility than point E. For instance if she/he would have chosen point X at the indifference curve $U_{G,}$ she/he clearly would get less utility than at point E in the indifference curve $U_{0,}$ so that, not working actually would make her/him much more better-off Borjas (2008, pp.40-41).

When the wage rate increases, the budget line will tilt from EG to EH, and unexpectedly passes a "boundary". This boundary is the slope of the indifference curve at the point E, defines as a new wage rate which lies between the low budget line (EG) and the high budget line (EH). This is called "reservation wage" denoted $\tilde{w}$ In Figure 2[7]. The new budget line EH is steeper than EG which gives her/him a greater utility and she/he now increases her utility by choosing indifference curve U_H. The most important point here is to realize that an individual (woman) prefers not to work at all if the "reservation wage" is greater than the market wage (W_{low}) (Borjas 2008, pp.40-41).

[6] Figure 2 is replicated from Borjas (2008, p.41)
[7] The reservation wage is given by the slope of the indifference curve at the endowment point. Source: Borjas (2008, p.41)

The reservation wage ($\tilde{w}$) is particularly crucial for women in order to make a decision whether to work or not. This issue will be addressed in the next section and we will analyze the factors that affect the women's reservation wage such as marginal productivity in household work and number of children in family. The "reservation wage" will be very useful to analyze Turkish women's behaviour in the labour market.

In order to analyze the female labour force participation in Turkey I need to introduce three more complementary economic theories which will be examined in detail in the next three sections. The first one is, the "Gronau Model" which shows how a single individual might be expected to allocate her/his time between leisure, home production and market work. The second one is the "Becker's household model" where the individual's labour force participation and time allocation decisions are analyzed within a family framework. Due to the characteristics of Turkey, I also need to review the so-called u-shaped female labour force participation theory to analyze the behaviour of women's labour force participation in the developing countries.

2.1 The Gronau-Model

The Gronau (1977) time allocation model concerns a single individual's -men or women- behaviour by using her/his available time in three different activities, either in home production, in the market or in leisure. Gronau (1977) considered women and her decision to allocate her available time contrary to men. He has analyzed this issue, not just market work/leisure trade off but also trade-off between market work and work in the household. He looked at individuals with different incomes, wages, and also the effect of children. He analyzed male and female behaviour in different dimensions when they allocate their time between work at home, work in the market and leisure.

It was also carried out a study by Bloch (1973) and by Gronau (1976a),-Individual studies for American and Israeli women-. They found that changes in the socioeconomic environment- for instance, changes in the wage rate, income, education and number of children makes a different impact on work at home and leisure and the time allocation decision of husband and wife. In both studies, they found that the existence of children in the family makes the mother decrease her market work and increase her work at home. However, if additional time is required for caring for the children, she then reduces her leisure. In contrast, the man increases both work at home and work in the market and likewise he decreases his leisure time (Gronau 1977, pp. 1099-1102).

By using her/his time at home she/he produces home goods such as cooking, cleaning, washing, taking care of children etc. It is crucial to notice that the market work and work at home are assumed to be perfect substitutes, and the individual is indifferent to consume these goods and services

whether produced at home or purchased in the market (Gronau 1977, p. 1104). Generally, any increase in the wage rate in market work makes the individual reduce her/his time working at home and she/he is expected to work more and produce more market goods or use more leisure. On the other hand, if the individual's income increases then she/he is expected to increase her/his leisure time and reduce the market work and probably make an insignificant effect on work at home (Gronau 1977, pp. 1099-1100). Both home production and market work give the individual access to goods and services of different kinds which increases the individual's utility. Home Production gives her/him direct access to the goods and services and the individual increases her/his utility by consuming them directly. Market work on the other hand gives the individual the opportunity to purchase different goods and services which increases her/his utility. Which combination and what proportion of these three activities will be chosen by the individual, depends on the individual's preferences. Thus, the maximization condition for the single person would be the function of these three activities which formally can be expressed as;

$$\text{Max } U = f(X_m, X_h, L)$$

where U is maximum utility for single person (man or woman), (X_m) is goods and services purchased in the market, (X_h) is goods produced and consumed at home and (L) leisure. If we denote the "Home goods" with H, which is produced by work at home then (X_h) would be function of H and formally can be expressed as;

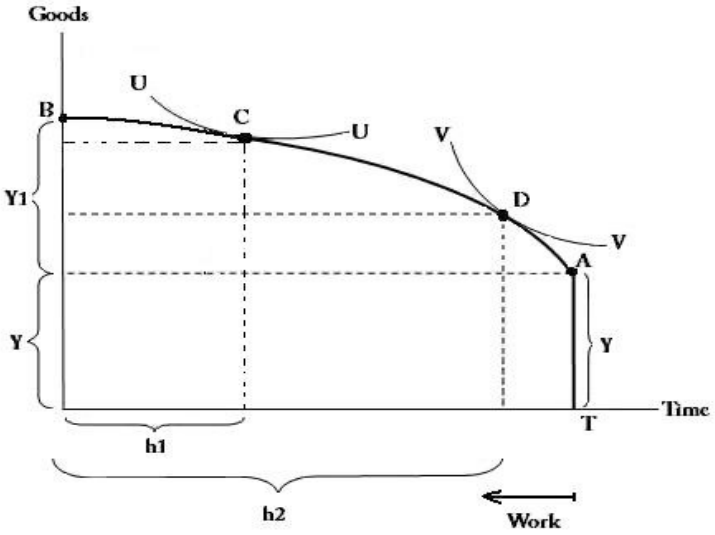
$$X_h = f(H),$$

and this is a` la Gronau (1977) subject to diminishing marginal productivity[8]. If the marginal productivity of women in the household is greater than in market work, she probably would prefer staying at home. In addition, the marginal productivity at home is positively correlated to present of small children and number of children in the family. Under section 2 and in Figure 2 this point is also denoted and explained as a reservation wage under assumption when only leisure is considered as an alternative to market work. The women's decision whether to join the labour market or not in a large extent, might depend on the slope of the reservation wage. On the other hand, if the marginal productivity of the woman at home decreases, she probably would choose to work in the market work. Because, then she might be able to purchase goods and services (e.g. child care cost) due to increased marginal product of market work instead of producing them at home inefficiently. Thus, the marginal productivity in the household of women is an important factor that affects her decision whether to join the labour market or stay at home. As mentioned earlier, the major factor that might

[8] First derivative gives ($f' > 0$) and second derivative gives ($f'' < 0$), (Gronau 1977, p.1105).

affect the marginal productivity of women at home is the existence of a number of children and their age in the family.

Figure 3. Time allocation between leisure, home production

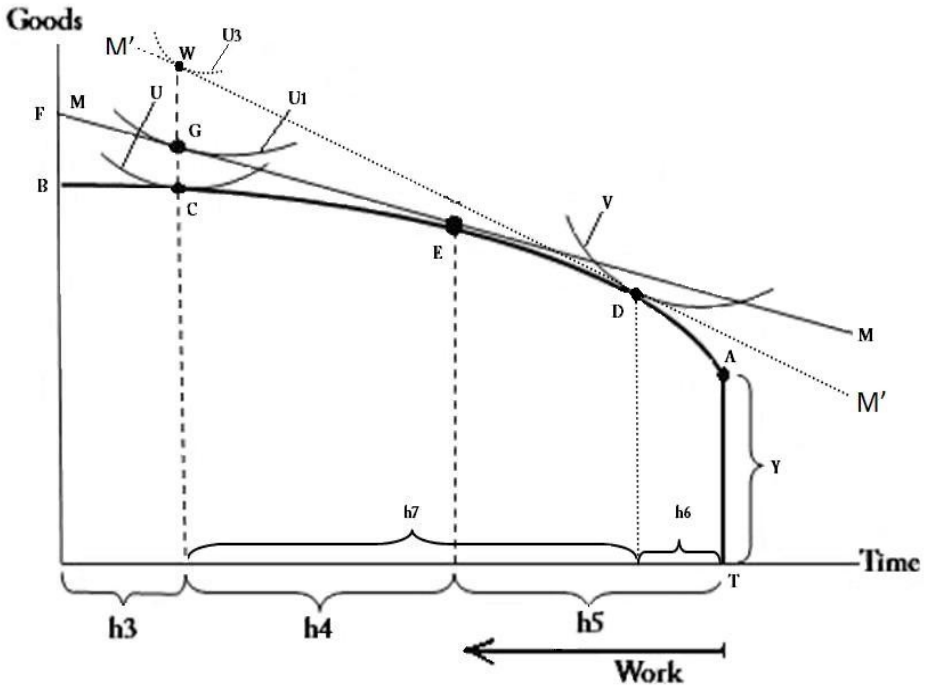


In Figure 3 the time allocation between these activities is illustrated[9]. In the absence of market work, curve AB represents the opportunity frontier of the total goods and services produced and consumed in the household X_h and Leisure L and every possible combination of these two commodities (Gronau 1977, p. 1106). In Figure 3, Y is the individual's un-earned income such as benefit or some kind of capital income (Persson 1992, p.33). If the individual chooses to spend all her/his available time on leisure she/he would have access to goods only of the amount Y and if she/he allocates all her/his available time to working at home then she/he would gain a utility corresponding to the amount of goods Y+Y1. Y1 is produced at home and Y is the goods that are bought with un-earned income. The more she works at home the more she produces of home production. Curves UU and VV in Figure 3 illustrate two individuals with different preferences between goods and leisure. Every point on these curves gives the individual the same utility. Maximization conditions would be where the individual's indifference curve is tangent to the budget constraint. One individual in this model is assumed to have the indifference curve UU and she/he maximizes her/his utility at point C. She/he allocates her/his time with h1 leisure and T-h1 work at home. Another individual however, has different preferences with indifference curve VV and she/he prefers to use her/his available time for more leisure (h2) and less work at home (T-h2) and maximize her/his utility at point D. If Y increases for some reason - say, she/he wins a lottery - this means according to this model that the individual gets

[9] Figure is replicated from Persson (1992, p.34)

more un-earned income. In this case she/he is expected to decrease her/his work at home and increase her/his leisure. Every individual values leisure and goods in different way, so that Individual preferences are important determinant factors for time allocation besides her/his productivity working at home and the size of unearned income (Persson 1992, pp.33-37).

Figure 4. Time allocation between leisure, home production and Work



In Figure 4 access to market work, denoted by the wage line MM, is introduced[10]. We will now analyze how this will affect the individual's choice. The line MM is tangent at point E in Figure 4, where each hour in the market work and each hour of work at home have the same value. Every possible point on the curve From E to F gives the individual greater utility than points on the curve from E to B. At point D for the individual V, the introduction of market work does not have any significant effect on the individual's utility. According to the model she/he still has the highest utility at this point with indifference curve V thus; she/he chooses not to do any market work (Persson 1992, p. 35).

Assume that the other individual has the indifference curve U in Figure 4 and in the absence of market work she/he maximizes her/his utility at Point C. At this point she/he devotes T-h3 hours to work at home and spends h3 hours on leisure. This time allocation contains both unearned income Y and goods from home production AC. When access to market work (MM) is introduced in the model then she/he would have another choice at point G on the indifference curve U1 where utility is

[10] Figure is replicated and manipulated from Persson (1992, p.35)

greater than at point C with indifference curve U. The existence of market work gives the individual the opportunity to trade her/his working time for market goods. Keeping leisure at the same level (h3), she/he now faces to make the choice to maximize her/his utility, either by working at home and choose indifference curve U at point C, or working in the market and choose indifference curve U1 at point G. According to the Gronau-Model we expect the individual to choose her/his indifference curve U1 tangents at point G, which is good intensive combination that gives her/him a greater utility than U at point C. At this point, she/he has leisure at the size of h3, working at home the size of h5 and she/he can also work in the market the size of h4. On the other hand if the individual values the leisure higher, then she/he would choose the indifference curve V and maximize her/his utility at point D. In this scenario she/he does not work in the market at all but devotes her/his time between leisure (h3 + h7) and work at home (h6) (Gronau 1977, pp. 1106-1107).

Here we can immediately conclude that the availability of market work might affect individual choice and the individual devotes her/his total available time into three different activities. A simple intuition why an individual should choose G, instead of C in this model can be explained as; if the individual stays at home and spends one hour to bake one bread which has market value (shadow price) probably €1 but instead of staying at home she/he would prefer to work in the market one hour and probably earn €10. She clearly will gain more utility by choosing U1 at point G so she/he can purchase not only one bread, but also even more goods and services which will make her/him better off. Recall Point E, if the individual happened to be at point E then one hour's work at home and one hour's work in the market would have an equal value with the same amount of leisure time (h3+h4) and work at home (h5). It does not make any difference whether she/he chooses to work at home or in the market because both of them would give her/him the same utility. Again, at this point, we can immediately conclude that the individual's preferences and tastes would play a great role.

Let us now assume that the wage rate in the market increases and see how this additional wage change will affect this time allocation. If the market wage rate increases, the slope of MM will be steeper and becomes M'M' in Figure 4. The point E in Figure 4 moves towards A and for the sake of simplicity we assume that the leisure is unchanged (h3) and M'M' tangents to the utility curve V at point D. In this case, a change in the wage rate means that, home production will be less profitable relative to market work and consumption of leisure time will be more expensive (Gronau 1977, pp. 1107-1108). As we can see in Figure 4, the individual will now decrease some of her/his work at home and instead increase her/his work in the market due to accrued greater value with new utility U3 at point W. In this example the individual has chosen to work at home the size of h6 and due to

the higher value in the market she/he prefers to work in the market the size of h7. As we mentioned before we keep leisure unchanged at the level of h3 because the effect on leisure would be indeterminate. As we can see from this illustration, the high wage rate availability to the individual in the market is one of the most important factors that affect the individual's time allocation decision together with her/his preferences and she/he allocates her/his, available time, work at home, work in the market, and on leisure (Persson, 1992, pp. 35-36).

If income dominates her preferences, she would value leisure more and she might decrease the market work slightly and increase her leisure (point W would tangent the budget line on the right side of its current position). If substitution affects dominates her preferences she would value work time more than leisure and she would increase hours at work. (point W would tangent M'M' slightly on the left side of its current position) [11].

In sum, the individual is expected to allocate her/his available time due to her/his preferences, un-earned income, and the marginal productivity of work at home and work in the market. If women and men are assumed to have different preferences, then the time allocation between men and women would be totally different from each-other as well. This model, together with the Becker household model will help us to analyze empirically how the productivity of household production and availability of market work will affect the Turkish women's decision whether to participate in market work or not.

2.2 The Becker Household Model

In the previous section, we have analyzed the Gronau-model. In the model, we have seen a single individual's behaviour when it comes to make a choice between works at home, in the market and leisure.

In this section we will consider a multi-person household. This model considers not only allocating time between different activities for a single individual, but also allocating the time between different family members. In this model family members maximize their utility subject to the time and budget constraint. The theory suggested that maximum utility can be obtained when the family members specialize according to their comparative advantages and "exchange" market goods and services against household produced goods and services. The basic idea of this model is, if a member who is relatively more efficient in one activity, should spend her/his time use on this activity and leave the other activities to be done mainly by other members of the family (Becker, 1965, pp. 512-

[11] Please see section 2 and Figure 1A and 1B for detail explanation of income and substitution effect.

513). There are two aspects of this model that I think is important to review. One is “comparative advantage” and the other is “gain from specialization”.

Comparative advantage:

Comparative advantage was first represented by David Ricardo, and suggests that, if one agent (it could be a country or an individual) could produce a particular good or services relatively more efficient (i.e. at a lower opportunity cost) than another agent, she/it is said to have a comparative advantage over the other agent (country or individual). In other words David Ricardo claims that, every country should specialize on goods for which its economy features a higher productivity relative to other economies. In addition, according to Becker (1991) the same basic idea applies to the family members, as they might have different levels of productivity in a certain sector, if so, they should specialize according to their comparative advantages.

Gain from specialization:

The trade version of Gains from specialization assumes two countries and two commodities. This theory says that, if country A has a comparative advantage on particular goods or services X, and if country B has a comparative advantage on particular goods or services Y, then country A should specialize totally on goods or services X and country B should specialize completely on goods or services Y. According to the theory, trade between the two countries in line with their *comparative advantages* can make both countries better off.

In the Becker case, the *comparative advantage* and the *Specialization* in Family will give the family the highest utility. Becker explains that *comparative advantage* in the market respectively household between men and women in a household or a family can depend partially on biological differences and partially on the experiences these family members have had. Thus, each of them is expected to have a relatively high marginal productivity in a specific sector. Becker (1991) considers the family to be one unit with two types of human capital, H^w and H^h and each individual maximizes her/his utility by choosing one of each human capital by allocating their time entirely on a specific sector. Where H^w is the time invested in the market and H^h is time invested in the work at home. One of the individuals allocates entire of her/his time to market work (t_w) and the other member allocates her/his entire time to work at home (t_h).

