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Determinants of and Trends in Labor Force Participation of Women in Turkey

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Executive Summary

1. Female labor force participation rate in Turkey is quite low by EU and OECD standards: it was 24.9 percent in 2006, compared to 66.1 percent in EU-27 and 60.8 percent in OECD countries. Moreover, it has declined from 34.3 percent in 1988 to 24.9 percent in 2006. The purpose of this report is to shed light on factors that determine women's participation in the labor market and the reasons behind the observed trends over the 1988-2006 period. Some of the broad questions asked in the paper include:

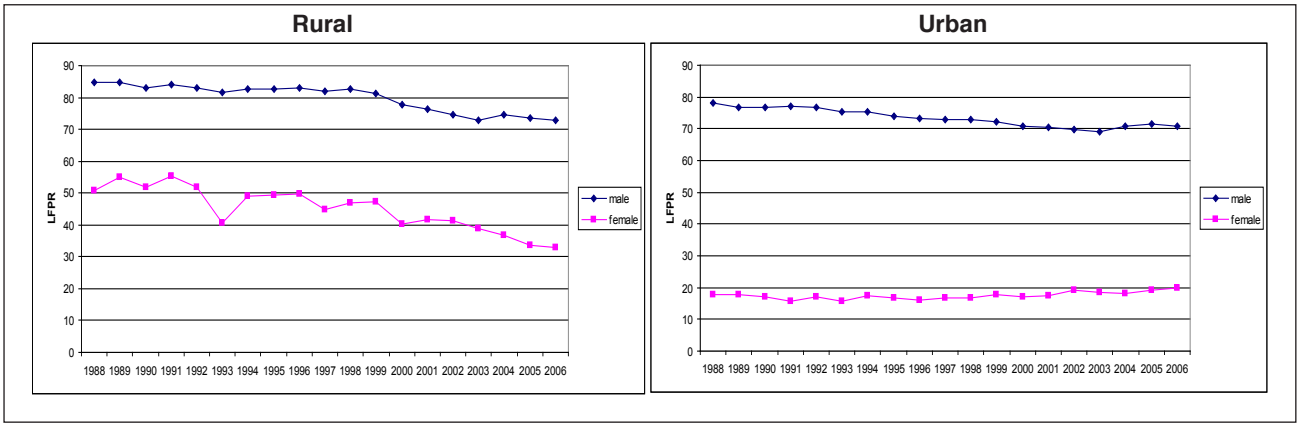
- What might be the reasons for the declining labor force participation of women?
- What factors affect the labor force participation of women?
- In particular, what are the roles of education and demographic variables in determining women's participation in the labor market?

2. An important reason for the fall in female participation rate is urbanization. Turkey has witnessed high levels migration from rural to urban areas since 1988. The share of urban population rose from 51.1 percent in 1988 to 63.3 percent in 2006. Since the labor force participation rate in urban areas is much lower, at approximately 20 percent in 2006, than that in rural areas, at approximately 33 percent in 2006, the increasing share of urban population pulls down the labor force participation rate of women.

3. However, it is not only the decreasing share of rural population that is pulling down the participation rate for women. As can be seen from the left panel of Figure E.1, labor force participation rate in rural areas for women has been declining itself: it has gone down from a level of 50.7 percent in 1988 to 33 percent in 2006. Caution must be exercised, though, in comparing the numbers before and after 2000 because the sampling frame of the Household Labor Survey used in constructing these numbers changed in 2000. However, when these periods are examined separately, we still find that the rural labor force participation rate decreased from 50.7 percent to 47.4 percent over the 1988 - 1999 period, and from 40.2 percent to 33 percent over the 2000 - 2006 period. The decline in rural labor force participation rate for females has been more prominent since 2000. In addition, when we examine the change in the participation rates by age groups, we see that the decline has been larger for younger rural women.

4. Despite the declining trend, the female labor force participation rate in rural areas is still higher than that in urban areas, which has been more stable over time. In fact, the gender gap in participation rate in urban areas is much wider. Strikingly, the participation rate in urban areas has always been lower than 20 percent. As can be seen from the right panel of Figure E.1, the participation rate has displayed an almost flat profile between 1988 and 1999 at a level of approximately 17 percent. Since 2000, however, it has shown an upward trend: the participation rate of urban women increased by 2.5 percentage points from a level of 17.4 percent in 2000 to 19.9 percent in 2006. When we examine the participation rates by age, we find that the increase in the participation rates for certain age groups in urban areas have been remarkable. For instance, the participation rate for 25- to 29-year-olds increased by 8.5 percentage points from 1988 to 2006 and by 5.1

Figure E.1: Labor Force Participation Rates by Sex and Rural/Urban Status



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus.

percentage points from 2000 to 2006. This is important as it stands in stark contrast to the gloomy picture frequently given for female labor force participation in Turkey.

5. In essence, declining labor force participation in rural areas, low and stagnant participation rates in urban areas, and the downward pressure on the aggregate participation rate caused by urbanization emerge as prominent characteristics of female labor force participation rate in Turkey. Yet, it is important, at the same time, to acknowledge the increasing participation rate among the young urban women in Turkey.