Accumulating different human capital by engaging most of their time on specific activities, gives individuals the advantage to produce those specific goods more efficiently. Members, who have a greater “comparative advantage” in the market, would have a greater marginal product in the market sector as well. Thus, they ought to “specialize” in the market and should be investing their

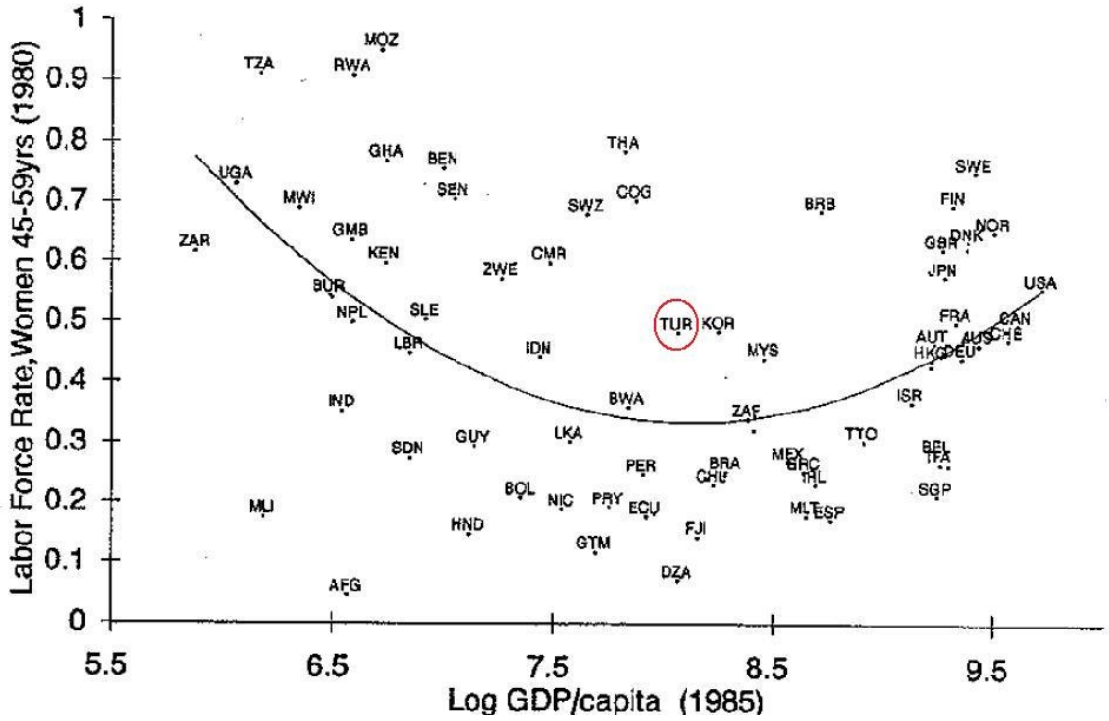
entire time in the market which gives greater return in this sector and no return at all in the household sector. Consequently members who have a "comparative advantage" in household production, would have a greater marginal product in the household sector, thus, they ought to "specialize" in the household and will be investing their entire time in the household. A` la Becker (1991), all family members would be better-off out of total productivity in line of their comparative advantages and exchange goods and services within the family. General perception suggests that women generally devote their time mostly at home, such as cleaning, cooking, and also because of biological characteristics, they spend most of their time bearing and rearing of children. Men on the other hand spend most of their in time the "market" activities which require mostly physical advantages. It can be summarized with the theory cited from (Becker 1991, p. 33).

"*If all members of an efficient household have different comparative advantages, no more than one member would allocate time to both the market and household sector"*

2.3 The U-Shape Hypothesis

Goldin (1995) has examined the evolution of female labour force participation during the process of development. She has looked particularly at the change in female labour force participation with respect to (log) GDP/capita.

Figure 5. Labour Force Participation for women 45-59 years old and log of GDP/capita, (1985, $)



Source: (Goldin 1995, p. 64).

She investigated, with cross section data about hundred countries in order to figure out the relationship between female labour force participation and development. She has specially chosen married women between 45 and 59 years of age, because in this age group women mostly have finished their education and also in this age group the fertility does not affect the individual data as the most of the women appear to be less fertile.

As we can see on the left hand side of Figure 5 female labour force participation shows very high levels for the low (log) GDP/capita (1985, $) countries such as Tanzania, Rwanda, Gambia, Kenya, Nepal. And, on the right hand side of Figure 5, the female labour force participation rate is high but this time the (log) GDP/capita is significantly high. Some of the countries in this section are Sweden, Finland, Norway, Denmark, Japan, US, Canada and France. In between we can see countries which are in course of their development process and have quite low labour force participation rates, e.g. Turkey, Korea, Peru, Brazil, and Mexico.

Goldin (1995) hypothesizes that the female labour force participation rate is U-Shaped during the development process. As mentioned before, at earlier stages of development, countries have mostly agriculture oriented sector with very low income. The main reason for women's very high participation rate in the labour force is that women are mostly working on unpaid household activities or family farms. When the country develops, the production becomes more efficient because of the mechanization and also extension of market work. That leads to an increase in income in the family- maybe because men also start to work in blue-collar jobs - and the demand for the low skilled female labour force fall. A` la Goldin, women's education is the key factor for the up-swing turn of the development process which leads the female labour force participation rates to increase again. This is because education gives women the opportunity to participate in the paid labour market and women's earnings increase. When women's incomes increase they will have more freedom to make decisions. Women might prefer to join the labour force again to a greater extent, especially in market work due to low reservation wage. A` la Bhalotra et al, the up-swing can also occur at low levels of development, this is because families need women's work and participation in family farms and enterprise. This movement from down-swing to up-swing appears to be U-Shaped. During the down-swing period the income effect dominates so the labour force participation rate declines. But when the countries turn to up-swing, the substitution effect dominates, and joining the labour market becomes more attractive[12] (Goldin 1995, pp.61-63).

[12] See section 2, 2.1 and 2.2

2.4 Summary

In sum, the theoretical framework presentation will make it possible to grasp and analyze the factors that affect the female labour force participation in Turkey. These theories are of fundamental importance to understand in order to study empirically "the evolution of the female labour force participation" in Turkey over time throughout my thesis. In this section, first we have looked at a simple version of the basic labour supply model with a reservation wage which explains crucial points for women whether to join the labour force or not. If the reservation wage is greater than market wage, then the individual will be better off not to participate in the labour force. This basic theory taught us how to analyze Turkish women's preferences when it comes to make a decision whether to work or not. However, this theory is not good enough to analyze Turkish women labour force participation behaviour in different regions because of the different characteristics in different regions in Turkey. Thus, we have introduced the Gronau model where a single individual's time allocation was reviewed. This theory extended our knowledge to make better analyze the time allocation issue for Turkish women contrary to Turkish men, not only basic income/leisure perspective but also inter-correlation between productions at home, in the market work and leisure perspective. We have also learned the impact of marginal productivity of women at home production which is complementary to the reservation wage. We will empirically investigate these issues by looking at the regional differences, fertility rate, educational attainments, and marital status. In addition we will empirically analyze the differences of age groups to find out how these factors can explain Turkish women's labour force participation rate based on these theories. Thirdly, we have looked at Becker's household model within a family framework. This theory has a better feature and it has given us valuable tools to analyze Turkish women's labour force participation behaviour concerning the status of Turkish women in different regions and in the Turkish society. We will empirically study the labour force participation rate by marital status, the age groups and compare female to male both in Turkey general and also in different regions. The result probably will be explained by the Becker household model in case a specialization in the family form might be observed. Finally we have reviewed the so called u-shape hypothesis which illuminates the relationship between the female labour force participation rate and economic development for married women in developing countries. Female labour force participation rate is high at the beginning for developing countries with low GDP/capita. On the contrary, it is also high in developed countries with high GDP/capita. Education seems to be the major factor that increases the female labour force participation in developed countries (Goldin 1995). This theory will help us to understand why there is such a unique pattern on female labour force participation rate in developing countries such as Turkey. Bearing mind that Turkey is not yet a fully developed country, this theory will also help us to determine whether Turkey still has long way to go on course of its

development, or if there is any positive progress in terms of female labour force participation. I thought the best way to analyze this issue empirically is a comparison of GDP/capita versus female labour force participation rate in a certain period of time and also female educational attainments in different regions. In addition we will make a comparison between some of the other European countries which will help to have a clear picture of Turkey.

3 Background- The Turkish Economy

3.1 Demographical

Turkey has a relatively young population compared to other OECD countries. The total population reached almost 79 million today and the population below five years of age is 10 percent of the total population. Population under 15 years of age and over 65 years of age are 32 percent and 6 percent respectively. The proportion of the female population in the total population is 51 percent and male population is 49 percent respectively in urban areas. In rural areas however, these are 52 percent and 48 percent respectively (DHS, 2003, pp. 17-19). According to the OECD (2008) report, the growth rate of the population has been on average 2.5 percent throughout the years from 1955 until 2008. Despite family planning, population increase occurred, partially because of decreasing mortality, and increased birth rates. Better health service facilities and increasing nutrition also contributed to the growth of the population. The working age population increased from 33.746.000 in 1988 to 50.772.000 in 2008.

3.2 Political

After the collapse of the 600-year-old Ottoman Empire and a three-year war of independence struggle, there were only 13 million people left, mostly women. From nowhere a new modern "secular" country has been created in 1923 by the great leader Mustafa Kemal "Atatürk" who named it "The Republic of Turkey". Due to post-war damage, the new government has undertaken ambitious state intervention and a protectionist policy. They implemented many reforms. Government encouraged people to have at least three children to increase the population again. For the first time women were granted the right to vote and to stand for election in 1934. Women were given freedom from the black burqa in 1925 and it has been banned to wear a whole cover black burqa since then. Although this is a controversial issue and might be considered against the free choice of women today, it has been a very important move to modernize the country in the westernized definition at the time. And yet, this reform has been very welcomed by the Turkish women with huge enthusiasm. Many new schools and universities are opened since 1933. The Arabic alphabet is replaced by the new Latin alphabet in 1928[13].

After 1960, Turkey has introduced five-year development programs. In contrast to the first post-war period, this time family planning programs were established in the five year state development programs. Yet, political instability has created a series of crisis in the Turkish economy. Since 1960, Turkish democracy has been interrupted by military intervention - literally - every ten years.

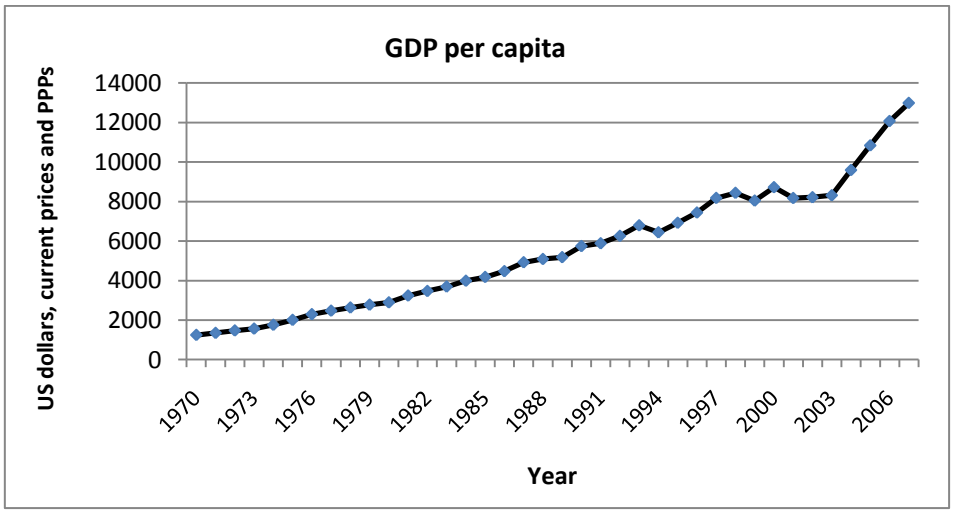
[13] Source: Wikipedia http://en.wikipedia.org/wiki/Atat%C3%BCrk%27s_Reforms

However, the last military intervention in 1980 tried to carry out radical changes in the Turkish economy. From the state intervention economic model, a *laissez-faire* free economic model was set to the agenda. Some analysts argue that the 1980 military intervention also had some significant effects on Turkish politics. The arguments suggest that Turkey, after the 1980 military intervention, gradually became an "Islamic sacred state" rather than a "secular state". Moreover, Goksel (2010) also in her recent study argues that conservatism in Turkey increased dramatically after 1980. According to the study Turkish people desire to turn back to the old traditional social norms (Goksel, 2010, p.6). The 2002 election gives strong evidence of these arguments, because for the first time in Turkish history an Islamic party won the election with a very high margin and is still in power since then.

3.3 Economical

In spite of the ambitious post-war policies undertaken, the Turkish economy showed sluggish growth. The economic growth is a very important factor for the structural changes for the countries. After the five-year development plan was implemented, Turkey showed a hopeful development for the first five-year development program (1963-1967).

Figure 6. GDP/Capita, Turkey, 1970- 2007, Dollars



Source: OECD[14]

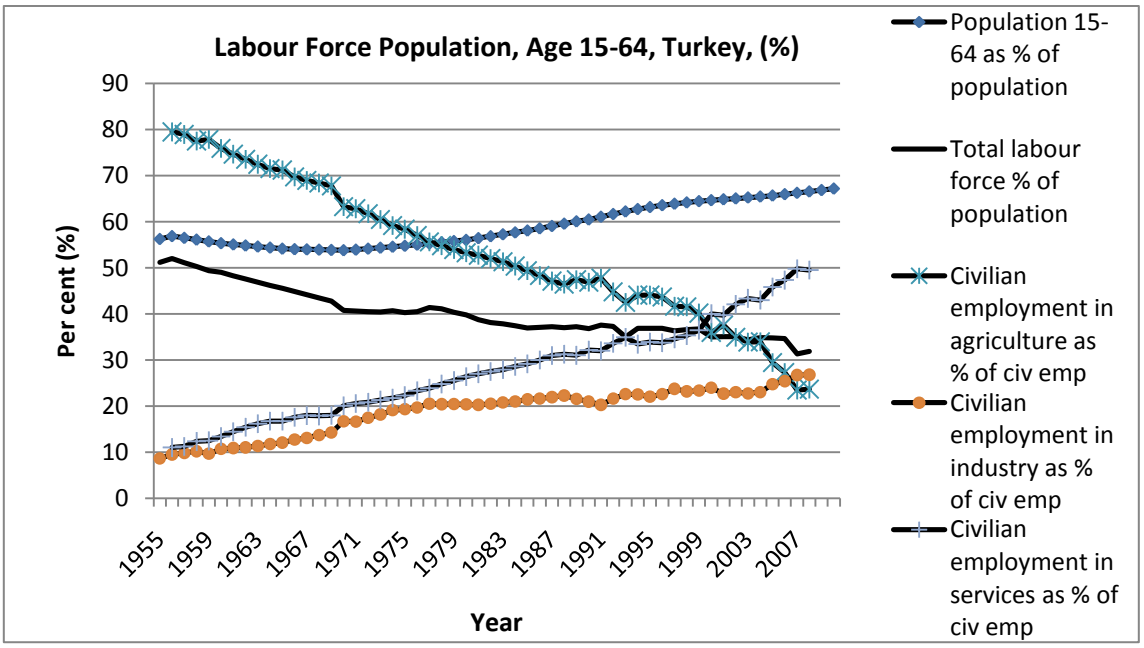
Figure 6 and Table 1 in List of Tables show GDP/capita from 1970 to 2008. GDP growth increased from 6.4 percent for the first 1963-67 period to 7.2 percent in the 1973-77 periods (Cecen, A. A., Doðruel, A. S. & Doðruel, F. 1994, p. 38). Agriculture showed insignificant development whilst the service sector increased better. However, the 1976 oil crises hit the Turkish economy hard and Turkey faced both economic and politic instability for the following years. Yet, during this period

[14] OECD, Country statistical profiles 2008: Turkey

Turkey also experienced an economical transformation in its structure. There was a shift in the sectoral allocation of the labour force, for instance there was a significant decline in the share of agriculture.

The share of agriculture in total output decreased from 38.4 percent in 1962 to 23.3 percent in 1977. In contrast, the industrial sector showed a smaller rise. It is increased from 22.3 percent to 31.5 percent in the same period (Cecen, A. A., Doðruel, A. S. & Doðruel, F. 1994, p. 38). Figure 7 also shows a clear picture of this structural change. As we can see in Figure 7 and Table 2 the total labour force population for those 15-64 years of age increased from 55.0 percent in 1976 to 66.5 percent in 2008. The share of agricultural employment in this population however, decreased from 57.0 percent in 1976 to 23.7 percent in 2008. In contrast, the share of employment in the industry sector increased from 19.7 percent in 1976 to 26.8 percent in 2008. Furthermore, in the service sector a distinct increase - from 23.3 percent to 49.5 percent in the same period - occurred. However there is not a recognizable increase of employment during this period (see Figure 8). Although the non-institutional population increased between 1988 and 2008, the labour force and employment remained steady, whilst unemployment increased some percentage[15].

Figure 7. Labour Force Population, Age 15-64, Turkey, 1955-2010, %

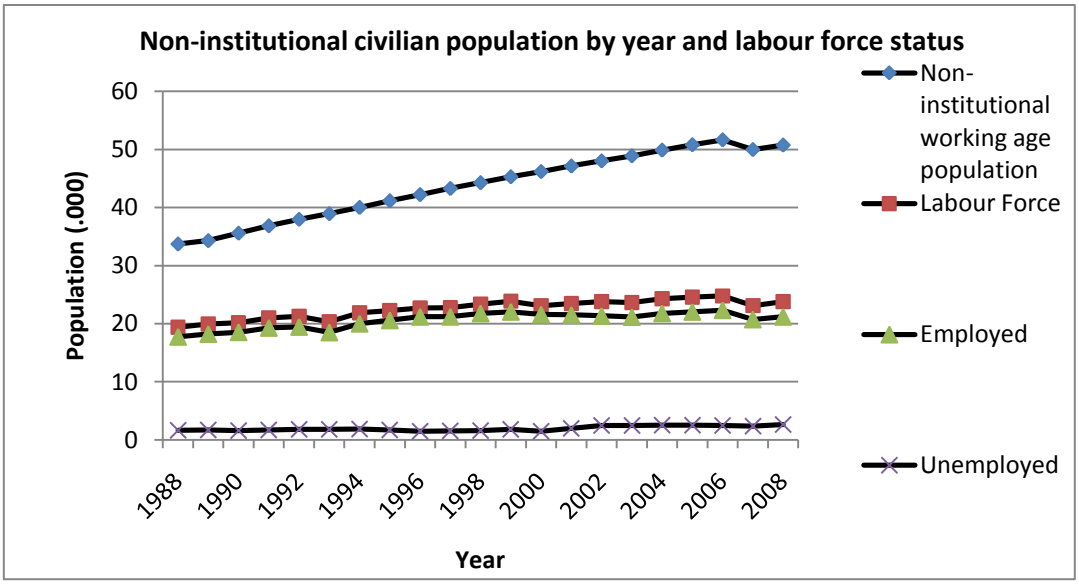


Source: OECD[16]

[15] ***Non-institutional civilian population:*** Comprises all the population, the residents of schools, dormitories, kindergartens, rest homes for elderly persons, special hospitals, military barracks and recreation quarters for officers.

[16] OECD, (ALFS Summary tables). Annual Labour Force Statistics database. http://stats.oecd.org/index.aspx

Figure 8. Non-institutional civilian population by year and labour force status, Turkey, 1988-2008, Thousands.