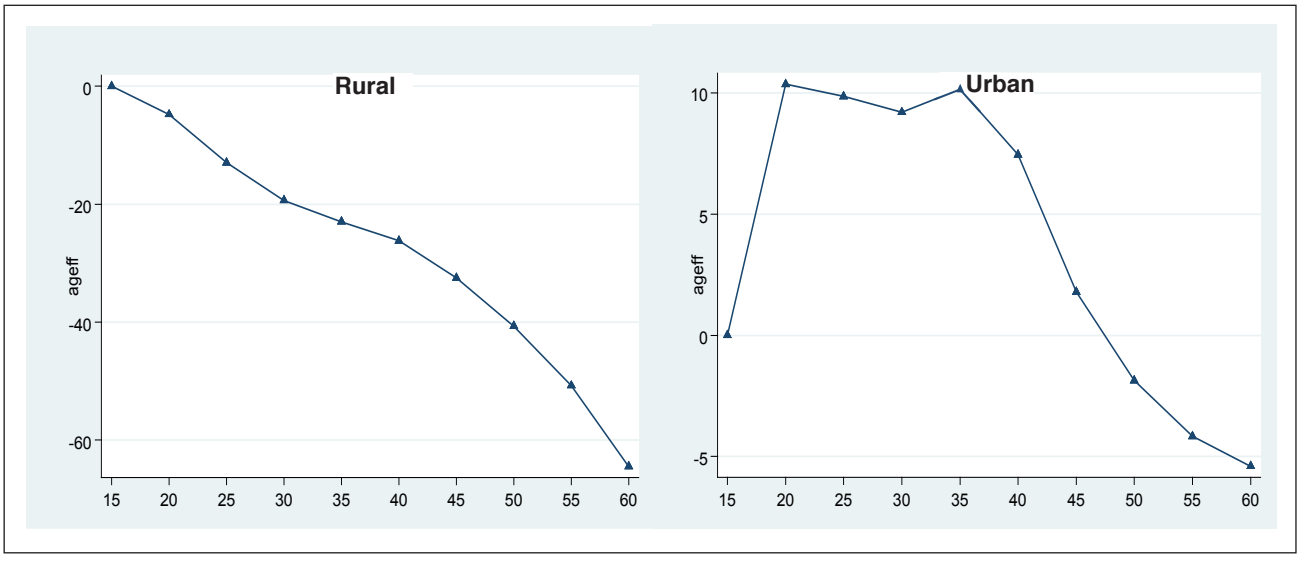
6. Examining the change in hours worked over time for female employees, we find that it is not the increasing prevalence of part-time work that is behind the increasing participation of women in urban areas. To the contrary, part-time work has decreased over time. Close to 70 percent of women in Turkey work for 40 hours or more per week. This figure approaches to 85 percent in urban areas.

7. Agriculture carries a heavy weight in the lives of women workers in Turkey. Although declining, a sizeable proportion of women in Turkey, almost 60 percent, still work in agriculture. This implies that changes in agricultural activities will exert a strong influence on the trends in the labor force participation of women. Since the agricultural sector in Turkey is dominated by small-scale family run establishments, the female labor force in rural areas predominantly work as un paid family workers. In fact, about 40 percent of all working women in Turkey are unpaid family workers as a result of the large share of agriculture in female employment. However, with the decline in agriculture, and family-run establishments, the importance of wage work among working women has been on the rise in both rural and urban areas. In fact, wage work is the dominant form of employment in urban areas where 80 percent of women are found. These imply that labor force participation rate of urban women is rising along with a rising incidence of wage work.

8. A cross-section analysis of female labor force participation rate profiles according to age in urban areas in 2006 reveals a hump-shaped age-profile for urban participants, the peak occurring between ages 20 and 29. A similar hump-shaped profile is also found for rural labor force participants; however, its hump is much weaker – the range between the ages of 20 and 59 is relatively flat –. The problem with these cross-section profiles is that the age effects could also stand for cohort and/or calendar year effects. Therefore, using pseudo-panel techniques with a series of cross-section data, we decompose age, cohort, and calendar year effects in the participation rate profiles. This decomposition is built on the assumption that year effects add up to zero and that they are orthogonal to a linear time trend.

9. Figure E.2 illustrates the estimated age effects according to rural/urban status from this decomposition analysis. In urban areas, we find a counter-clockwise rotation in the age-profile of labor force participation rates. The peak is now between the ages of 20 and 39, instead of 20 and 29. The age-profile of labor force participation rates in rural areas changes completely

Figure E.2: Age Effects in Female Labor Force Participation Rate according to Rural/Urban Status



after the decomposition. We find a monotonic age effect: rural women become less likely to participate as they age at all ages. This is dramatically different from the hump-shaped profile we found with cross-sectional analysis.

10. The age effects illustrated in Figure E.2 has important implications regarding the labor force participation in Turkey in the future. Since the participation rate in rural areas goes down by age, the aging of the Turkish population will exert a downward pressure in the participation rate in rural areas. We could expect a similar downward pressure on the urban participation rate as the population ages because participation rates after age 40 are much lower. However, lower participation rates after age 40 is mostly a result of the retirement insurance system. As the population ages, the rules of the entry into retirement would be expected to change as well (they were, in fact, revised in early 2000s.) It is also important to note that low participation rates after age 40, as a result of early retirement, is an important contributing factor to the low aggregate female labor force participation rate in Turkey.

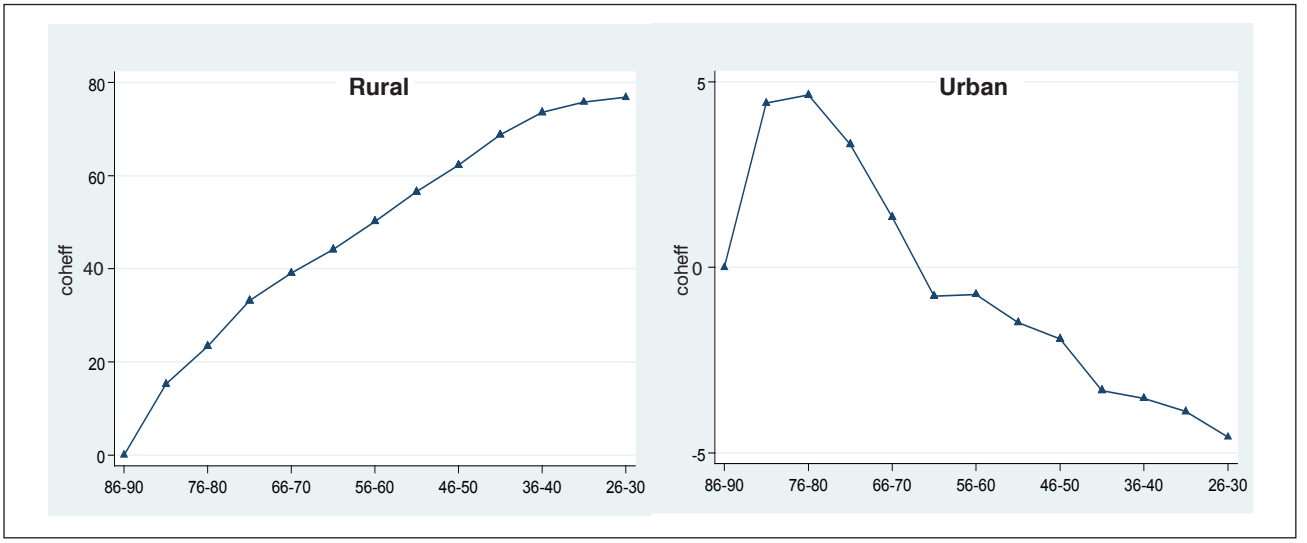
11. Birth-cohort effects are displayed in Figure E.3 according to rural/urban status. In urban areas later cohorts of women are much likely to participate in the labor market. In rural areas, on the contrary and perhaps surprisingly, later cohorts of women are less likely to participate in the labor market. These imply that as earlier cohorts leave the population and replaced by forthcoming cohorts–whose labor force participation rate will presumably be similar to the youngest cohort in the sample–we would expect the urban labor force participation rate to rise and the rural laborforce participation rate to fall.