Source: OECD[17]

Some of the reasons that the labour force share might show a low value is because of the older labour force drops out from the labour market at the age of 55. In my study the labour force will be defined based on the age group between 16 and 65.

It is also underlined in Turkey Labour Market Study (2006) that the structural change and growing working age population caused the high unemployment rate in Turkey. The employment rate is one of the lowest in the world. The 15 EU countries have an average of 65 percent employment rate in 2004 and most of the developed countries have over 50 percent employment rates (Turkey Labour Market Study 2006, pp. 10-12).

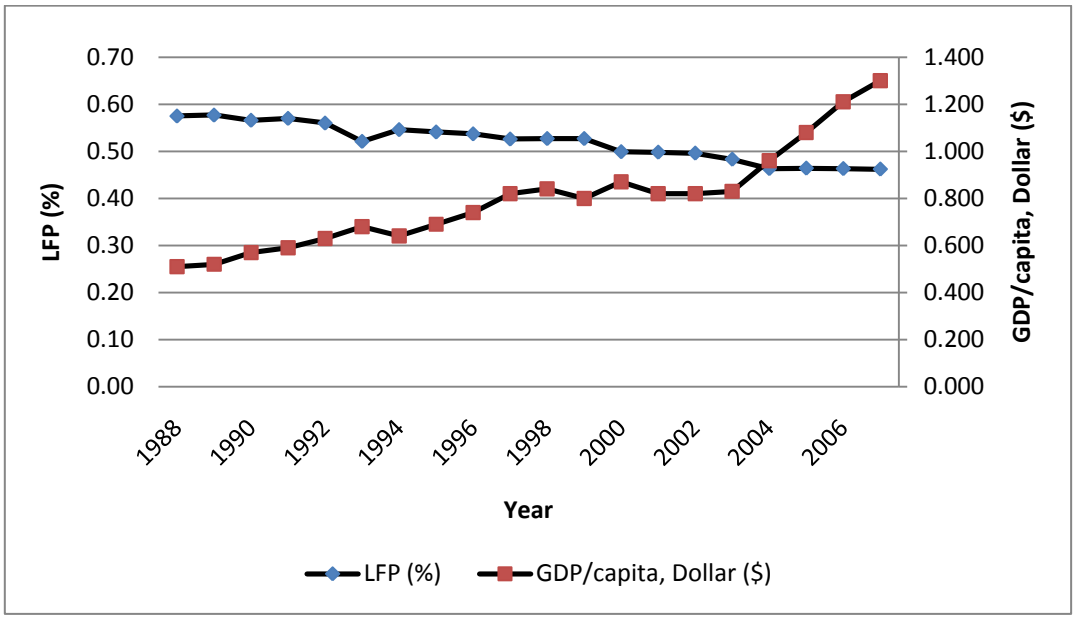
Turkey is ranked as an upper –middle-income country in the OECD list together with Mexico and Poland. GDP/capita shows a smooth increase during the years from 1970 to 2003. After 2003 we can see a rapid increase in GDP/capita. The GDP/capita increased by $ 11747.1 from 1970 to 2007 (see Figure 6 and Table 1). The GDP/capita is about $33.731 in OECD total whilst it is only $13.952 in Turkey in 2008. If we compare this to some other developed countries, this shows an average $20.000 discrepancy, almost the same as the OECD average[18]. For instance at the same period the GDP/capita in Sweden was about $36.789, in Australia it was about $38. 637.

Figure 9 supports the characteristics of the hypothesis discussed in section 2. As we can see in figure 9 and Table 16 in List of Tables, the total labour force participation rate decreased 11.3 percentage

[17] OECD, Reference Series http://stats.oecd.org/index.aspx
[18] OECD, Country statistical profiles 2010, http://stats.oecd.org/Index.aspx?DatasetCode=MIG

points from 1988 to 2008. Meanwhile the GDP/capita increased about $7900. It is possible to argue that, this increasing GDP/capita versus decreasing labour force participation rate during this period might be an indication of down-swing of the u-shape in Turkey. Although the labour force participation rate declines during these years, it does however show a clear slowdown. A` la Tansel (2002, p.2) Turkey may be close to the bottom of the u-shape and might be expected to start to up-swing in the coming decades.

Figure 9. Labour force participation (%), and GDP/capita Dollar ($) US, Turkey, 1988-2008



Source: OECD[19]

3.4 Gender Differences

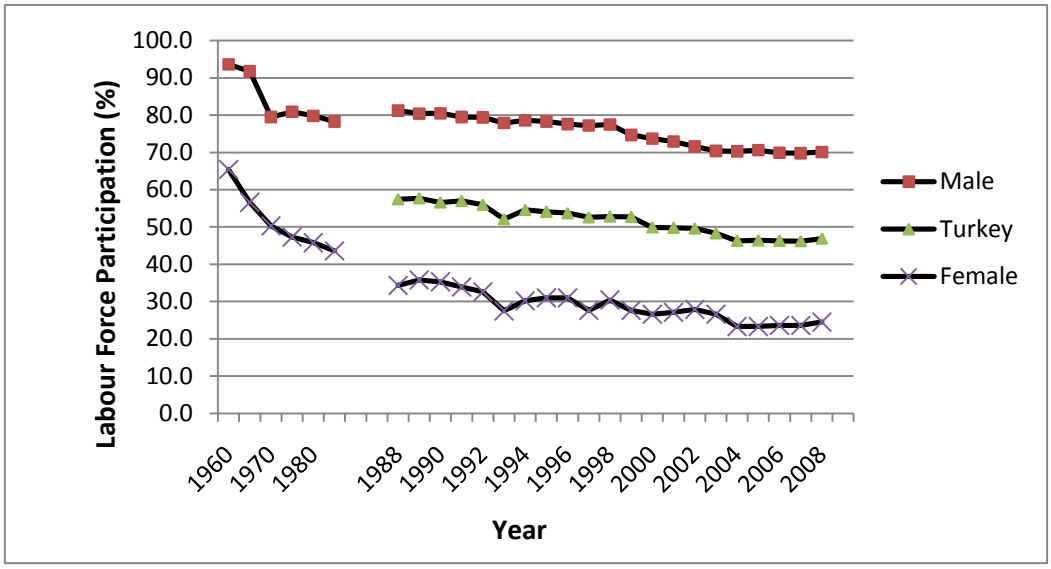
Figure 10 and Table 3 in List of Tables exhibit the labour force participation in Turkey in general and also for both men and women. As we can see in Figure 10 male labour force participation rate was 93.6 percent, female labour force participation rate was 65.4 percent in 1960. Between 1960 and 2008, the female labour force participation rate decreased 40.9 percentage points, and the male labour force participation rate decreased 23.5 percentage points in the same period. Due to the lack of data we can only compare the labour force participation rate differences for Turkey between 1988 and 2008. This declined 10.6 percentage points.

The low rate of decline of the labour force participation rate for men might depend on that, they did find blue-collar jobs. But a high rate of decline of women's labour force participation rate on the other hand will be one of the major questions in this paper to find the answers to. Why are Turkish women still not able to join the labour force to a large extent over time? According to the labour

[19] OECD Factbook 2009, Economic, Environmental and Social Statistics.

market study however (World Bank, 2006), this might be partially because of the urbanization and mechanization in the agricultural sector which caused families to move out of agriculture. It is also possible to claim that men's jobs and earnings in market work caused increased income and therefore an income effect in the family.

Figure 10. Labour Force Participation Rate by Gender, Turkey, 1960-2008 (%)



Source: TURKSTAT[20]

It is also possible that women –probably because of their low skill and education -could have difficulties to find market work and preferred to stay at home. Even though blue-collar jobs might be available, she might not be attracted to this type of job due to cultural value and stigmatism. Thus, she might find herself more productive at home and stay out of market work as hidden unemployed. The market work for women in Turkey - especially for those who emigrated from the rural areas to the urban areas- does not seem to be an alternative at this stage of the development process. It is plausible to argue that only an increase in the education level of women might increase the probability of joining paid market work.

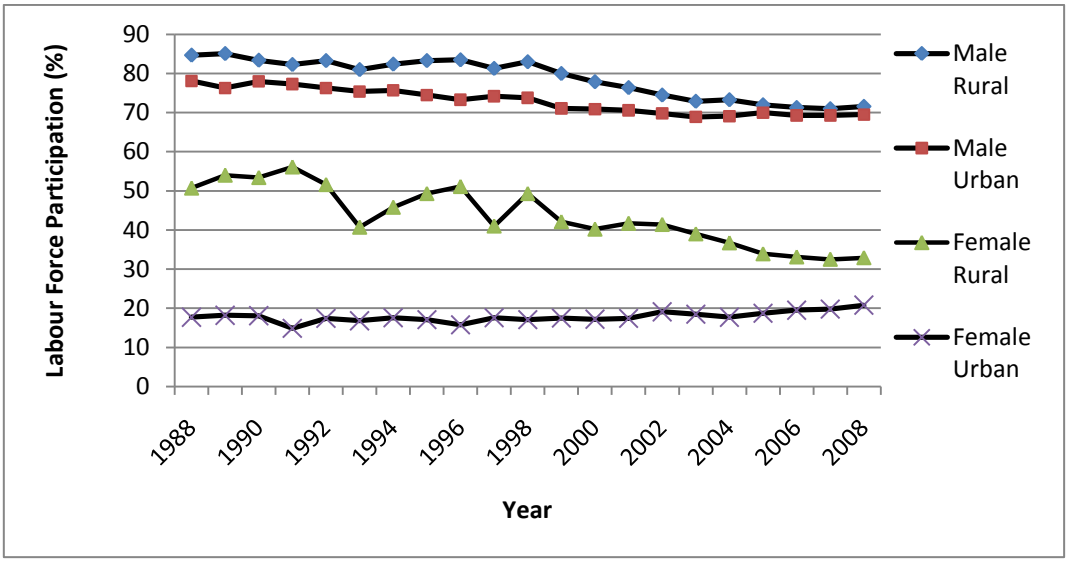
After the year 1988 the statistical work became much more reliable in Turkey. Because of that, we are able to analyze in depth and could have a detailed picture of women's and men's labour force participation behaviour. Furthermore we are able to compare this issue on a regional basis.

We can clearly observe in Figure 11 that the female labour force participation rate in rural areas has declined 17.8 percentage points between 1988 and 2008. In contrast, in the urban areas there is an increase of 3.1 percentage points. Yet, for males, these rates declined 13.1 percentage points and 8.6

[20] TURKSTAT, Household Labor Force Survey Results 1960-2008

percentage points respectively. This high decrease in the rural areas and significantly low increase in the urban areas of female labour force participation rate might be interpreted as the movement from the rural areas to the urban areas and involved intensively house work activities and become hidden unemployed.

Figure 11. Labour Force Participation Urban Rural and Gender 1988-2008 (%)



Source: TURKSTAT[21]

It is important to emphasize that the male labour force participation rate is higher than the female labour force participation rate in both urban and rural areas. Moreover, the female labour force participation rate is 12.1 percent higher and the male labour force participation rate only 2.1 percent higher in rural areas than in urban areas in 2008. As expected, male labour force participation rate is significantly higher than female labour force participation in rural areas.

[21] TURKSTAT Household Labor Force Survey Results 1988-2008

4 Evolution of Female Labour Force Participation in Turkey

4.1 Women's Status Historically

Turkish women have always played an important role in the family, both during the Ottoman Empire and after the Ottoman Empire. They have always been recognized as a major labour force in the housework. It is even stigmatized that men should not do any work at home at all; this is women's work and should be done by women. Men have always been head in the family as a decision maker. A woman always obeys her husband and accepts the decisions that have been taken by him. Even in today's family form, we are still able to see that women are not fully free from her husband's dominant status especially in rural areas. Yet, the economic importance of women is recognized in Turkish society in the past and present. For instance, in the old time –even today in 2010 in rural areas, specially east and south-east regions – when a girl will get married, her parents traditionally demand some funds or assets from the bridegroom (i.e. commonly gold bracelets and necklaces for the bride and maybe some money or cattle for the bride's parents). It is possible to claim that the bride's parents ask this for the loss of labour in the family as a compensation, whilst for the bride these gold bracelets and necklaces can be regarded as the social insurance in case a divorce occurs. We should remember that in the developing countries especially in rural areas women's social security is not as strong as in developed countries- it may not even exist at all- and this is not exceptional for Turkey. So, I suggest that, in a none-bargain situation these assets are actually regarded as the woman's gain out of the marriage. So that the more gold bracelets she gets the higher the threat point she would have. In modern Turkey however, especially in urban areas this tradition has been transformed to a new tradition. In urban areas, couples are used to choose each other freely and live independently from their parents in a modern family form and when they will get married, both parents of the couple are helping them financially to start their new family due to weak financial circumstances. Although this tradition might have its roots in the middle age slavery, I believe however, this is an indication of women's economic importance in an agriculture intensive society.

4.2 Turkey

As mentioned in section three, the new government after three years of independence struggle, had ambitious development policies to achieve its goals in Turkey. This was the beginning of increasing GDP/capita and decreasing labour force participation. The structural change in Turkey had already been started at that time. Immigration from the rural areas to the urban areas started to speed up. As mentioned earlier in section three and in Figure 7, the proportion of employment in agriculture decreased, whilst the proportion of industry and the service sector increased. However, in the period

between 1955 and 1980 the female workers proportion in the industry sector decreased from 12.3 percent to 10.7 percent. This is an indication that the structural change during this period in Turkish economy could not help Turkish women to participate in the industry sector as it is wished (Özer and Biçerli 2003, p.64).

The reasons for the recent declining trend in the labour force rate however, might have several explanations in Turkey. First of all, in 1997 a new law that extended the compulsory schooling from five years to eight years was implemented in Turkey. Due to new enforcement in the education system, the younger populations started to stay in the school longer. Second, the changing economic structure caused the labour force to move from the agricultural to the non-agricultural sectors. As discussed earlier there is a high rate of female labour force participation and a low rate of male labour force participation in rural areas. Furthermore, both female and male labour force participation rates are higher in rural areas than in urban areas. Men are usually engaged in family enterprises and are self-employed in small farms in agriculture while women to a large extent work at home unpaid. Due to mechanization (i.e. more efficient production in agriculture) families tend to migrate to urban areas to seek market work. Men generally are able to find blue-collar jobs while this seems to be unfavorable for women. This is due to stigmatism and cultural and social values regarding their participation in market work. Furthermore, due to lack of market work experience and education, women find themselves out of the labour force and become intensively active in household work so that, they are generally regarded as the "hidden unemployed" (Tansel, 2002, pp. 4-5).

Finally, an early retirement scheme was introduced at the beginning of the 1980s. According to the new institutional adjustment, women were able to retire after 20 years in service or at the age of 50 and men after 25 years in service or at the age of 55. This led to a lower labour force participation of the middle-age to over middle-aged groups.

5 Determinant Factors of Female Labour Supply in Turkey

In this section we will discuss extensively the most important factors that might influence the female labour force participation rate in Turkey. This section will cover empirical studies based on the theoretical framework discussed in section 2. There are a number of factors that directly or indirectly affect the Female labour force participation in Turkey.

First of all we will make a comparison of the fertility rate between developed and developing countries. This will help us to understand how the fertility rate is an important factor for the female labour supply in developing countries. Women tend to have more children at the first stages of development. It is partially because of the high infant mortality and also because the family needs the labour force in agriculture. In urban areas however where the market works dominate, the existence of children, number of children and their age in the family might impact negatively on the female labour force participation rate, especially child care and social security are not established properly. We will then go further to analyze the fertility rate in Turkey on a general and on regional basis. As we have discussed in section 2, the existence of children in the family and their age, also affects the marginal productivity of women at home and reservation wage, therefore women's decision whether to work or not.

In addition we will analyze the female education attainments in Turkey. Education is the key factor for women that affect labour force participation positively, especially in urban areas. The more the women are educated, the higher probability they will have to join the labour force. Education also positively affects the up-swing of the u-shape hypothesis. The other important factor is to analyze the female labour force participation in different age groups. This will give us a better picture of Turkish women's characteristics in terms of their fertility, education and marital status. It is also important to make a comparison with male in order to understand which age group and in which region of the female labour force participation rates are different from male.

Finally, the marital status in Turkey and in the regions will be analyzed. Married women tend to have a low rate of labour force participation especially in the presence of the small children. This is because women engage with rearing and bearing of children. For the Turkish case, the low rate labour force participation for married women might have different reasons. This might be specialization in family, it might be the income effect due to the husband's market work, and it might also be social and cultural values and stigmatism in the society.

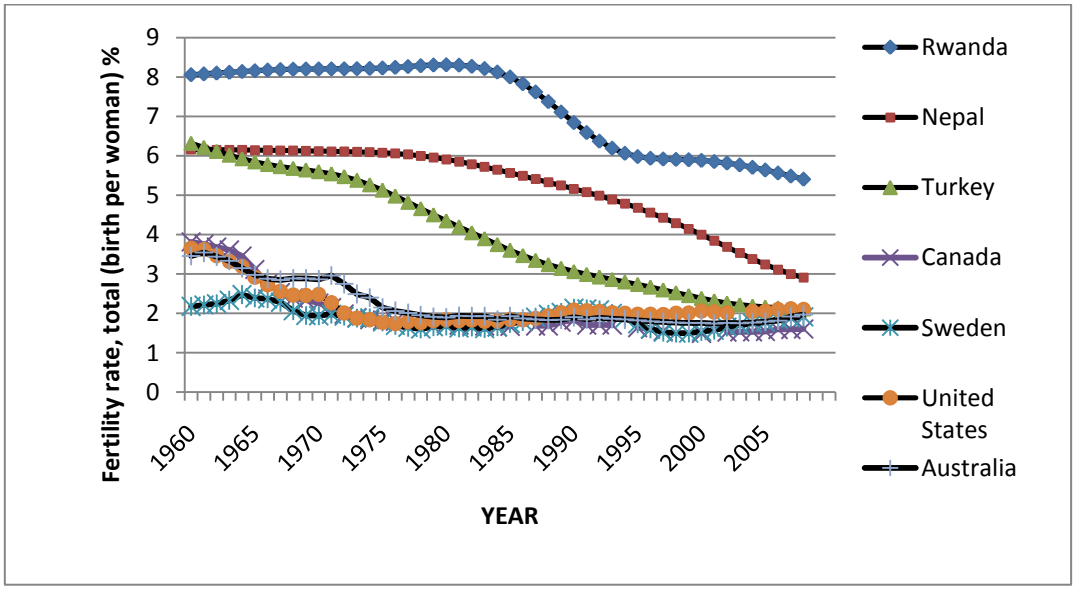
When the female labour force status is analyzed closely, it is possible to see that most of the women are in the non-paid family labour force in Turkey. The non-paid family workers appear to be widely

common in rural areas whilst in urban areas they seem to be few and believed to be decreasing. This indicates significant differences between urban and rural areas when it comes to the female labour force participation. Consequently, women in agriculture-intensive rural areas join the labour force quite extensively, yet in urban areas they do not seem to be successful at participating in paid market work to a large extent. Non-paid female employment in total female labour force participation is at an average of 80 percent in rural and 11 percent in urban areas (Özer and Biçerli 2003, pp.65-66).