12. We also carried out a similar decomposition analysis for hours worked in urban areas. As a result of this analysis, we found that younger cohorts of women in urban areas are also less likely to work for shorter hours (less than 40 hours per week) and more likely to work for longer hours (more than 50 hours per week) than older cohorts. In other words, younger cohorts of women in urban areas are not only more likely to participate in the labor market but also more likely to work for longer hours. This implies that the finding for the whole female urban population – that both participation rates and hours worked are on the rise – is driven by the different behavior of younger cohorts of women entering the labor force.

13. Significant improvements have taken in place in women's schooling in recent decades in Turkey. For instance, the share of illiterates fell from 33.9 to 19.6 percent whereas the share of university graduates rose from 1.8 to 5.8 percent from 1988 to 2006. One of the most salient features of female labor force participation in Turkey, displayed in Figure E.4, is that it so much depends on educational attainment: participation rates increase substantially with education. While the participation rates of women in urban areas without a primary school diploma is below 10 percent and those of women in urban areas without a high school diploma is below 15 percent, those of women with university degrees is at 70 percent.

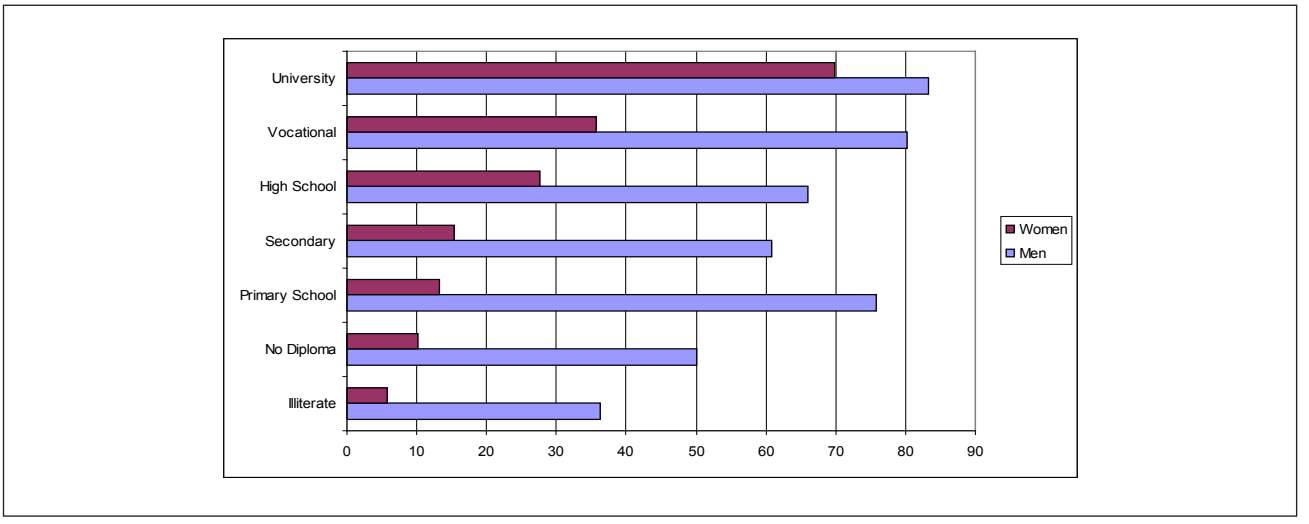
14. This figure explains why the labor force participation rate in urban areas in Turkey is so low. It is low primarily due to the labor force participation behavior

Figure E.3: Birth-Cohort Effects in Female Labor Force Participation Rate according to Rural/Urban Status



of low-educated women, who still account for a large share of the urban population: 73.2 percent of the urban female population were not high school graduates in 2006.

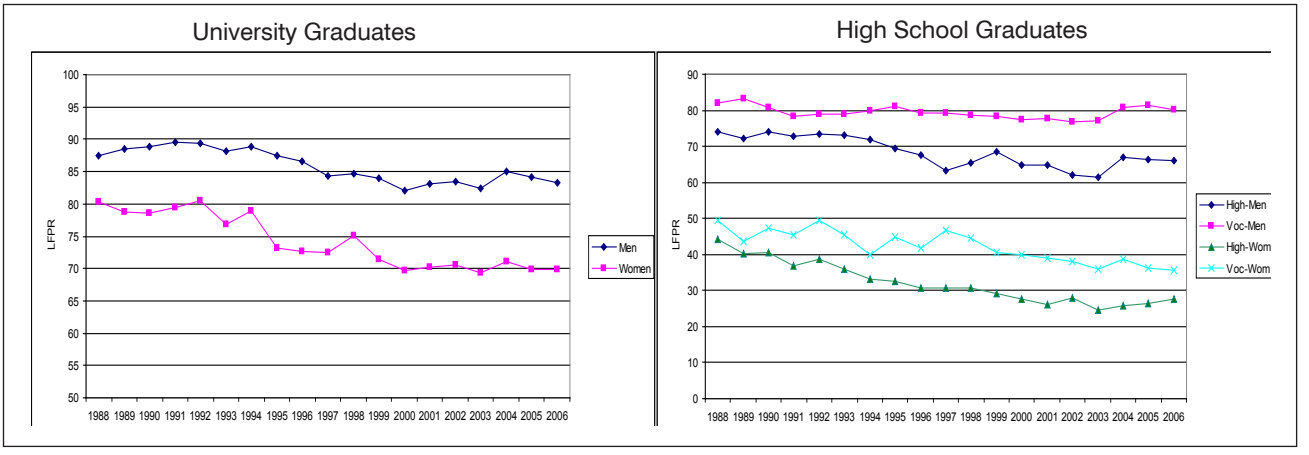
Figure E.4: Labor Force Participation by Education in Urban Areas in 2006



Source: 2006 HLFS, http://www.tuik.gov.tr
Note: Covers individuals age 15 plus.