5.1 Fertility

At the beginning of the development process fertility appears to be very high in developing countries.

Figure 12. Total Fertility rate, (birth per woman) %



Source: The World Bank[22]

There are several reasons for this. High infant mortality, demand for children in the agricultural work and cultural and social values are some of them. However, the fertility rate shows a decreasing trend in almost every developing country.

Figure 12 (See also Table 19 in List of Tables) shows the trend of fertility in Turkey, in four developed countries (Australia, Canada, Sweden and Unites States) and in two less developed countries (Rwanda and Nepal) between 1960 and 2008. As we can see, while developing countries including Turkey have different patterns of decline of their fertility rate during the development process, the developed countries have a stable trend during the last 38 years.

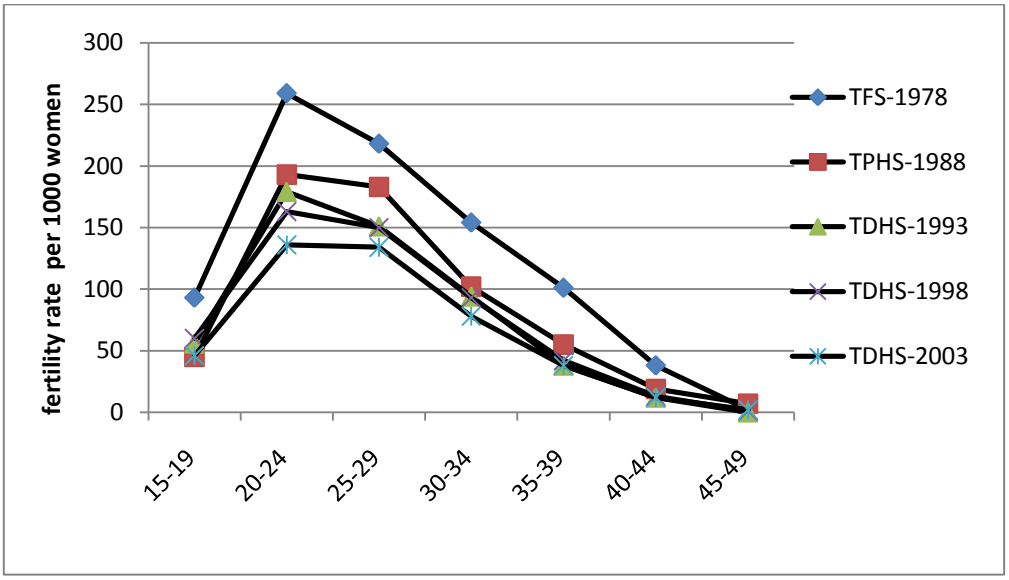
[22] The World Bank http://data.worldbank.org/indicator/SP.DYN.TFRT.IN/countries/latest?display=default

5.1.1 Turkey

In 2003 Turkey Demographic and Health Survey (TDHS) has been carried out about the age specific fertility in Turkey. The age specific fertility rates are presented for all women regardless of marital status. They exclude women older than 50 years of age. In the report they show age specific fertility rates (per 1,000 women) and Total Fertility Rate (TFR) in Turkey. They have structured their model by collecting different kinds of individual level data (i.e. the 1978 Turkey Fertility Survey (TFS-1978), the 1988 Turkey Population and Health Survey (TPHS-1988), and the 1993 to 2003 Turkey Demographic and Health Surveys (TDHS- 1993-2003)).

In Figure 13, we can see in detail the fertility in different surveys carried out in different years. The highest fertility was found with TFS in Turkey in 1978. It is over 250 children per 1000 women at age between 20 and 24. As we can observe in Figure 13 that the highest fertility age group lies between 20 and 29 years of age in every survey. We can also emphasize that the fertility rate decreased constantly and the highest decline occurred between the 1970s and 1980s (TDHS 2003, pp.45-51).

Figure 13. Trends in Fertility with Different Surveys, Turkey, Fertility per 1000 Women.



Source: TDHS 2003[23]

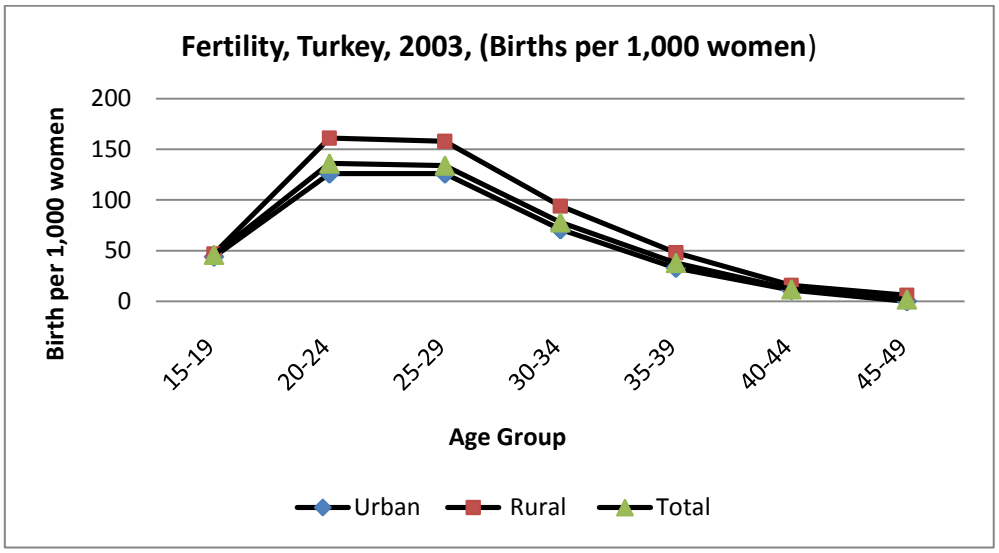
Another observation can be made on the age group 15-24. There is a sharp increase between 15-19 age groups and 20-24 age groups at the TFS-1978 survey. However this is declined dramatically in the TDHS-2003 survey. It is possible that the 1997 school reform forced the girls to stay longer in primary education and that might have postponed the early fertility trend.

[23] Turkey Demographic and Health Survey 2003

5.1.2 Urban and Rural

When we look at the regions we can see significant differences between them as expected. At every age group rural women bear more children than urban women. Figure 14 (See also Table 20 in List of Tables) show that, the fertility rate increases sharply at age between group 15-19 and 20-24 in rural areas, whilst in urban areas this shows less increase. In both urban and rural areas women are more fertile at ages between 20 and 29. TFR is 2.65 births per woman in rural areas whilst it decreases to 2.06 births per women in urban areas (TDHS 2003, pp.45-51). According to the TDHS (2003), there seems to be evidence that the urban-rural gap in fertility is disappearing in Turkey.

Figure 14. Age-specific Fertility Rates by Urban-Rural Residence (Births per 1,000 women)



Source: TDHS 2003[24]

The low fertility rate in urban areas might be explained by the educational attainment. It is plausible that education is negatively correlated with the fertility rate. In other words, the proportion of women who do not want any more children increases as education increases (TDHS 2003, p. 100). In the next section we will have a look at the educational attainment between 1988 and 2008 both for rural and urban areas. It will help us to grasp better the correlation between female labour force participation, fertility and education.

5.2 Educational Attainment and Female Labour Force Participation

In the previous section we have analyzed the fertility rate in Turkey. As we have seen the fertility rate is higher in rural than in urban areas. The general results gave us an intuition that educational attainment might be one of the explanations why the fertility is lower in urban areas. Education is an important factor contributing to the national income, and also to the economic and social system. In this context the education level of women affects the female labour force participation rate to a

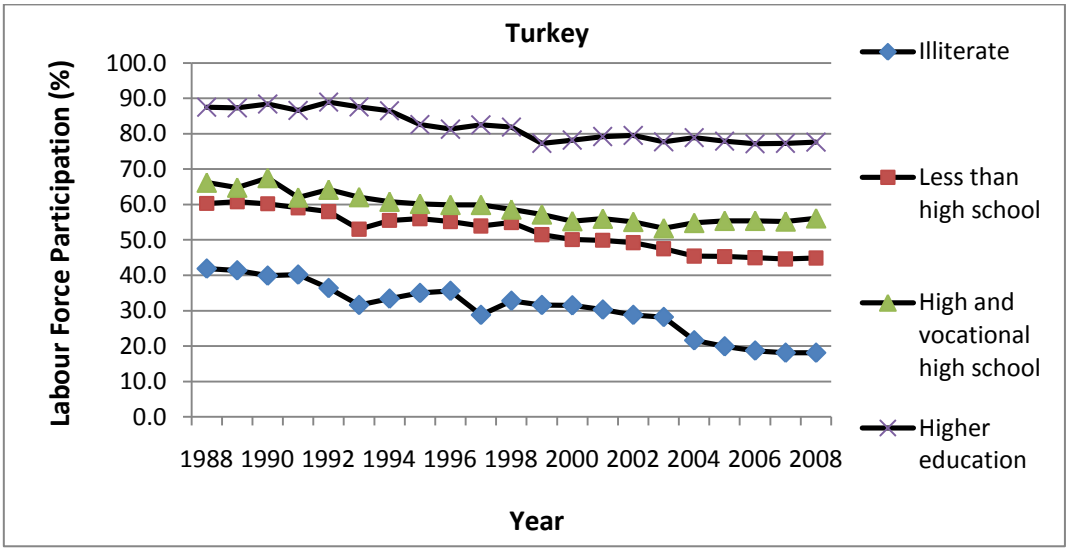
[24] Turkey Demographic and Health Survey 2003

great extent. In general, we can say that the education level in Turkey is still below the OECD and EU average. In the next section we will analyze the relation between the educational attainment and labour force participation rate in Turkey closely.

5.2.1 Turkey

In Figure 15 (See also Table 5 in List of Tables) we can get an overall view or the labour force participation in Turkey by educational attainment between 1988 and 2008. The educational level has been divided into four levels. They are; illiterate, less than high school, high school and higher education. As we can see from Figure 15 the big impact on labour force participation rate is on the illiterate level. This rate is 41.9 percent in 1988, whilst the labour force participation rate for those with higher education is 87.5 percent in 1988. The labour force participation rate shows a declining trend for all levels of educational attainment. The decrease for those with a higher education level is 9.9 percentage points, for the illiterate however the decrease is 23.8 percentage points between 1988 and 2008.

Figure 15. Labour Force Participation Rate by Educational Attainment, Turkey 1988-2008 (%)



Source: TURKSTAT[25]

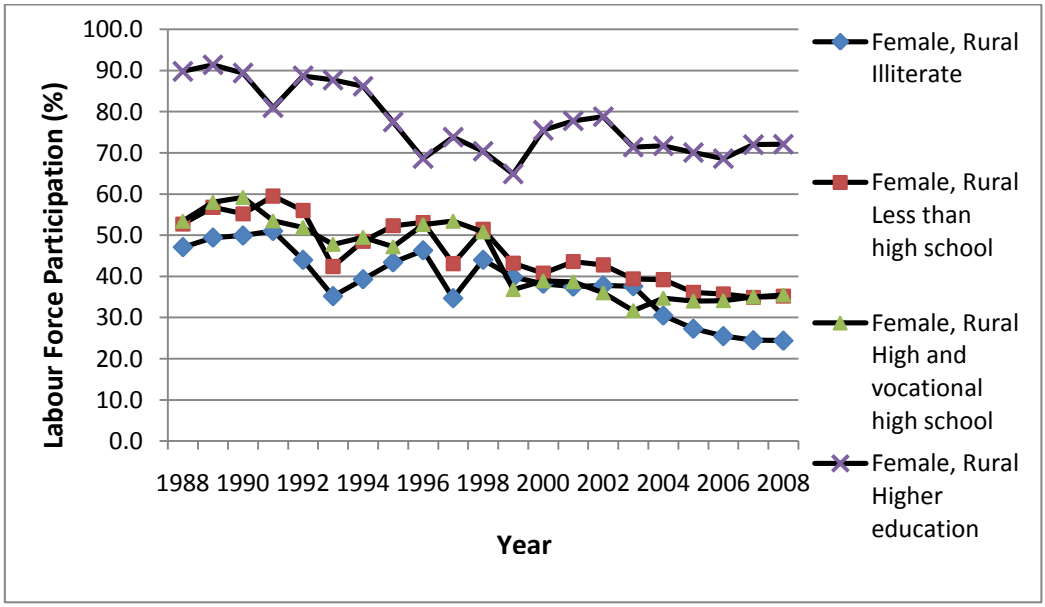
Figure 15 also demonstrates that, the level and evolution of the labour force participation rate is about the same for those with less than high school and high school level education in Turkey. Yet, the rate is higher than for the illiterate. Overall, Figure 15 clearly demonstrates that at the lowest education level, the labour force participation rate is the lowest and that the labour force participation rate increases as the education level increases.

[25] TURKSTAT Household Labor Force Survey Results 1988-2008

5.2.2 Urban and Rural

In this section we will have a look the female labour force participation rate by educational attainment in urban and rural areas. We will not pay so much attention to the male labour force participation as our major concern is to investigate the female labour force participation in this thesis. The rural data shows dramatic fluctuations especially between 1993 and 1999. Although some adjustments have been made by TURKSTAT regarding the data-for instance, the annual results for 2004 were revised by the new population projections depending on the Adress Based Population Registration System- this might depend on simply modeling technique. There is no information on whether this might depend on a statistical definition change or any other unknown factors.

Figure 16. Female Labour Force Participation Rates by Educational Attainment, Rural (%)



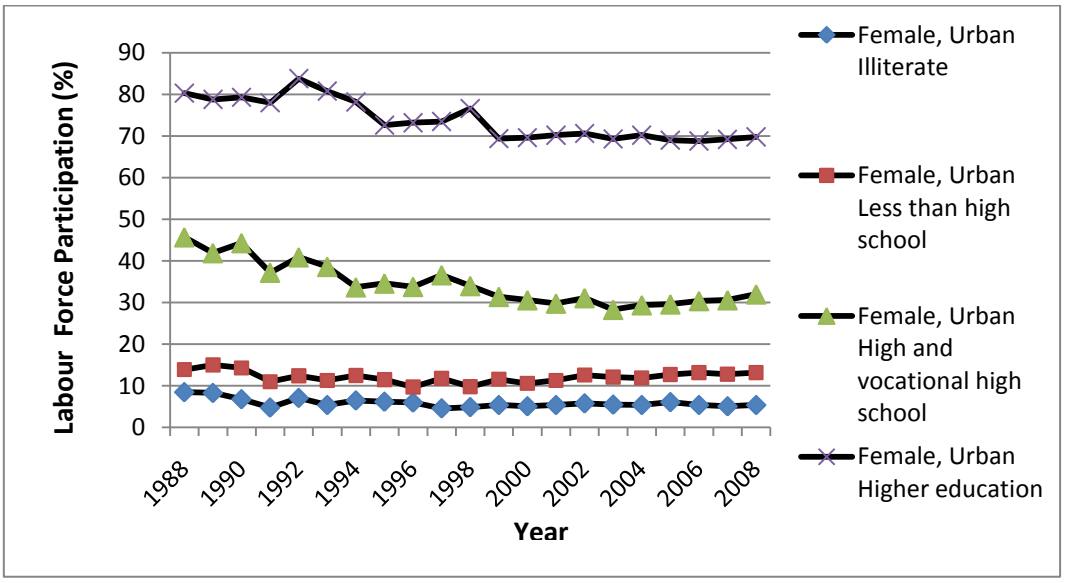
Source: TURKSTAT[26]

Figure 16 (See also Table 6 in List of Tables) shows the female labour force participation rate by educational attainment in rural areas. As expected the higher educated women have the highest labour force participation rate in rural areas. In addition, and not surprisingly, the women who are illiterate have the lowest labour force participation rate. The interesting thing here is however, that the high school and vocational high school educated women. Their rates are almost at the same level as for the illiterate women. The average labour force participation in 1988 for those with three education levels -except higher education- is 51 percent in rural areas. We can conclude that high school and less than high school level education do not seem to have as big an impact as higher education in rural areas during the selected time interval. The possible explanation for this might be, that a majority of women are unpaid family workers in rural areas. It is crucial to note that the

[26] TURKSTAT Household Labor Force Survey Results 1988-2008

female labour force participation has a declining trend between the years 1988 and 2008. The declining trend does however slow down after around the year 2003.

Figure 17: Female Labour Force Participation Rates by Educational Attainment, Urban (%)



Source: TURKSTAT[27]

Figure 16-17 (See also Table 6-7 in List of Tables) give an idea about the differences in female labour force participation between urban and rural areas. In figure 16, we have seen that three of the education levels seem to have more or less the same female labour force participation rates. In urban areas on the other hand, we can see that having high and vocational high school makes much more of a difference than in rural areas. Illiterate and less than high school educated women still have low labour force participation. It is an average of 11.2 percent in 1988 and 9.3 percent in 2008. This is an indication that in the urban areas, education has significant impact on female labour force participation.

Figure 17 (See also Table 7 in List of Tables) shows that women with higher education have 80.3 percent labour force participation rates in urban areas whilst the rate is only 8.5 percent for the illiterate women in 1988. This is 89.8 percent and 47.1 percent respectively in rural areas in the same period. In 2008 however, the female labour force participation rate for illiterate women is 24.4 percent in rural areas; yet, the rate is 5.4 percent in urban areas. It is 72.1 percent and 69.8 percent respectively for the women with higher education. This huge difference between regions is one of the important points that we want to show in this paper. This result might support the hypothesis that we have stated earlier; that industrialization makes agriculture efficient and women might immigrate to the urban areas. Because of their lack of education and market work experiences they

[27] TURKSTAT Household Labor Force Survey Results 1988-2008

might find themselves out of market work. They probably stay at home and work intensively in household activities without payment and remain as a hidden unemployment.

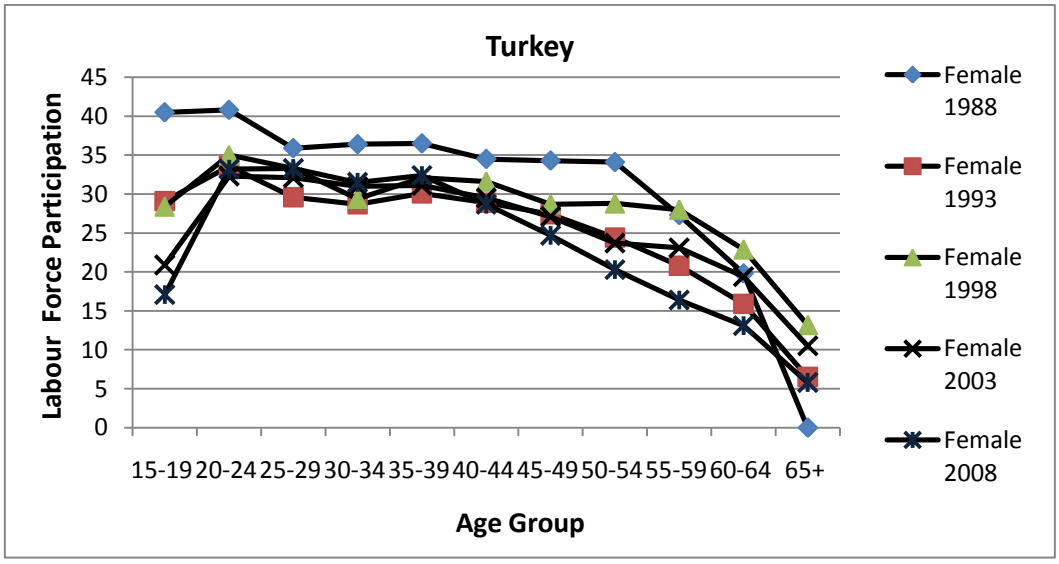
5.3 Age Group and Female Labour Force Participation

In this section we will try to find out how age groups impact the Female labour force participation rate in Turkey. Here we will also look at men in order to compare the women and see the difference in different regions.

5.3.1 Turkey

Figure 18 (See also Table 8 in List of Tables) shows the female labour force participation rate in different age groups. In 1988 the female labour force participation rate is high at ages between 15 and 24. In 2008 however, the labour force participation rate for this age group is significantly lower. It is 17.1 percent at ages between 15 and 19 whilst in 1988 it was 40.5 percent. At about after the age of 24 there is a dramatic decline, thereafter a smooth decrease follows. This significant difference in the last 20 years might depend on the reform of the education system (Tansel 2002, p.6). Girls are staying at school longer and they are keen to educate themselves more than before.

Figure 18: Labour Force Participation by Age group, Female, Turkey (%)



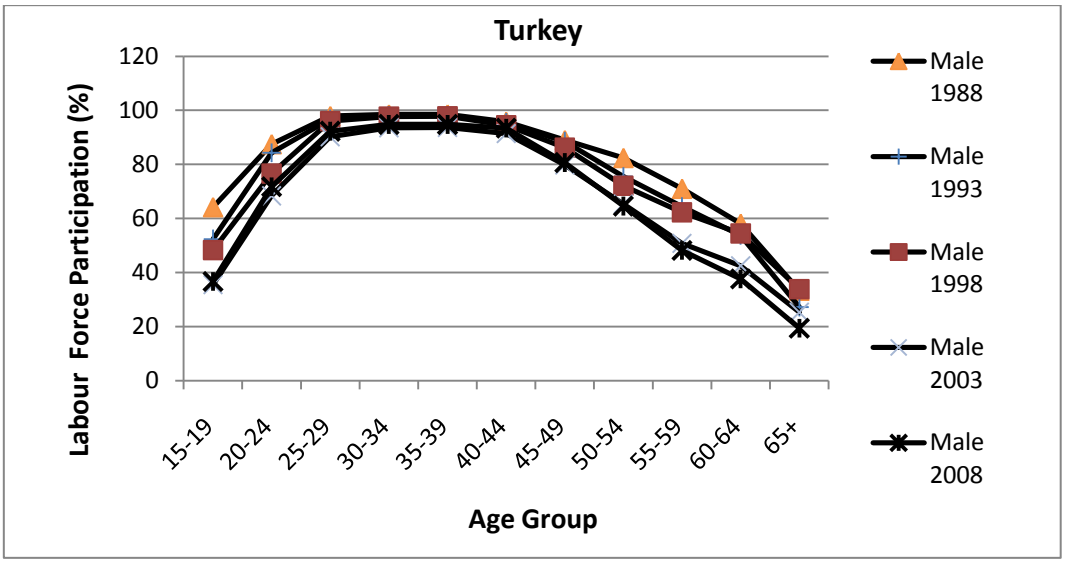
Source: TURKSTAT[28]

At the ages between 19 and about 35 we see a fluctuation up and down when it comes to the female labour force participation rate in Turkey. This probably depends on the family building and also fertility might affect this up and down fluctuation. Recall the fertility analyses in the previous section that women in Turkey are more fertile at age between 20 and 29. Women probably stay

[28] TURKSTAT Household Labor Force Survey Results 1988-2008

away from labour market when they have small children and as the children grow they might return to the market again. It is also arguable that the structural change during the last 20 years might have affected this result, as discussed earlier.

Figure 19: Labour Force Participation by Age group, Male, Turkey (%)



Source: TURKSTAT[29]

In Figure 19 (See also Table 9 in List of Tables) we can see the male labour force participation rate in Turkey between the years 1988 and 2008. In contrast to the female rate, the male labour force participation rate for different age groups shows a homorganic picture during the selected years.

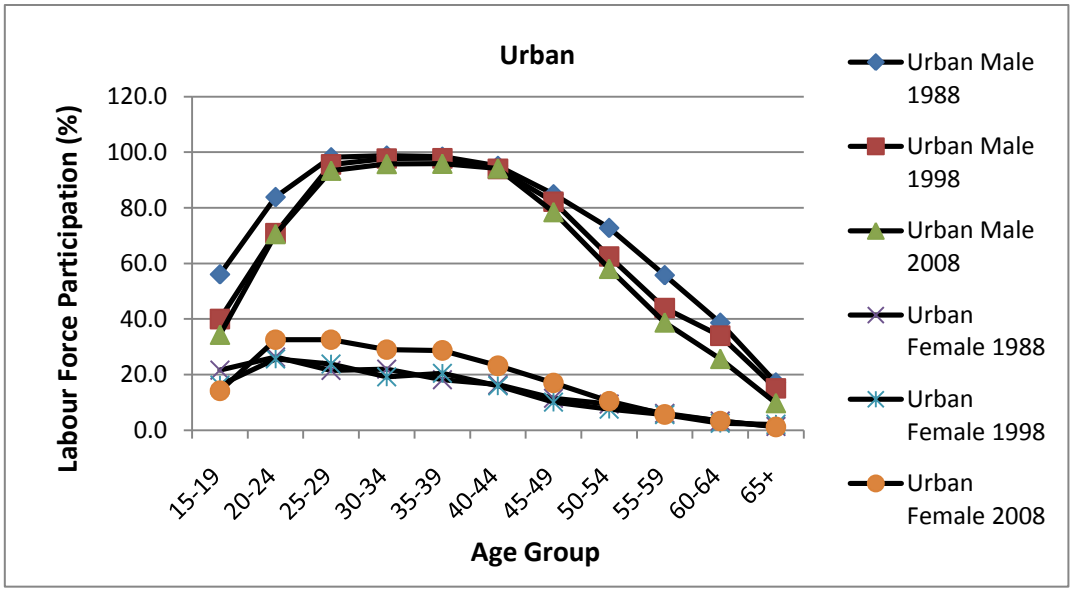
Males have the highest labour force participation rate at the age between about 25 and 44 and thereafter it declines smoothly. The average labour force participation rate at the age between 25 and 44 is 95.9 percent within the selected years. When we compare this to the female rate, the result shows 31.8 percent in the same period and at the same age interval.

5.3.2 Urban and Rural

We will now look at the regional differences when it comes to the labour force participation rate. Again we would like to show the gender differences so that the analyses would make much more sense in terms of the developing process.

[29] TURKSTAT Household Labor Force Survey Results 1988-2008

Figure 20. Labour Force Participation Rate by Age group and Gender, Urban (%)

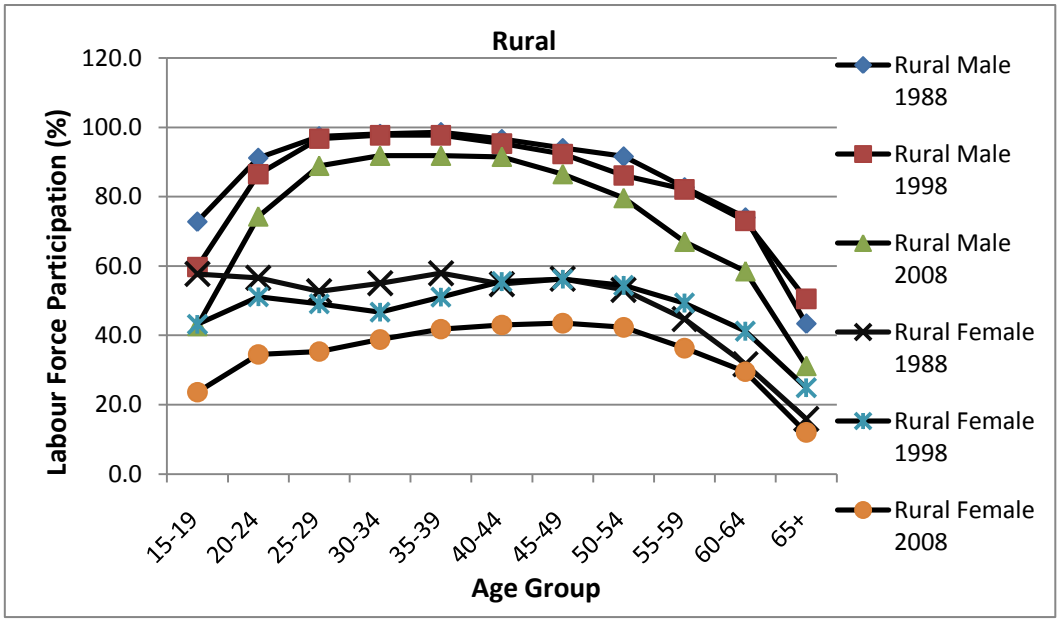


Source: TURKSTAT[30]

Figure 20 (See also Table 10 in List of Tables) gives an idea about the male and female labour force participation rate in urban areas. The male labour force participation rate looks more or less like the overall Turkey results. The female labour force participation rate however is lower than the overall Turkey rate. The average Female labour force participation at the ages between 20 and 29 in urban areas is 27 percent within the selected years. In contrast, the corresponding male labour force participation rate is 85.4 percent. There is a huge difference between the male and the female labour force participation rate in urban areas between 1988 and 2008. In 2008 we can see a slightly different picture when it comes to the female labour force participation rate in urban areas. It is increasing between age 15 and around 20; at ages between around 24 and 39 it shows a fluctuation and then declines smoothly. Family structure and fertility could be one of the reasons, but the influences of these factors seem to be quite low compared to in rural areas. Yet, it is wide open to discussion whether this might be a characteristic result of the u-shape hypothesis; that females immigrate to the urban areas and become in unemployed due to lack of education and experiences, It may be much more plausible that a specialization in the household has big impact for this significant differences in labour force participation rate between the regions in Turkey.

[30] TURKSTAT Household Labor Force Survey Results 1988-2008

Figure 21: Labour Force Participation Rate by Age group and Gender, Rural (%)



Source: TURKSTAT[31]

What does this look like in rural areas? If we look at Figure 21 (See also Table 11 in List of Tables) we can see a totally different picture. The male labour force participation rate is also higher than the female labour force participation rate in rural areas; yet, the female labour force participation rate is higher than in urban areas.

The age interval of the highest labour force participation rate is between 25 and 44 in urban areas. However, in rural areas this interval stretches to the age of 49. It might be because in rural areas agriculture dominates and all family members are more likely to participate in productive activities. It is believable that due to the agriculture-intensive society, females are unpaid workers in family farms in the rural areas to a great extent[32]. In urban areas however, the specialization in the family might be seen as men are working in the market work while women are doing household activities to a greater extent in the family (Turkey Labour Market Study 2006, p. 10).

Figure 21 (See also Table 11 in List of Tables) shows that the highest male labour force participation rate is at the ages between about 25 years of age and 50 years of age. The rate is on average 95.1 percent between 1988 and 2008. However, at the ages between 15 and 19 the participation rate is low and there is an increasing trend until age 24 for both males and females. Especially in 2008, the female labour force participation rate is 23.6 percent at age between 15 and 19. In 1988 it was 57.7. There is a significant decline from the year 1988 to 2008. There is also a mild decline of the male

[31] TURKSTAT Household Labor Force Survey Results 1988-2008
[32] Turkish data count unpaid family workers as employed.

labour force participation rate in the last 20 years. We have observed that in both regions, but particularly in urban areas, our data showed a lower male participation rate at age between at the ages 15 and 24. This might be explained by both educational attainment and compulsory military service (Turkey Labour Market Study 2006, p. 12).

In the next section we will analyze the female labour force participation in Turkey by marital status. This section finally gives us the picture of how women's family status might affect their labour force participation.

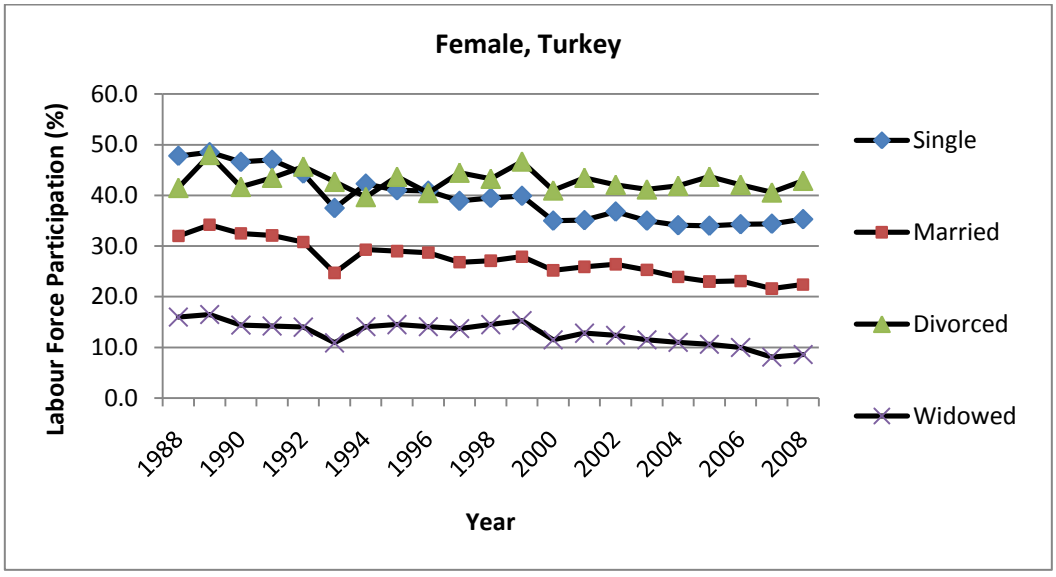
5.4 Marital Status and Female Labour Force Participation

Another important factor which affects the Turkish women's behaviour in the labour market is their marital status. In Turkish culture the family is an important institution, and in this institution women play a great role. In this section we will have a look at this important factor in detail.

5.4.1 Turkey

In the next two figures we have broken down the labour force participation in Turkey for female and male by the marital status. Figure 22 shows the female labour force participation rates by marital status in Turkey and Figure 23 shows the male labour force participation rates by marital status in Turkey.

Figure 22. Labour Force Participation Rates by Marital Status Female, Turkey (%)

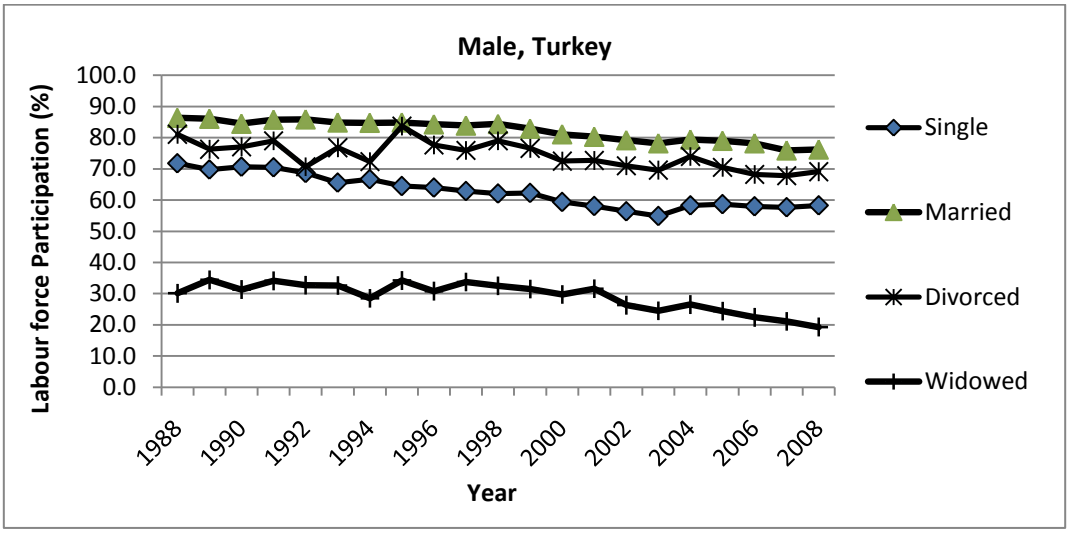


Source: TURKSTAT[33]

[33] TURKSTAT Household Labor Force Survey Results 1988-2008

Figure 22 shows that the highest labour force participation rate is for single and divorced Turkish women. This might not be surprising at all as we remember the role of Turkish women in the family that we have explained earlier in this paper. As expected thus, married Turkish women have lower participation in the labour market. According to Tansel (2001), the low participation rate of widowed women most likely depends on the age factor.