15. Another salient feature of women's labor force participation by educational attainment in urban areas is that participation rates for university graduates as well as regular and vocational high school graduates have fallen over time. This is illustrated in Figure E.5. The fall for university graduates took place in the mid 1990s, whereas the fall in high school graduates has been more gradual. On the other hand, participation rates of women in urban areas with lower levels of educational attainment have been stagnant. In other words, conditional on schooling, women's participation rates in urban areas are either stagnant or falling, yet the overall participation in urban areas is rising. This is to do with the shift in the composition of the workforce towards more educated women who have higher participation rates. Had the participation rates of highly educated women remained at levels recorded in 90s, women's participation today would have been much higher.

Figure E.5: Change in Labor Force Participation over Time for University Graduates (left-panel) and High School Graduates (right-panel) in Urban Areas



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus

16. Marriage is universal, while divorce is an unlikely event in Turkey: nearly 98 percent of women marry by age 49 and less than 1 percent of women divorce by that age. The timing of marriage is early with the average age at first marriage being 20.7 years. The implication of these demographic factors is that the

majority of women spend a good part of their life being married. However, the labor force participation rate of married women is lower than that of single women in Turkey: while the participation rate of single women is 34.3 percent, the corresponding rate for married women is 23.1 percent. The gap between the two demographic groups widens further in urban areas, where the participation of single women increases to 35 percent but that of married women drops to 15.5 percent. On the bright side, married women's labor force participation rate in urban areas has increased over time. In addition, the share of single women in the population –whose participation rates are higher – is rising.

17. Fertility behavior of women is also very important with regard to their labor force participation decision as children influence the opportunity cost of market work. This is particularly important in Turkey as almost all married women have children. A comparison of fertility rates in 1993 and 2003, using DHS data, reveals falling fertility rates in both rural and urban areas. Moreover, the magnitude of this fall is significant. A decomposition analysis of age, cohort, and time effects shows that cohorts born after the 1970s have a much lower propensity to have children. When we examine labor force participation rates by motherhood status, we find that women with children have lower participation rates, particularly in urban areas. The lower fertility rates of younger cohorts of women and the negative correlation between children and labor force participation imply a higher participation rate for younger women in Turkey.

18. Given the high internal migration rate in Turkey, it is also important to understand how the labor force participation behavior of migrant women compares to that of non-migrant women. We find that the participation rate of migrant women in urban areas – who changed places within the last five years - is, in fact, slightly higher at 29.6 percent than that of non-migrant women in urban areas, which is 27.0 percent. Among migrants, we differentiate between those originating from cities, towns and villages. Migrant women who originate from villages have a lower participation rate at 23.6 percent than non-migrant women in urban areas, but an appreciable difference among others is not observed. However, the lower participation rate of migrant women originating from villages can be explained by their different personal characteristics. Once we account for these variables, migrant women originating from villages do not have a lower propensity to participate in the labor market. This time, perhaps surprisingly, it turns out that migrant women originating from cities have a lower propensity to participate in the labor market after we account for a number of personal characteristics.

19. The multivariate analyses carried out to see how various factors are associated with female labor market participation confirm the important role of education. In particular, university education is strongly positively associated with labor force participation in both rural and urban areas. As expected, married women are found to have a lower likelihood of participation in both areas. Children younger than 15 years were also found to be negatively associated with the participation probability of urban but not rural women. That the regions were found to be strongly associated with participation shows that demand side factors are also important in determining women's labor market participation.

20. We also conducted multivariate logit analyses separately for four educational attainment groups: no education, primary, secondary, and higher. One interesting finding from this analysis is that children matters much more for highly educated women. In fact, for women with no education, there is no evidence at all that children is associated with labor force participation. On the contrary, the negative association of household wealth with labor force participation strengthens as education level decreases. For women with higher education, there is no evidence at all for a negative association between household wealth and labor force participation. We also find that age effects are stronger for higher educational levels.

21. One key finding that emerged from our examination of female labor force participation in Turkey is the declining labor force participation rates in rural areas. Therefore, we examined the potential underlying reasons to this fact. First, we find that the geographical shift in the shares of rural population could partly account for this fact. There exists substantial variation in rural participation rates across geographical regions. The share of rural population residing in the Black Sea regions and Northeastern Anatolia–where participation rates are much higher–is falling. Second, the fact that women in rural areas with a higher propensity to participate in the labor market are also more likely to migrate could explain the declining participation rates. Comparing the characteristics of migrants leaving

rural areas with those of the residents of rural areas, we find that migrants, on average, have higher levels of education and are younger than stayers in rural areas. Given the increasing participation rates with education, the fact that more educated rural women are leaving for other locations would partly account for the falling participation rates. Moreover, that these movers are much younger also help us explain why the decline in participation rates in rural areas is especially prominent at younger ages.

22. Another potential explanation to the falling participation rates in rural areas is declining agricultural wages due to a worsening of agricultural prices. When we examine the terms of trade between agriculture and manufacturing, we find that the terms of trade for agriculture in fact worsened after 2000. This also could partly account for the falling participation rates in rural areas after 2000. In addition, a shift to less labor-intensive agricultural products could also explain the decline in participation rates. However, we do not observe a significant change in the land allotted to various agricultural products over time.

23. Another important finding with regard to agriculture that could help us explain the falling participation rates is the decline in share of households in rural areas engaged in agriculture, and in particular own-account agriculture after 2000. A decline in own-account agriculture means a loss of an easily available source of work for many women. The above-mentioned worsening of terms of trade in agriculture could partly account for this decline as well. In addition, the re-classification of certain locations as urban could also explain the declining share of agriculture.