Figure 23. Labour Force Participation by Marital Status Male, Turkey (%)



Source: TURKSTAT[34]

In Figure 23 we can see the male labour force participation by marital status in Turkey. Contrary to women, married men have the highest labour force participation rate in Turkey. Then divorced men follow. As expected, single and widowed men have the lowest participation.

The result of the lowest labour force participation rate for married women and the highest labour force participation rate for married men in Turkey is another important point that we want to underline in this paper. Although this finding clearly shows a significant gap between men and women for Turkey as a developing country, this issue also concerns many developed countries as well. We found earlier in this paper that Turkish women especially at the age between 19 and 24 are more fertile. Bearing and rearing children, poor child care and poor part time work opportunities and also devoting themselves in house work might be some of the reasonable explanations to the differences in labour force participation rate between men and women according to their marital status.

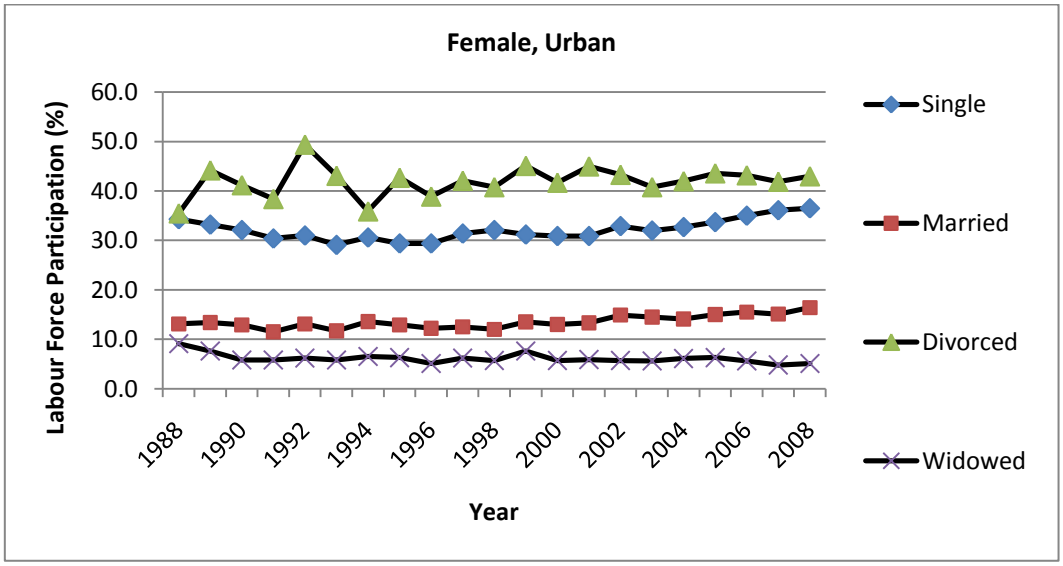
In the next section we will investigate the urban and rural areas closely. This will give us valuable information in order to understand the female labour supply in developing countries.

[34] TURKSTAT Household Labor Force Survey Results 1988-2008

5.4.2 Urban and Rural

In Figure 24 we can see the female labour force participation rate in urban areas by marital status. Interestingly, divorced women show the highest labour force participation and single women follows after and not surprisingly, married Turkish women have a quite low labour force participation rate. And again the lowest participation rate can be seen for widowed women. In rural areas however, the female labour force participation rates for single, married and divorced women are at about the same and relatively a high rate as expected. Yet, as can be seen on Table 15 in List of Tables, the rate was an average of 54.7 percent in 1988; it was around on average 35 percent for single and married women in urban areas in the same period.

Figure 24. Labour Force Participation by Marital Status Female, Urban (%)

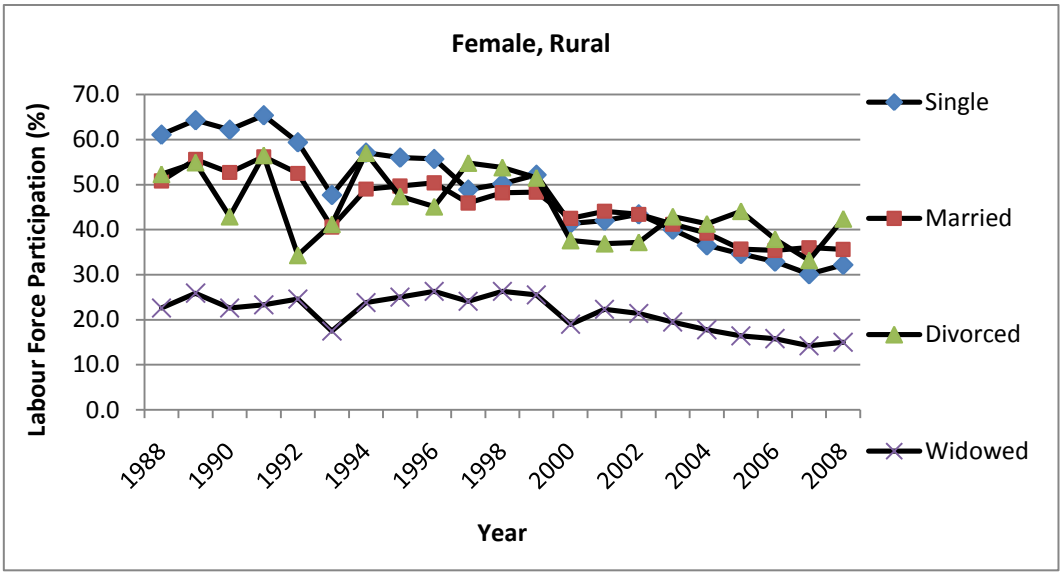


Source: TURKSTAT[35]

In Figure 25, the female labour force participation rate for single, married and divorced women have more or less similar pattern. In addition a very low rate on the widowed women observed. This is again an indication that women participate the labour force in rural areas to a great extent in agriculture regardless their marital status. The low rate on widowed women can be explained with age factor. It important to emphasize that those single women's participation rates declines yet, married and divorced women rates increases at the end of selected data. This might indicate that married women has significant disadvantage in the labour market compared to other marital status. This might be explained by poor child care, unavailability of part-time jobs and also women status in the Turkish society.

[35] TURKSTAT Household Labor Force Survey Results 1988-2008

Figure 25. Labour Force Participation by Marital Status Female, Rural (%)



Source: TURKSTAT[36]

Again the most reasonable explanation for these results can be summarized by the following citation from Turkey Labour Market Study 2006, p. 10.

"In rural areas, where agriculture dominates and home and work environments overlap to a greater extent, all family members are more likely to participate in productive activities. By contrast, urban households tend to be more specialized; men earn an income while women are homemakers. Greater access to education in urban areas lowers participation in younger age ranges. Lower female participation rates in the urban setting reflect social custom whereby married women are expected to devote themselves to child rearing. Interestingly, young, unmarried women with greater financial need and less onerous family responsibilities are three times more likely than married women to be in the labor force".

[36] TURKSTAT Household Labor Force Survey Results 1988-2008

6 Comparison with Other European Countries

In this section we will make a short comparison with a couple of European countries which might be considered to have similar characteristics in terms of region and background. I would like to compare only some aspects of Greece and Italy as an example and see how their developments for female labour force participation look like over time.

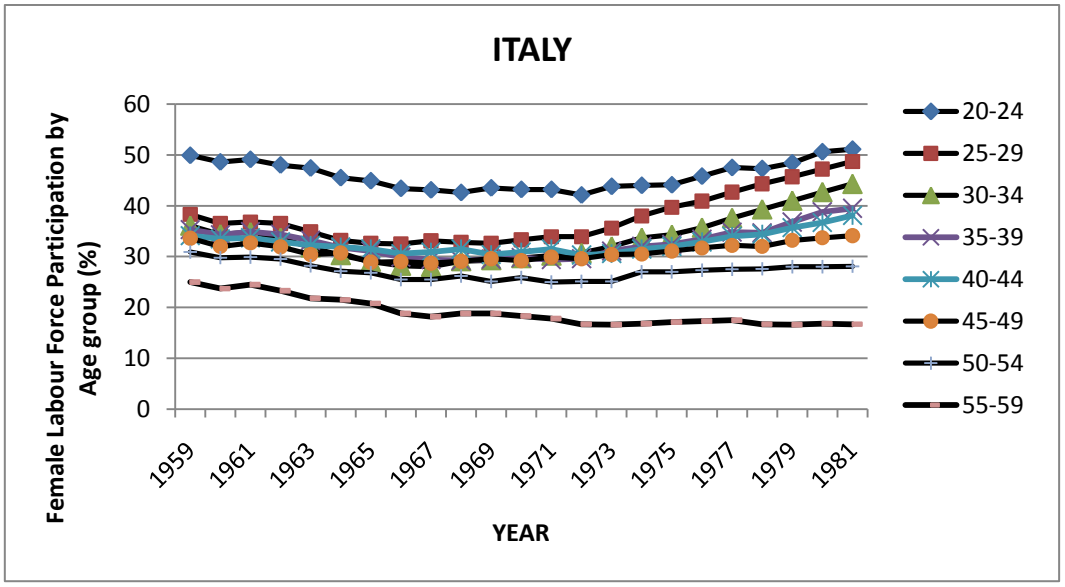
In Figure 26 we can see the evolution of Italian women's labour force participation rate by age group between 1959 and 1981 and compare it to that of Turkish women in figure 27[37]. In the Italian case we can see that there is a declining trend from 1959 until around 1965, thereafter there is a significant slowdown and a start to upturn after about year 1971. The highest labor force participation rate can be seen for the age group 20-24. At the ages between 25 and 49 Italian women have more or less stable labour force participation rates. In addition, not surprisingly maybe, the lowest labour force participation can be observed for the age group 55-59.

In the Turkish case however, we can observe an instable negative trend with high fluctuations of the female labour force participation rates between 1988 and 2008. However, after 2007 there seems to be an increasing trend started. Due to the short time of the period, it is too early to conclude whether this is a beginning of an up-swing or not. What we can see with this comparison however, is that the female labour force participation rate has almost the same level in Italy and Turkey in 1959 and 1988 respectively. In other words, Italy reached its bottom in around 1968 whilst this appears to be in 1988 in Turkey. There is about 20 year's difference to converge between Turkey and Italy.

The highest fertility age group in Italy is 25 -29 and the number of children under 6 years of age per married women at age group 20-59 is 0.49 percent in 1961, 0.51 percent in 1971 and 0.33 percent in 1979. That is why it is not surprising that the labour force participation rate for the ages between 25 and 49 shows a low level. We have observed based on TFS 1978 that the highest fertility rate in Turkey is between 20 and 24 years of age. The rate is 259 children per thousand women in Turkey while, 111.7 children per thousand women in Italy in 1978 (Colombino, U. and De Stavola, B.,1985, p. S279).

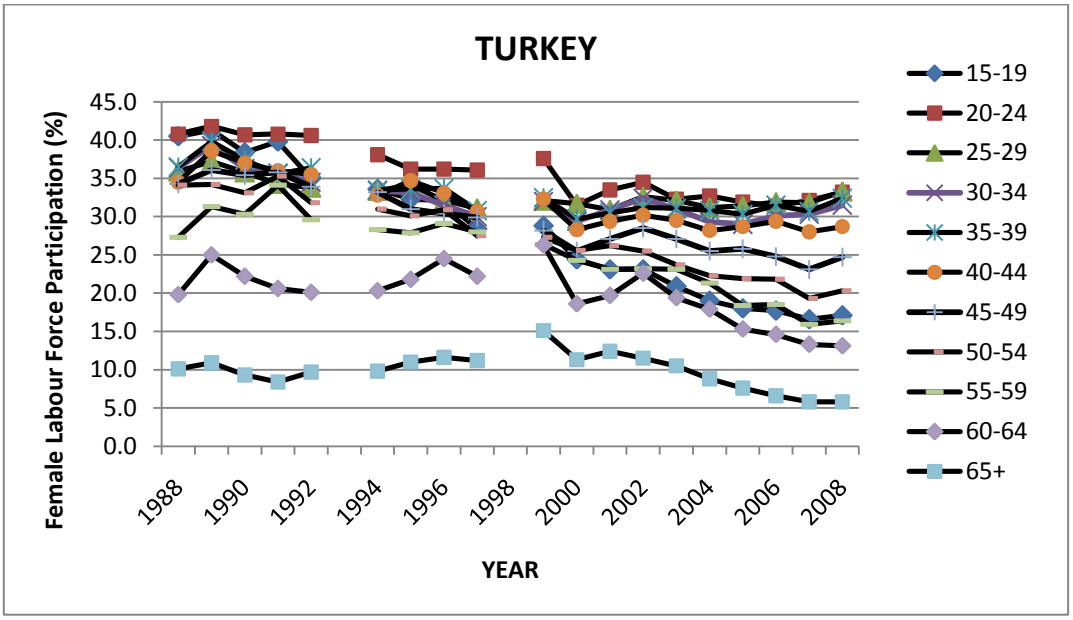
[37] The gaps in figure 27 indicate non-available data.

Figure 26. Female Labour Force Participation by Age group (%), ITALY



Source: (Colombino, U. and De Stavola, B. (1985, p. S277) [38]

Figure 27. Female Labour Force Participation by Age group (%), TURKEY



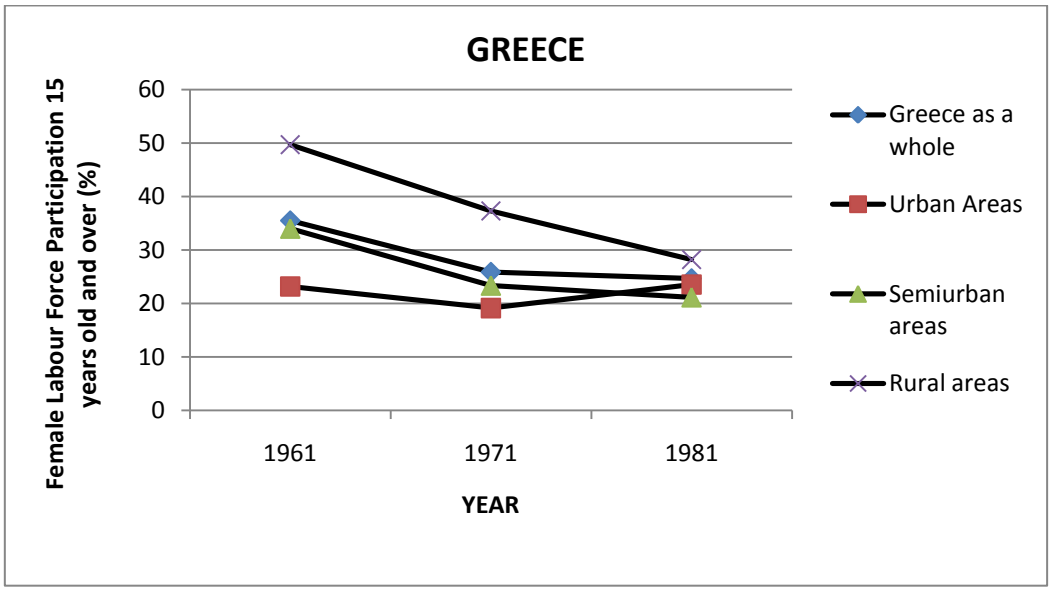
Source: TURKSTAT[39]

[38] (Colombino, U. and De Stavola, B., 1985, p. S277) -Istituto Centrale di Statistica (ISTAT), Annuari di statistiche del lavoro.

[39] Household Labor Force Survey Results 1988-2008

In Figure 28 we can see the female labour force participation rate in Greece from 1961 to 1981. In contrast to Italy, Greece has a much closer similarity to Turkey in terms of country characteristics.

Figure 28. Female Labour Force Participation, (%), 15 years old and over, GREECE



Source: Kottis (1990, p.120)

Figure 28 shows that the labour force participation rate was about 49 percent in 1961 in rural areas and declined to 28.2 percent in 1981. In the urban areas however, it was 23.2 percent and 23.56 percent respectively. From 1961 to 1981 the female labour force participation rate declined and the gap between urban areas, rural areas, semi urban areas and the whole of Greece closed significantly. This drastic decrease in the female labour force participation rate during the period of 1961 to 1981 might depend on a rapid structural change in Greece (Kottis 1990, p.118). Recall figure 10 and 11 in section 3.4 that the female labour force participation rate was 65.4 percent in Turkey as a whole in 1960, while it was 35.53 percent in 1961 in Greece and had declined by 10.84 percentage points in 1981.

Kottis (1990, p. 124) concludes that women's education level has a significant effect on their labour force participation rates. More education has a positive effect on earnings and gives better job opportunities which increase the probability of their participation in the labour market (Kottis 1990, p.24).

7 Conclusions

In this paper, the female labour force participation rate in Turkey was studied in order to understand the relationship to the economic development process. We have not used individual level micro data and advanced econometric techniques. However, the data that we have collected from different sources have given us substantial information to arrive at some conclusions. I have chosen the most important factors that might explain the Turkish women's low labour force participation behaviour, based on the theoretical framework that we have explained in section 2. The fertility rate, educational attainments and marital status seem to have a good feature to capture the impact of women's labour supply behaviour in developing countries. And breaking down these factors in age groups, gender and regional basis makes the study even more informative.