24. Another key finding of the study is the decline in the labor force participation of highly skilled women over the 1988-1999 period and their stagnant participations rates (at about 70 percent) after 2000. The absence of wage data has precluded us from investigating the role of wages in explaining the declining rates prior to 2000. The wage data available for the 2002-2006 period indicate a deterioration and a recovery in women's wages over the studied period. This is a potential explanation for why the labor force participation of highly skilled women did not record an increase in this time period. Another potential explanation for the declining/stagnant participation rates of highly skilled women would be an increase in their reservation wages due to higher household incomes. However, our multivariate analyses showed that for university graduates household income is not negatively associated with participation, unlike other educational attainment groups. As a last potential explanation, we looked at the change in the composition of university graduates over time but could not identify a change in observable characteristics that could have led to their declining participation rates. However, this does not preclude changes occurring in unobserved characteristics that could decrease their participation rates. Indeed, we show that the growth in the share of university graduates has been particularly fast over the 1994-1999 period, when the biggest decline in the labor force participation of university graduates took place.

25. The final interesting finding that requires further investigation is the low and stagnant participation rates of low skilled women – those with less than high school education. Over the 2000-2006 period, the participation rate of low skilled women varied between 10.9 and 11.8 percent. These are considerably lower rates compared to that of low skilled men which, over the same time period, varied between 67.1 and 68.8 percent. To explain this large gap between the participation rates of low-skilled men and women, we compared the wages of the two groups and noted an improvement in women's wages vis-à-vis men. However, we also noted that despite the improvement, women's wages were still very low, with over 75 percent of women receiving wages that were below the minimum wage. These low market wages as well as high reservation wages of women stemming from the big household sector in Turkey coupled with very long hours of work probably explain why they participate in the labor market in so few numbers. A look at broad segregation indicators such as industrial distribution and firm size has not shown drastically different patterns between men and women, though they are distributed differently across occupations, which probably explain some of the gender wage gap.

26. To have a better understanding of why both low and high skilled women in urban areas have had stagnant labor force participation patterns in recent years, it would have been revealing to look at the activities of non-employed women as well. For this purpose, we had originally planned to use the 2006 Time-use Survey of TUIK but at the time of the writing of this report the data were not released yet. Another area that needs further investigation is the family-run agricultural establishments, where we see the biggest change in female labor supply.

1. Introduction

27. One of the salient features of the labor market in Turkey is the distinctly lower participation rates of women vis-à-vis men. In 2006, while the participation rate of men (age 15+) was on the order of 71.5 percent, the corresponding rate for women was 24.9 percent. In comparison to OECD and EU-27 averages (for ages 15-64), the participation rates of both men and women in Turkey are lower. However, in the case of men, the gap is not more than six percentage points (for ages 15-64). In contrast, the average participation rates of women in EU-27 and OECD countries recorded at 66.1 percent and 60.8 percent, respectively, are well above the Turkish rate. Furthermore, despite the increasing labor market participation in much of the EU and OECD countries in the last decades, the labor market participation of women has actually declined in Turkey.

28. Table 1 provides the key labor market indicators for men and women for 1988, 2000 and 2006. The decline in the labor force participation of women is apparent from the table. In less than two decades, from 1988 to 2006, the participation rate of women went down by about 10 percentage points from 34.3 percent to 24.9 percent. A similar change in the participation rates has also been observed among men where men's participation went down from 81.2 percent in 1988 to 71.5 percent in 2006. Over this period, the unemployment rate fluctuated around 6.6-9.7 percent for men and 6.3-10.3 percent for women.

29. The low and declining labor market participation of women has been voiced as a concern in a number of policy documents, urging the government to take action to reverse the observed trend. The government has recently responded to this rising concern by formulating possible policy actions that could increase women's participation in the labor market.

30. The purpose of this report is to give support to such efforts by trying to shed light on factors that determine women's participation in the labor market and the reasons behind the observed trends. Some of the broad questions asked in the paper include:

- What might be the reasons for the declining labor force participation of women?
- What factors affect the labor force participation of women?
- In particular, what are the roles of education and demographic variables in determining women's participation in the labor market?

31. The report is organized as follows. Section 2 presents a brief literature survey outlining previous studies done in Turkey on female labor supply and summarizes the different lines of research in this area in the international literature. Section 3 presents the

Table 1: Main Labor Market Indicators

Year	Non-institutional population	Labor Force	Employed	Unemployed	LFPR	U rate
(N=,000)			**All**			
1988	33,746	19,391	17,754	1,637	57.5%	8.4%
2000	46,211	23,078	21,581	1,497	49.9%	6.5%
2006	51,668	24,776	22,330	2,447	48%	9.9%
			Men			
1988	16,661	13,536	12,520	1,017	81.2%	7.5%
2000	22,916	16,890	15,780	1,111	73.7%	6.6%
2006	25,601	18,297	16,520	1,777	71.5%	9.7%
			Women			
1988	17,085	5,854	5,234	621	34.3%	8.4%
2000	23,295	6,188	5,801	387	26.6%	6.3%
2006	26,067	6,480	5,810	670	24.9%	10.3%

Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Population figures are in thousands. Covers individuals ages 15 plus.

data sets used in the study. Section 4 looks briefly at the legal framework in Turkey as regards to women's employment. Section 5 discusses the trends in female labor force participation in three main sections. While the first sub-section presents the recent population trends, the second sub-section analyses participation in time series data and the third sub-section carries out cohort analyses. In Section 6, education, marital status, fertility and migration are studied as potential determinants of the labor force participation of women and the observed changes in them. In section 7, multivariate analyses are carried out to determine the factors affecting female labor force participation. Section 8 presents more focused analyses of urban low and high skilled women and rural women. Section 9 concludes the report.

2. Literature Review

2.1. National Studies

32. The low labor market participation of women has been the subject of various studies. Some of the earlier work on the topic relied on published data and tried to link macro variables with the falling participation rates of women (see for instance World Bank, 1993; Özar, 1994; Özbay, 1994; TUSİAD, 2000, 2008). Urbanization, migration from rural to urban areas, and the low levels of female education were noted as the probable causes for the low and declining participation rates of women. The General Directorate of Women's Status and Problems also contributed to the early efforts by commissioning research projects on various aspects of women's work lives. Most of these studies were based on small-scale surveys on specific sectors.

33. As large scale micro-level data became publicly available, studies on various aspects of female labor supply flourished. One line of research investigated the determinants of labor force participation of women using cross-sectional data (for instance Dayıoğlu, 2000; Dayıoğlu and Kasnakoğlu, 1997; Ercan and Tunalı, 1998; Tunalı, 1997). These studies found years of schooling, age, marital status and number of children to be important determinants of the participation decision of women. In an interesting study, Çınar (1994) found that 'safety' concerns affect women's employment decision, inducing them to prefer home-based work over formal work arrangements.