Firstly, the u-shaped theory suggests that the female labour force participation seem to have a u-shaped development during the economic developing process. In section 3.3 and 3.4 we have observed a clear pattern in Turkey that there is strong evidence for this statement. Figure 8 supports typical characteristics of u-shape theory and give identical results with Figure 4 in the developing countries. My research suggests that the female labour force participation rate in Turkey still is declining and can be said to be between the left-hand side and bottom of the u-shape, though a significant slowdown appears in all data from the Household Labour Force surveys in the selected time interval. In contrast, GDP/capita increases and shows significant growth after the year 2003.

The differences between urban and rural areas are huge when it comes to the female labour force participation in Turkey. This is believed to depend on the low education level of Turkish women, because education increases women's possibilities to take part in the labour force.

The size of the reservation wage is the most important factor for Turkish women's decision whether to join to the labour force or not in urban areas. The number of small children in the family affects the size of the reservation wage of women and is a very important factor for the woman's decision. When the reservation wage is high, it seems to discourage women to participate in the labour force especially in urban areas. This probably creates a "hidden unemployment". Exceptionally, higher education might also increase women's reservation wage. This is because some women with higher education might have a high wage expectation from market work. Thus, women with a higher education – especially those with small children - might prefer staying at home instead of accepting a low paid market work.

This issue has been discussed in section 5 and found that fertility rate is very high at the beginning of selected data. In addition, fertility rate is also higher in rural areas than in urban areas. However, this seems to be declining at the end of the selected data.

We have found strong evidence to the characteristic of specialization in urban areas. In Figure 21 this can be observed clearly. In rural areas however, this does not seem to be the case as the agricultural sector offers unpaid work to women. This important result suggests that women in rural areas still have the highest labour force participation rate despite of the high rate economic growth after 2003. The high female labour force participation rates in rural areas indicate that the agricultural sector encourages women's labour force participation. In Urban areas however, women seem to prefer staying at home. This might depend on low educational attainment thus, women might have difficulty to find market job and regard themselves more productive at home and men usually work in the market.

Marital status shows, not surprisingly, interesting results when it comes to the female labour force participation rate. Married women in Turkey have the lowest labour force participation after widowed women, and married men have the highest labour force participation. This is related to the family form and children in the family that affect women's possibility to join the labour force negatively. Again, this can be explained by the marginal productivity of women in the family form. Low educated married women with small children seem to have a high reservation wage and a low labour force participation in urban areas. It is also plausible that poor child care, poor part-time work availability and social and cultural norms affect the women's decision to join the labour force.

The cross-country analyses suggest that Italy has completed its development around 1971, and the data show that they are on the right hand side of the u-shape. They have had though, a smooth down-turn as well as an up-turn. Greece on the other hand, has had a much more similar development to Turkey and still seems not to have a significant urbanization compared to other developed countries. A rapid structural change helped Greece to swing up-turn, and this might be the case for Turkey for the coming decades.

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9 Tables and Figures

Table 1: GDP per Capita, Turkey, 1970-2007, Dollars

GDP Per Capita			
Year	US Dollars	Year	US Dollars
1970	1246.2	1989	5182.5
1971	1347.1	1990	5744.0
1972	1471.2	1991	5884.5
1973	1564.3	1992	6260.6
1974	1756.4	1993	6792.7
1975	2006.8	1994	6440.1
1976	2296.2	1995	6921.9
1977	2473.5	1996	7441.2
1978	2632.2	1997	8181.4
1979	2775.1	1998	8439.1
1980	2892.8	1999	8046.3
1981	3237.8	2000	8724.4
1982	3469.9	2001	8178.0
1983	3693.4	2002	8216.7
1984	3988.8	2003	8316.4
1985	4180.3	2004	9595.5
1986	4473.1	2005	10840.8
1987	4924.5	2006	12074.1
1988	5089.7	2007	12993.3

Table 2: Labour Force Population, Age 15-64, Turkey, 1955-2010, %

Year	Population 15-64 as % of population	Total labour force % of population	Civilian labour force females % of pop 15-64	Civilian employment females % of civ emp	Civilian employment in agriculture as % of civ emp	Civilian employment in industry as % of civ emp	Civilian employment in services as % of civ emp
1955	56.3	51.2	83.2	45.2		8.6	
1956	56.9	52.0	..	..	79.5	9.5	11.0
1957	56.5	51.1	..	..	78.9	9.8	11.2
1958	56.1	50.3	..	..	77.5	10.2	12.3
1959	55.7	49.4	..	..	77.9	9.7	12.5
1960	55.3	49.0	..	..	75.9	10.7	13.4
1961	55.1	48.3	..	..	74.7	10.9	14.4
1962	54.8	47.6	..	..	73.6	11.0	15.4
1963	54.6	46.9	..	..	72.5	11.4	16.2
1964	54.4	46.2	..	..	71.5	11.7	16.7
1965	54.2	45.5	..	..	71.2	12.1	16.7
1966	54.0	44.8	..	..	69.7	12.7	17.5
1967	54.0	44.1	..	..	69.0	13.1	17.9
1968	53.9	43.5	..	..	68.4	13.7	17.9
1969	53.9	42.8	..	..	67.8	14.2	18.0
1970	53.8	40.8	..	..	63.2	16.7	20.1
1971	53.9	40.6	..	..	62.8	16.6	20.6
1972	54.2	40.5	..	..	61.7	17.5	20.8
1973	54.4	40.4	..	..	60.5	18.2	21.3
1974	54.6	40.7	..	..	59.2	19.1	21.7
1975	54.8	40.3	..	..	58.4	19.3	22.3
1976	55.0	40.5	..	..	57.0	19.7	23.3
1977	55.3	41.4	..	..	55.6	20.5	23.9
1978	55.5	41.1	..	..	54.8	20.4	24.8
1979	55.8	40.3	..	..	54.0	20.5	25.6
1980	56.1	39.8	..	..	53.2	20.4	26.4
1981	56.4	38.7	..	..	52.7	20.3	27.0
1982	56.9	38.1	..	..	52.0	20.5	27.5

1983	57.3	37.8	..	..	51.3	20.8	27.9
1984	57.7	37.4	..	..	50.4	21.0	28.6
1985	58.1	36.9	..	..	49.4	21.4	29.2
1986	58.6	37.1	..	..	48.3	21.6	30.0
1987	59.1	37.3	..	..	47.1	21.9	31.0
1988	59.6	37.0	37.0	29.5	46.5	22.3	31.2
1989	60.1	37.2	38.5	31.1	47.4	21.6	31.0
1990	60.5	36.8	36.8	30.4	46.9	21.0	32.2
1991	61.1	37.6	36.8	30.6	47.8	20.3	32.0
1992	61.7	37.3	35.3	29.7	44.8	21.6	33.6
1993	62.2	35.0	28.9	25.8	42.5	22.6	34.9
1994	62.7	36.9	33.7	29.1	44.1	22.5	33.4
1995	63.2	36.9	33.4	28.9	44.1	22.0	33.9
1996	63.6	36.9	33.1	28.9	43.7	22.6	33.7
1997	63.9	36.3	31.2	27.4	41.7	23.7	34.6
1998	64.2	36.6	31.7	28.0	41.5	23.2	35.3
1999	64.4	36.7	32.5	28.7	40.2	23.4	36.5
2000	64.7	35.0	28.8	26.9	36.0	24.0	40.0
2001	64.8	35.1	29.5	27.7	37.6	22.7	39.7
2002	65.0	35.1	30.4	28.7	34.9	23.0	42.1
2003	65.2	34.4	29.0	27.9	33.9	22.8	43.4
2004	65.4	34.8	27.8	26.5	34.0	23.0	43.0
2005	65.7	34.8	27.2	25.9	29.5	24.7	45.8
2006	66.0	34.6	27.3	26.0	27.3	25.4	47.3
2007	66.2	31.3	24.9	25.8	23.5	26.7	49.8
2008	66.5	31.8	25.8	26.4	23.7	26.8	49.5
2009	66.8	..	..	..	..	..	..
2010	67.2	..	..	..	..	..	..

Source: OECD, (ALFS Summary tables). Annual Labour Force Statistics database.

http://stats.oecd.org/index.aspx

Table 3. Labour Force Participation Rate by Gender, Turkey General, 1960-2008 (%)

Year	Male	Turkey	Female
Census Of Population:			
1960	93.6		65.4
1965	91.8		56.6
1970	79.5		50.3
1975	80.9		47.3
1980	79.8		45.8
1985	78.3		43.6
1988	81.2	57.5	34.3
1989	80.4	57.7	35.8
1990	80.5	56.6	35.3
1991	79.5	57.0	33.9
1992	79.4	56.0	32.6
1993	77.9	52.1	27.5
1994	78.6	54.6	30.2
1995	78.3	54.1	31.0
1996	77.6	53.7	31.0
1997	77.2	52.6	27.6
1998	77.5	52.8	30.4
1999	74.7	52.7	27.6
2000	73.7	49.9	26.6
2001	72.9	49.8	27.1
2002	71.6	49.6	27.9
2003	70.4	48.3	26.6
2004	70.3	46.3	23.3
2005	70.6	46.4	23.3
2006	69.9	46.3	23.6
2007	69.8	46.2	23.6
2008	70.1	46.9	24.5

Table 4. Labour Force Participation Urban Rural and Gender 1988-2008 (%)

Years	Urban		Rural	
	Male	Female	Male	Female
1988	78.1	17.7	84.7	50.7
1989	76.3	18.2	85.1	54.0
1990	78.0	18.1	83.4	53.4
1991	77.3	14.9	82.3	56.1
1992	76.3	17.4	83.3	51.6
1993	75.4	16.8	81.0	40.7
1994	75.7	17.6	82.4	45.8
1995	74.5	17.1	83.3	49.3
1996	73.3	15.8	83.5	51.1
1997	74.2	17.6	81.3	41.0
1998	73.8	17.1	83.0	49.3
1999	71.1	17.5	80.0	42.1
2000	70.9	17.2	77.9	40.2
2001	70.6	17.4	76.4	41.7
2002	69.8	19.1	74.5	41.4
2003	68.9	18.5	72.9	39.0
2004	69.1	17.7	73.3	36.7
2005	70.0	18.7	72.0	33.9
2006	69.3	19.5	71.3	33.1
2007	69.3	19.8	71.0	32.5
2008	69.5	20.8	71.6	32.9

Table 5: Labour Force Participation Rate by Educational Attainment, Turkey, 1988-2008 (%)

Years	Turkey			
	Illiterate	Less than high school	High and vocational high school	Higher education
1988	41.9	60.3	66.2	87.5
1989	41.4	60.8	64.8	87.3
1990	39.9	60.2	67.5	88.4
1991	40.2	59.1	62.0	86.6
1992	36.4	58.0	64.2	88.9
1993	31.6	53.0	62.1	87.6
1994	33.4	55.5	60.8	86.5
1995	35.0	56.0	60.2	82.6
1996	35.6	55.2	59.9	81.3
1997	28.8	53.9	59.9	82.5
1998	32.8	54.9	58.6	81.9
1999	31.6	51.5	57.2	77.3

2000	31.5	50.1	55.3	78.2
2001	30.3	49.9	56.0	79.2
2002	28.8	49.2	55.1	79.5
2003	28.2	47.5	53.3	77.7
2004	21.6	45.4	54.8	78.9
2005	19.9	45.3	55.4	77.9
2006	18.7	45.0	55.4	77.2
2007	18.1	44.6	55.2	77.3
2008	18.1	44.9	56.1	77.6

Table 6: Female Labour Force Participation Rates by Educational Attainment, Rural (%)

Years	Female, Rural			
	Illiterate	Less than high school	High and vocational high school	Higher education
1988	47.1	52.7	53.4	89.8
1989	49.4	56.8	58.0	91.4
1990	49.9	55.2	59.2	89.4
1991	51.0	59.5	53.5	81.0
1992	44.0	56.0	51.9	88.7
1993	35.2	42.4	47.8	87.7
1994	39.3	48.5	49.5	86.2
1995	43.4	52.3	47.2	77.5
1996	46.3	53.1	52.6	68.6
1997	34.7	43.1	53.4	73.8
1998	44.0	51.4	50.8	70.4
1999	39.8	43.2	36.8	64.9
2000	38.2	40.8	38.9	75.5
2001	37.5	43.6	38.7	77.8
2002	37.8	42.8	36.0	78.8
2003	37.6	39.4	31.7	71.4
2004	30.5	39.2	34.7	71.7
2005	27.3	36.1	34.0	70.1
2006	25.5	35.7	34.1	68.6
2007	24.5	34.9	35.0	72.0
2008	24.4	35.2	35.5	72.1

Table 7: Female Labour Force Participation Rates by Educational Attainment, Urban (%)

Years	Female, Urban			
	Illiterate	Less than high school	High and vocational high school	Higher education
1988	8.5	13.9	45.7	80.3
1989	8.3	15.0	41.9	78.8
1990	6.8	14.3	44.3	79.3
1991	4.8	11.0	37.2	78.0
1992	7.1	12.4	40.9	83.8
1993	5.4	11.3	38.6	80.8
1994	6.5	12.5	33.7	78.2
1995	6.2	11.5	34.6	72.6
1996	6.0	9.7	33.8	73.2
1997	4.6	11.8	36.6	73.5
1998	4.9	9.8	34.0	76.6
1999	5.4	11.6	31.4	69.4
2000	5.1	10.6	30.6	69.6
2001	5.4	11.3	29.8	70.2
2002	5.8	12.6	31.1	70.6
2003	5.5	12.1	28.3	69.3
2004	5.4	11.9	29.4	70.2
2005	6.1	12.7	29.6	69.0
2006	5.4	13.2	30.4	68.8
2007	5.1	12.8	30.6	69.2
2008	5.4	13.2	32.0	69.8

Table 8: Labour Force Participation by Age, Female, Turkey (%)

Age	Female				
	1988	1993	1998	2003	2008
15-19	40.5	29.1	28.4	20.9	17.1
20-24	40.8	33.6	35.0	32.3	33.2
25-29	35.9	29.6	33.3	32.1	33.3
30-34	36.4	28.7	29.4	31.0	31.5
35-39	36.5	30.1	32.1	31.1	32.4
40-44	34.5	28.9	31.6	29.5	28.7
45-49	34.3	27.4	28.7	27.1	24.7
50-54	34.1	24.4	28.8	23.7	20.3
55-59	27.3	20.8	28.0	23.1	16.4
60-64	19.8	15.9	22.9	19.4	13.1
65+	10,1	6.5	13.2	10.5	5.8

Table 9: Labour Force Participation by Age, Male, Turkey (%)

Age	Male				
	1988	1993	1998	2003	2008
15-19	64.2	52.4	48.3	35.5	36.7
20-24	87.5	84.3	76.6	68.4	71.8
25-29	97.9	96.8	96.0	90.2	92.3
30-34	98.5	98.1	97.7	93.6	94.8
35-39	98.5	98.1	97.8	93.7	94.8
40-44	95.8	95.5	94.5	91.4	93.4
45-49	89.0	88.5	86.2	79.8	80.7
50-54	82.4	75.5	72.1	65.4	64.6
55-59	71.0	64.4	62.3	50.8	48.2
60-64	58.1	53.8	54.5	42.5	37.7
65+	33.3	27.3	33.9	25.3	19.4

Table 10: Labour Force Participation Rate by Age group and Gender, Urban (%)

Age	Urban					
	Male			Female		
	1988	1998	2008	1988	1998	2008
15-19	56.1	40.0	34.4	21.6	16.2	14.2
20-24	83.9	70.9	70.6	26.3	25.7	32.6
25-29	98.2	95.6	93.4	21.5	23.8	32.6
30-34	98.8	97.7	95.8	22.0	19.2	29.0
35-39	98.4	97.8	95.9	18.2	20.5	28.7
40-44	95.1	94.0	94.2	16.4	16.0	23.2
45-49	84.9	82.2	78.5	11.5	10.1	17.0
50-54	72.8	62.5	58.1	9.4	7.6	10.5
55-59	55.8	44.0	38.8	6.1	5.6	5.7
60-64	38.7	34.0	25.7	3.3	2.5	3.3
65+	17.2	15.1	9.8	1.4	2.1	1.2

Table 11: Labour Force Participation Rate by Age group and Gender, Rural (%)

Age	Rural					
	Male			Female		
	1988	1998	2008	1988	1998	2008
15-19	72.8	59.7	42.7	57.7	43.2	23.6
20-24	91.2	86.5	74.3	56.6	51.1	34.5
25-29	97.4	96.7	88.9	52.7	49.1	35.3
30-34	98.1	97.7	91.8	55.0	46.7	38.8
35-39	98.6	97.7	91.8	57.9	51.0	41.8
40-44	96.6	95.3	91.5	54.8	55.5	43.0
45-49	94.0	92.3	86.5	56.3	56.2	43.5
50-54	91.6	86.1	79.6	53.1	54.4	42.3
55-59	82.7	82.1	67.0	44.7	49.3	36.3
60-64	74.0	73.0	58.5	31.7	41.2	29.5
65+	43.4	50.5	31.2	15.9	24.9	12.0

Table 12: Labour Force Participation Rates by Marital Status Female, Turkey (%)

Female, Turkey				
Year	**Single**	**Married**	**Divorced**	**Widowed**
1988	47.8	32.0	41.5	16.0
1989	48.5	34.2	48.0	16.5
1990	46.6	32.5	41.7	14.4
1991	47.0	32.1	43.5	14.2
1992	44.3	30.8	45.7	14.0
1993	37.5	24.7	42.7	10.9
1994	42.3	29.3	39.7	14.1
1995	41.0	29.0	43.7	14.5
1996	40.9	28.7	40.5	14.1
1997	38.9	26.8	44.5	13.7
1998	39.5	27.1	43.3	14.5
1999	39.9	27.9	46.7	15.3
2000	35.0	25.2	41.0	11.5
2001	35.1	25.9	43.5	12.8
2002	36.8	26.4	42.1	12.4
2003	35.0	25.3	41.2	11.5
2004	34.1	23.9	41.9	11.0
2005	34.0	23.0	43.7	10.6
2006	34.3	23.1	42.1	10.0
2007	34.4	21.6	40.6	8.1
2008	35.3	22.4	42.9	8.6

Table 13: Labour Force Participation by Marital Status Male, Turkey (%)