34. Studies investigating the gender earnings gap were a natural extension of participation studies. Kasnakoğlu and Dayıoğlu (1996), Ercan and Tunalı (1998), Tansel (1994, 1999), and Dayıoğlu and Tunalı (2003) found significant differences in the hourly earnings of men and women. The Oaxaca-Blinder type decomposition exercises employed in many such studies indicated that it is not the endowment differences that lead to the wage gap but rather the higher market valuation of male traits. Tunalı and Başlevent (2001) looking at wage earners and self-employed women concluded that wage labor attracts the best workers. Similar findings are noted by Dayıoğlu and Başlevent (2006), drawing attention to the rather heterogeneous nature of the female workforce.

35. Another line of research investigated the effect of structural adjustment policies and changing industrial structure on women's employment (see for instance Çağatay and Berik, 1990; Çağatay and Özler, 1995; Özler, 2000; Onaran and Başlevent, 2004). These studies found evidence for the feminization of the labor force following the 1980 structural adjustment program that adopted export-oriented growth strategy. However, plant-level data indicated that the effect of technological innovation was not always favorable to female labor (Ansal, 1997). There were also few studies that investigated the effect of business cycles on women's participation. Başlevent and Onaran (2002) and Özler (2000), for instance, noted that it is more likely for women to become added than discouraged workers during economic downturns.

2.2. International Studies

36. Our study builds on the existing knowledge and aims to throw light on recent developments in women's participation in Turkey by drawing on both the national international experiences.

37. Killingworth and Heckman (1985), in their survey paper, review the theoretical and empirical work on female labor supply with a focus on Western economies. The 1985 special issue of Journal of Labor Economics includes a collection of papers examining female labor supply in a number of developed countries. Many of these studies highlight the rising participation rate for women, in particular that for married women. Gustafsson and Jacobsson (1985) draw attention to the decreased gender wage differential in Sweden in explaining the rising female participation rate. Similarly, Shimada and Higuchi (1985) report that improvements in female education and wages led to a substantial increase in paid female employment

in Japan. Greenwood, Seshadri, and Yörükoğlu (2005) draw attention to the importance of consumer durable goods revolution in the rise of married female labor-force participation. The substantial increase in female labor force participation in the U.S. during the 1970s and 80s came to a slowdown in the 1990s and early 2000s according to Juhn and Potter (2006).

38. Many studies examine the relationship between labor force participation and demographic factors like fertility and marital status. Michael (1985) finds evidence for correlation between the participation rate of females and many demographic variables using bivariate autoregressive structures. Recent studies on the relationship between fertility and labor force participation in OECD countries tend to find a positive trend, contrary to the findings until 1985. However, Kögel (2004) contests this finding and argues that there has only been a decrease in the negative relationship but it has not turned positive.

39. Psacharopoulos and Tzannatos (1993) examine female labor force participation in 15 Latin American countries. They find increasing participation despite adverse economic conditions. They also report a negative association between participation and marriage as well as fertility.

40. With regard to the impact of business cycles on female employment, Lim (2000) examines the differential impact of East Asian economic crisis on the employment of women compared to men.

3. Data

41. The main source for labor force statistics in Turkey are the Household Labor Force Surveys (HLFS) of the Turkish Statistical Institute (TUIK), which have been conducted regularly since 1988. Earlier data on labor force and employment are rather scanty and do not necessarily rely on similar definitions or methodologies as HLFS. Therefore, we primarily rely on the HLFS data of TUIK from 1988 onwards to analyze the main trends in the labor force participation of women.

42. The HLFS were originally conducted biannually. Starting with the 2000 survey, data have been released quarterly and since 2005 on a monthly basis using a moving average of three months. Annual data are also released and we primarily rely on annual data to depict the participation profiles. While during the 1988-1994 applications the sample size was 11,160 households, it was increased to 15,000 households in 1994 (but allowed for non-response rather than substitution) and further to 7,800 households per month or 23,000 households per quarter in 2000. The sample size in 2004 was expanded further to 13,000 households per month to provide NUTS2 level estimates on key variables. Besides the changes in sample size, the sampling methodology also changed in 2000 so that the same households were included in the survey for four times over a period of 18 months. It is not clear how this methodological change affected the key variables. However, our analysis shows a break in the proportion of women employed in agriculture: a significant fall in the labor market participation and employment of women in agriculture was observed in a single year going from 1999 to 2000. Since we do not have information on how the redesign could have affected the key variables we do not adjust the data in any way. Another change to the HLFS questionnaire –but not the sampling frame–occurred in 2005. In collaboration with EUROSTAT the questionnaire expanded to include an additional 12 questions. Some of the additional questions were aimed at increasing the quality of the data collected, while others were included to be in line with the questionnaires of EUROSTAT. Going from 2004 to 2005, in a single year, significant falls in the participation rates of rural women were again observed. While it is hard to know whether the changes made to the questionnaire has anything to do with the unusually big drop, in a report prepared for TUSIAD, Yükseler and Türkan (2008) argues that this is a possibility that should not be brushed aside.

43. In terms of the information collected, the HLFS carries the common features of a regular labor force survey with the exception that wage data are only available in recent applications. The definitions of key variables have remained constant over the 1988-2006 applications so that the HLFS data are comparable across time.

44. Although the HLFS includes basic information on demographics, such as the composition of the household and its size, information on fertility is missing. This is crucial in the analysis of the effect of children on women's labor market participation. Through HLFS, one can only determine the number of children currently residing in the household, though in households where multiple families are found it is not always possible to link mothers with their children. Information on reproductive behavior, however, can be obtained

from the Demographic and Health Survey (DHS) of Hacettepe University. DHS have been conducted in 5-year intervals since 1968. However, it is only in recent surveys, i.e. in 1998 and 2003 rounds, that information of women's labor market participation is collected.

45. In trying to understand why women do not participate in the labor market, one has to account for the fact that the household sector in Turkey is rather big. Women who do not participate in the labor market are actually engaged in various productive (but not necessarily 'economic') activities at home ranging from child and elderly care to preparing, serving and preserving food for household's own consumption. While in Western countries most of these activities are replaced by their market substitutes, such is not the case in Turkey. In an effort to understand the activities of women who do not participate in the labor market and the characteristics of their households, the Turkish Statistical Institute has conducted a Time Use Survey in 2006. The Survey is a household-based cross-section and is representative of urban and rural households in Turkey. However, this survey has not been made public yet and, therefore, could not be used in this study.