Male, Turkey				
Year	Single	Married	Divorced	Widowed
1988	71.8	86.4	81.1	30.1
1989	69.8	86.1	76.3	34.4
1990	70.7	84.5	77.1	31.3
1991	70.5	85.8	79.0	34.1
1992	68.7	85.9	70.7	32.7
1993	65.6	84.9	76.8	32.6
1994	66.7	84.8	72.3	28.5
1995	64.5	84.9	83.7	34.2
1996	64.0	84.3	77.7	30.8
1997	62.9	83.9	75.9	33.7
1998	62.1	84.4	79.0	32.5
1999	62.3	82.9	76.6	31.5
2000	59.4	81.1	72.5	29.7
2001	58.1	80.3	72.7	31.6
2002	56.4	79.2	71.0	26.3
2003	54.9	78.2	69.6	24.5
2004	58.3	79.4	74.0	26.5
2005	58.7	79.0	70.5	24.4
2006	58.0	78.2	68.2	22.4
2007	57.7	75.9	67.8	21.1
2008	58.3	76.2	69.1	19.3

Table 14: Labour Force Participation by Marital Status Female, Urban (%)

Female, Urban				
Year	Single	Married	Divorced	Widowed
1988	34.3	13.1	35.5	9.1
1989	33.2	13.4	44.2	7.6
1990	32.1	12.9	41.2	5.8
1991	30.4	11.5	38.4	5.8
1992	31.0	13.1	49.4	6.2
1993	29.1	11.7	43.1	5.8
1994	30.6	13.6	35.9	6.5
1995	29.4	12.9	42.7	6.3
1996	29.4	12.2	38.9	5.1
1997	31.4	12.5	42.1	6.2
1998	32.1	12.0	40.8	5.7
1999	31.2	13.5	45.1	7.6
2000	30.9	13.0	41.7	5.7
2001	30.9	13.3	45.0	5.9
2002	32.9	14.9	43.3	5.7
2003	32.0	14.5	40.8	5.6
2004	32.7	14.1	42.0	6.1
2005	33.7	15.0	43.6	6.3
2006	35.0	15.5	43.2	5.6
2007	36.1	15.1	41.9	4.8
2008	36.5	16.4	43.0	5.1

Table 15: Labour Force Participation by Marital Status Female, Rural (%)

Female, Rural				
Year	**Single**	**Married**	**Divorced**	**Widowed**
1988	61.1	50.8	52.3	22.6
1989	64.3	55.6	54.9	25.9
1990	62.2	52.7	42.9	22.6
1991	65.4	56.2	56.5	23.3
1992	59.4	52.5	34.3	24.6
1993	47.7	40.6	41.2	17.5
1994	57.1	49.0	57.0	23.8
1995	56.0	49.7	47.4	25.0
1996	55.7	50.4	45.1	26.3
1997	48.9	45.9	54.8	24.1
1998	50.2	48.2	53.8	26.3
1999	52.2	48.3	51.5	25.5
2000	41.4	42.5	37.6	19.0
2001	42.0	44.1	36.9	22.3
2002	43.4	43.4	37.2	21.4
2003	40.0	41.2	42.9	19.5
2004	36.5	39.2	41.3	17.8
2005	34.6	35.7	44.1	16.4
2006	32.9	35.4	37.9	15.8
2007	30.1	36.0	33.2	14.2
2008	32.2	35.6	42.4	15.0

Table 16. Labour force participation and GDP/capita, Turkey, 1988-2008

Year	GDP/capita, $ (00)	LFP (%)
1988	51	57.5
1989	52	57.7
1990	57	56.6
1991	59	57.0
1992	63	56.0
1993	68	52.1
1994	64	54.6
1995	69	54.1
1996	74	53.7
1997	82	52.6
1998	84	52.8
1999	80	52.7
2000	87	49.9
2001	82	49.8
2002	82	49.6
2003	83	48.3
2004	96	46.3
2005	108	46.4
2006	121	46.3
2007	130	46.2

Table 17. Non-institutional civilian population by year and labour force status

Year	Non-institutional working age population	Labour Force	Employed	Unemployed
1988	33.746	19.391	17.754	1.637
1989	34.315	19.93	18.222	1.709
1990	35.601	20.15	18.539	1.611
1991	36.869	21.01	19.288	1.722
1992	37.984	21.264	19.459	1.805
1993	38.957	20.314	18.499	1.814
1994	40.038	21.876	20.006	1.87
1995	41.175	22.286	20.586	1.7
1996	42.243	22.697	21.194	1.502
1997	43.299	22.755	21.204	1.551
1998	44.295	23.385	21.778	1.606
1999	45.311	23.878	22.048	1.829
2000	46.211	23.078	21.581	1.497
2001	47.158	23.491	21.524	1.967
2002	48.041	23.818	21.354	2.464
2003	48.912	23.64	21.147	2.493
2004	49.906	24.289	21.791	2.498
2005	50.826	24.565	22.046	2.519
2006	51.668	24.776	22.33	2.447
2007	49.994	23.114	20.738	2.377
2008	50.772	23.805	21.194	2.611

Table 18. Fertility Trend, Turkey, 1978-2003, Different Surveys, %

	Age					
		TFS-1978	**TPHS-1988**	**TDHS-1993**	**TDHS-1998**	**TDHS-2003**
	15-19	93	45	56	60	46
	20-24	259	193	179	163	136
	25-29	218	183	151	150	134
	30-34	154	102	94	93	78
	35-39	101	55	38	42	38
	40-44	38	19	12	13	12
	45-49	2	7	0	1	2
TFR	15-49	4.33	3.02	2.65	2.61	2.23

Table 19. Total Fertility rate, (birth per woman) %

Country	**Rwanda**	**Nepal**	**Turkey**	**Canada**	**Sweden**	**United States**	**Australia**
Year							
1960	8.058	6.154	6.313	3.811	2.174	3.654	3.453
1961	8.079	6.154	6.21	3.753	2.213	3.62	3.54
1962	8.099	6.152	6.109	3.681	2.246	3.461	3.442
1963	8.119	6.15	6.013	3.607	2.328	3.319	3.332
1964	8.139	6.147	5.923	3.456	2.474	3.19	3.146
1965	8.158	6.144	5.843	3.115	2.391	2.913	2.977
1966	8.175	6.139	5.777	2.749	2.367	2.721	2.881
1967	8.188	6.134	5.723	2.528	2.281	2.558	2.848
1968	8.197	6.129	5.678	2.386	2.067	2.464	2.888
1969	8.202	6.123	5.638	2.334	1.943	2.456	2.886
1970	8.204	6.117	5.595	2.258	1.939	2.48	2.859
1971	8.205	6.111	5.541	2.141	1.978	2.266	2.961
1972	8.207	6.105	5.47	1.98	1.927	2.01	2.744
1973	8.211	6.098	5.377	1.89	1.88	1.879	2.491
1974	8.217	6.089	5.262	1.837	1.888	1.835	2.397
1975	8.228	6.076	5.127	1.824	1.779	1.774	2.148
1976	8.244	6.057	4.976	1.796	1.689	1.738	2.06
1977	8.264	6.032	4.818		1.644	1.79	2.007
1978	8.286	5.998	4.658		1.601	1.76	1.949
1979	8.303	5.957	4.501		1.657	1.808	1.907
1980	8.31	5.907	4.348	1.74	1.68	1.8395	1.891
1981	8.3	5.849	4.197	1.7	1.63	1.812	1.935
1982	8.27	5.785	4.046	1.69	1.65	1.8275	1.929
1983	8.213	5.715	3.896	1.68	1.61	1.799	1.924
1984	8.125	5.641	3.747	1.65	1.66	1.8065	1.84
1985	8	5.565	3.603	1.67	1.74	1.844	1.923
1986	7.83	5.487	3.468		1.79	1.8375	1.868
1987	7.619	5.407	3.346	1.68	1.9	1.872	1.845
1988	7.375	5.327	3.238	1.68	1.975	1.934	1.831

1989	7.11	5.244	3.143	1.77	2.02	2.014	1.838
1990	6.842	5.16	3.061	1.83	2.13	2.081	1.902
1991	6.59	5.074	2.989	1.7	2.11	2.0625	1.849
1992	6.371	4.983	2.924	1.71	2.09	2.046	1.888
1993	6.193	4.887	2.861	1.7	2	2.0195	1.859
1994	6.063	4.784	2.799		1.88	2.0015	1.842
1995	5.98	4.674	2.735	1.639	1.73	1.978	1.822
1996	5.937	4.554	2.667	1.592	1.6	1.976	1.796
1997	5.918	4.425	2.597	1.55	1.52	1.971	1.778
1998	5.908	4.289	2.524		1.5	1.999	1.762
1999	5.899	4.145	2.452		1.5	2.0075	1.755
2000	5.882	3.996	2.382	1.49	1.54	2.056	1.756
2001	5.854	3.841	2.319		1.57	2.034	1.739
2002	5.815	3.685	2.264	1.52	1.65	2.013	1.756
2003	5.767	3.529	2.219	1.53	1.71		1.748
2004	5.707	3.379	2.184	1.53	1.75	2.045	1.763
2005	5.639	3.237	2.159	1.54	1.77	2.054	1.791
2006	5.564	3.11	2.141	1.59	1.85	2.1	1.817
2007	5.485	2.998	2.127	1.59	1.88	2.1132	1.92
2008	5.407	2.902	2.114	1.604	1.91	2.1	1.97

Table 20. Age-specific Fertility Rates by Urban-Rural Residence (Births per 1,000 women)

	Age group	Urban	Rural	Total
	15-19	44	47	46
	20-24	126	161	136
	25-29	126	158	134
	30-34	71	94	78
	35-39	33	48	38
	40-44	11	16	12
	45-49	0	6	2
TFR	15-49	2.06	2.65	2.23

Table 21. Female Labour Force Participation by Age group, (%) ITLAY

Year	Female Labour Force Participation by Age group, (%) ITLAY							
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59
1959	49.9	38.3	36.1	35.3	34.1	33.6	30.9	25
1960	48.6	36.5	34.4	34.3	33.5	32	29.8	23.7
1961	49.1	36.8	34.8	34.9	33.7	32.7	29.9	24.5
1962	48	36.5	33.7	34.4	32.9	31.9	29.5	23.3
1963	47.4	34.9	31.8	33.2	32.2	30.4	28.2	21.8
1964	45.5	33.2	30.3	31.8	31.9	30.7	27.1	21.5
1965	44.9	32.6	29	31.1	31.5	28.9	26.8	20.8

1966	43.4	32.5	28.2	29.9	30.6	29	25.5	18.8
1967	43.1	33.1	28	29.4	30.9	28.7	25.5	18.2
1968	42.6	32.8	29.1	29.2	31.5	29.1	26.2	18.8
1969	43.5	32.6	29.3	29.5	30.4	29.6	25.1	18.8
1970	43.2	33.3	29.7	29.8	30.9	29.2	25.9	18.3
1971	43.2	33.9	30.2	29.4	31.5	29.9	25	17.8
1972	42.1	33.9	30.7	29.6	30.3	29.6	25.1	16.7
1973	43.8	35.6	32	31.1	30.6	30.4	25.1	16.6
1974	44	38	33.7	32	31.5	30.5	27	16.8
1975	44.1	39.7	34.3	32.4	32	31.1	27	17.1
1976	45.8	40.9	35.7	33.4	32.9	31.7	27.3	17.3
1977	47.5	42.7	37.6	34.8	34	32.2	27.5	17.5
1978	47.3	44.3	39.3	34.7	34.4	32	27.6	16.7
1979	48.4	45.7	41	36.8	35.7	33.2	28	16.6
1980	50.6	47.2	42.7	38.8	36.7	33.7	28	16.8
1981	51.1	48.7	44.3	39.5	38.1	34.1	28.1	16.7

Table 22 Female Labour Force Participation by Age Group Turkey (%)

YEAR	Female Labour Force Participation by Age Group Turkey (%)										
	15-19	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**	**50-54**	**55-59**	**60-64**	**65+**
1988	40.5	40.8	35.9	36.4	36.5	34.5	34.3	34.1	27.3	19.8	10.1
1989	41.3	41.8	37.2	39.3	39.8	38.6	36.1	34.2	31.3	25.0	10.9
1990	38.4	40.7	35.8	36.3	37.4	37.0	35.4	33.1	30.3	22.2	9.3
1991	39.8	40.8	34.3	35.7	35.6	36	35.8	35.3	34.1	20.6	8.4
1992	35	40.6	33.8	34.5	36.4	35.5	33.9	31.8	29.6	20.1	9.7
1993											
1994	33.6	38.1	33.4	33.4	33.5	32.8	33.2	31	28.3	20.3	9.8
1995	32.3	36.2	34.1	33.1	33.6	34.7	31	30.1	27.9	21.8	11
1996	32.1	36.2	32.1	31.5	33.7	33.1	30.4	30.9	29.1	24.5	11.6
1997	28.4	36.1	31.1	30	30.8	30.7	29.9	27.5	28	22.2	11.2
1998											
1999	28.8	37.6	32.1	32	32.5	32.3	28.2	27.3	26.4	26.3	15.1
2000	24.4	31.5	31.7	29.4	29.7	28.3	25.5	25.6	24.3	18.6	11.3
2001	23.1	33.5	30.9	30.9	30.5	29.4	27.1	26.2	23.1	19.7	12.4
2002	23.1	34.5	32.6	32.4	31.2	30.2	28.5	25.5	23.2	22.6	11.5
2003	20.9	32.3	32.1	31	31.1	29.5	27.1	23.7	23.1	19.4	10.5
2004	19	32.7	31.2	29.3	30.8	28.2	25.5	22.3	21.3	17.9	8.8
2005	18	31.9	31.4	29	30.3	28.7	25.8	21.9	18.4	15.3	7.6
2006	17.7	31.4	31.9	30.1	31.5	29.4	24.8	21.8	18.5	14.6	6.6
2007	16.6	32.1	31.8	30.3	30.7	28	23.1	19.3	15.9	13.3	5.8
2008	17.1	33.2	33.3	31.5	32.4	28.7	24.7	20.3	16.4	13.1	5.8

Table 23. Female Labor force participation rates 15 years old and over, (%), GREECE

YEAR	Female Labor force participation rates 15 years old and over, (%)		
	1961	1971	1981
Greece as a whole	35.53	25.89	24.69
Urban Areas	23.2	19.15	23.56
Semiurban areas	34.04	23.38	21.18
Rural areas	49.73	37.31	28.2

APPENDIX

The definitions and some of the explanation of data in the TURKSTAT Household Labor Force Survey 1988-2008 which I have used in this thesis can be found below. This information is taken directly from their website. The more detailed information and direct access to the metadata are also available at TURKSTAT website at the following link.

http://www.turkstat.gov.tr/MetaVeri.do?tb_id=25&ust_id=8

I. Analytical Framework, Coverage, Concepts and Classifications

- ***Objective:*** *The Household Labour Force Survey which have regularly been applied since 1988. Household labour force survey is the main data source on the labour market situation of country from the supply side and gives information on economic activity, occupation, status in employment and hours worked for employed persons; and information on the duration of unemployment and occupation sought by the unemployed.*
- ***Concepts:***

Non-institutional civilian population: *Comprises all the population, the residents of schools, dormitories, kindergartens, rest homes for elderly persons, special hospitals, military barracks and recreation quarters for officers.*
Non-institutional working age population: *Indicates the population 15 years of age and over within the non-institutional civilian population.*
Labour force: *Comprises all employed persons and all unemployed.*
Labour force participation rate: *Indicates the ratio of the labour force to non-institutional working age population.*
Persons employed: *Comprises all the non-institutional working age population who are included in the "persons at work" and "not at work" described below.*
Persons at work: *Persons economically active during the reference period for at least one hour as a regular employee, casual employee, employer, self employed or unpaid family worker.*
Persons not at work: *All self-employed and employers who have a job but not at work in the reference week for various reasons are considered as employed.*
Regular employees with a job who did not work during the reference period for various reasons are considered as employed only if they have an assurance of return to work within a period of 3 months or if they receive at least 50% of their wage or salary from their employer during their absence.
Unpaid family workers and casual workers, who did not work in the reference week even 1 hour, are not considered as employed.
The members of producer cooperatives and apprentices or stagers who are working to gain any kind of benefit (income in cash or in kind, social security, travelling cost, pocket money etc.) are considered to be employed.
Persons unemployed: *The unemployed comprises all persons 15 years of age and over who were not employed (neither worked for profit, payment in kind or family gain at any job even for one hour, who have no job attachment) during the reference period who have used at least one channels for seeking a job during the last three months and were available to start work within two weeks.*
Persons who have already found a job and will start to work within 3 months, or established his/her own job but were waiting to complete necessary documents to start work were also considered to be unemployed if they were available to start work within two weeks.
Persons not in labour force: *Includes persons who are neither unemployed nor employed and 15 years of age and over. The persons not in labour force consist of the following sub-groups;*

· ***Educational status:*** *The educational attainment level for all persons six years old and over is coded according to the International Standard Classification of Education (ISCED, 1997).*

1. *Illiterate*
2. *Less than high school*
   - *o Literate without any diploma*
   - *o Primary school*
   - *o Primary education*
   - *o Junior high school or vocational school at high school level*
3. *High school and vocational school at high school level*
   - *o High school*
   - *o Vocational school at high school level*
4. *Higher education*
   - *o Institutions of higher education*
   - *o University*
   - *o Master or doctorate*

II. Data Coverage

· ***Coverage persons:*** *All private households who are living in the territory of Republic of Turkey are covered. Residents of schools, dormitories, kinder-gardens, rest homes for elderly persons, special hospitals, military barracks and recreation quarters for officers are not covered.*

· ***Geographical area covered:*** *All settlements in Turkey have been covered in sample selection.*
Urban areas: *Settlements with a population of 20 001 and over are defined as URBAN.*
Rural areas: *Settlements with a population of 20 000 or less are defined as RURAL.*

IV. Characteristics of Basic Data Sources

· ***Data sources:*** *Data were collected from the households which were selected by defined sampling method. Statistical unit used is household in labour force surveys. Demographic information (age, sex, educational status, relationship to household head) is asked to all members of the household. But, questions on labour force status are asked for persons 15 years old and over.*

· ***Data collection method:*** *All the information was collected by interviewers on a face-to-face basis with the help of portable computers. (Computer assisted personal interviewing).*