46. None of the above surveys carry a panel feature. However, multiple cross-sections of the HLFS and DHS allow the construction of synthetic panels, which are used in disentangling the cohort effects from age and calendar year effects.

4. Legal Framework

47. Before embarking on an analysis of the trends in the labor market participation of women and discussing the possible economic and demographic factors behind the observed trends, we need to answer the following question: could the legal framework in Turkey be limiting women's participation in the labor market?

48. Outright discrimination against women in hiring, promotion and wage policies is illegal in Turkey. However, 'protective' provisions play a role limiting women's work and earnings opportunities. For instance, until recently, women (with some exceptions) could not take-up night work. The new Labor Act that was adopted in May 2002 abolished this provision. However, others remained: For instance, women cannot work in coal mines, underground quarries or in dangerous jobs (Süral, 2007). There are also provisions that increase the cost of women workers vis-à-vis male workers. For instance, the Labor Law still views child care as the responsibility of the mother, requiring workplaces employing more than 100 female workers to set up nursing rooms, and those with 150 women workers or more to provide day care. That the establishment of day care depends on the number of women workers and not on the total number of workers creates an asymmetry in the cost of employing female and male workers.

49. The most significant change that has occurred in the Labor Law concerns the extension of maternity leave from 12 weeks to 16 weeks, with the flexibility of using all but three weeks after the birth of the child. The law also allows women to have 6 months of unpaid leave following the end of 16 weeks of paid maternity leave. Although the new maternity provision enables women to maintain their job attachment, it may also lead firms to shy away from hiring women workers. There are no provisions in the law for paternity leave.

50. The new Labor Law also includes provisions that are geared toward making the workplace more women friendly by explicitly recognizing and outlawing sexual harassment at workplace and shifting the burden of proof to the party that has been accused of harassment.

51. There are also provisions in other legal documents that may negatively affect the labor market participation of women or their attachment to it. For instance, should a female worker quit her job due to marriage she is entitled to receive a severance payment. (A similar measure exists for men leaving their jobs to do their military service.) Although this measure may seem to benefit women, it may also work to decrease women's work attachment. There were also provisions in the social security system that allowed unmarried females who did not work to receive survivor's benefits. This provision was recently changed such that an upper age limit (that already existed for males) was set to identify the potential beneficiaries.

52. Retirement age and the required contributions for retirement with full benefits were the other areas where women received preferential treatment. Under the old social security law, women could retire with full benefits with 20 years of service. (The requirement for men was 25 years.) Amendments made to the law increased the number of contribution years and established a minimum age for retirement that was lower than that for men. The most recent amendment aims to equalize

the pension ages for men and women gradually at 65 years by 2048 (Süral, 2007). The early retirement opportunity for women with full benefits (that is being gradually phased out) helps explain why women, especially in urban areas, retire earlier than men.

53. The new Labor Law also introduced part-time and atypical work and allowed the establishment of temporary employment agencies. As to what extent these atypical work arrangements will facilitate women's entry into the labor market remains to be seen.

54. The government has also passed a new employment package in May 2008 with an aim to increase the participation rates of women and the youth in the labor market. In accordance with the amendment made to the Labor Law, the employer's share of the social security contributions for women (above the age of 18) and the youth (younger than 29 years) hired within a year following the enactment of the law will be subsidized by the Treasury for a period of five years. The subsidy scheme is such that the government will pay 100 percent of the social security premiums for women and the youth in the first year. In subsequent years, the subsidy will be cut by 20 points, so that in the final year, the Treasury will pay 20 percent of the social security premiums on behalf of the employers. The government plans to use the Unemployment Insurance Fund to finance the program. The employment package is expected to positively affect the employment of women since the cost of hiring female vis-à-vis male workers is reduced. The package is also expected to increase registered employment.

5. Trends in Female Labor Force Participation in Times Series Data

5.1. Trends in Population

55. A very important feature that characterizes the population of Turkey in the last decades is the high migration rates from rural to urban areas. Accordingly, the urban population of Turkey has increased much faster than the rural population. As can be seen in Figure 1, the non-institutional rural population above the age of 15 has increased by 2.5 million people from 16.5 million to 19 million during an 18-year span from 1988 to 2006, whereas during the same time frame the urban population increased by roughly 15.5 million people from 17.2 to 32.7 million people. In other words, the share of urban population rose from 51.1 percent in 1988 to 63.3 percent in 2006.[1]

56. Figures 2 and 3 display the age structure for the population aged 15 and above in rural and urban areas, respectively. What is most striking is that the share of young population, aged 15 to 24, has fallen and the share of 25-49 age group has risen considerably in rural areas. In urban areas, the age composition has been more stable. However, the share of young population has been falling in urban areas as well since the late 1990s.

5.2. Time Profiles

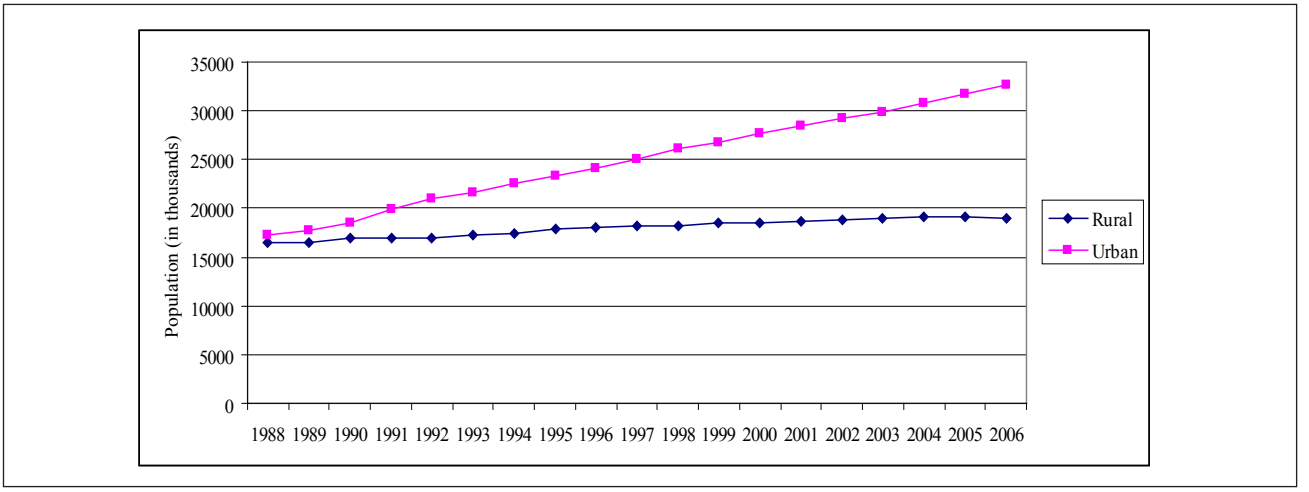
57. Changes in the labor force participation of men and women in Turkey over time are depicted in Figure 4 (See also Appendix Table A1). A gradual decline in the participation rates for both men and women are clearly visible from the figure. While the labor force participation rate of men in 1988 was 81 percent, by 2006 this rate was down to 71.5 percent. Similarly, while the participation rate of women was 34.3 percent in 1988, it was down to 24.9 percent in 2006.

58. Part of the reason for the observed decline in the participation rates is to do with the declining importance of agriculture in employment, where participation rates have been traditionally higher than other sectors due for instance to the prevalence of small-scale family-run farms.[2] Different from many of the OECD and EU countries, agricultural sector is still sizeable in Turkey, though its share in employment is on the decline. While in 1988, 46.5 percent of employed individuals were in agriculture, in less than two decades this figure decreased to 27.3 percent. The move out of agriculture and rural areas is expected to reduce the overall participation rates for the reasons that the participation rates in urban areas (shown below), especially for women, are lower and a smaller part of the population now live in rural areas.

[1] The re-classification of urban/rural areas over time – notably, the re-classification of certain rural areas as part of metropolitan areas - could also explain the declining share of rural places.

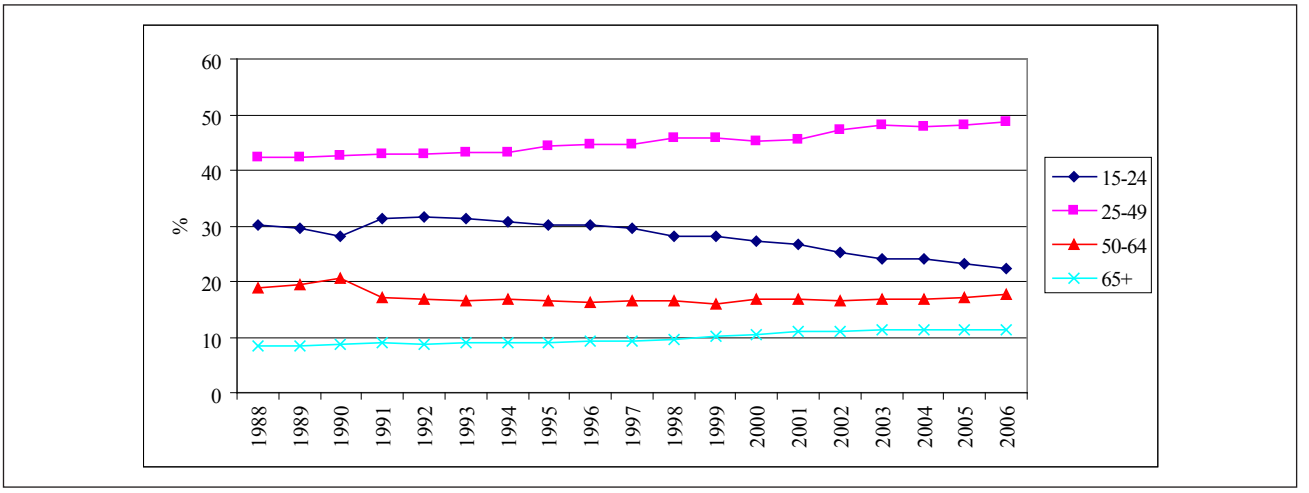
[2] Statistically, it is also easier to be classified as a labor market participant in rural areas, where market and domestic spheres often overlap.

Figure 1: Non-institutional Rural and Urban Population



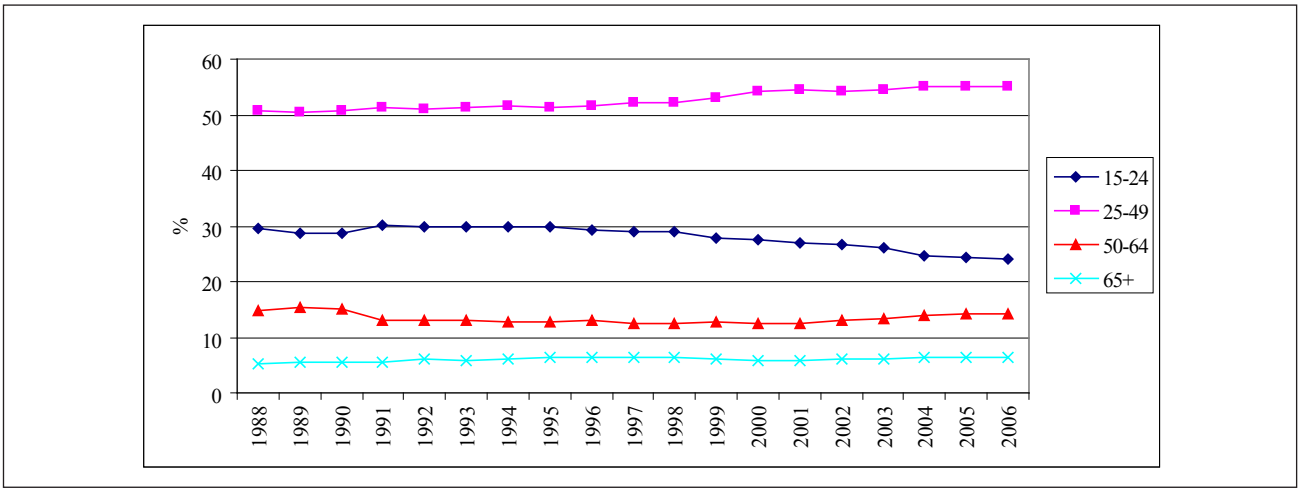
Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus.

Figure 2: Age Structure of the Rural Population



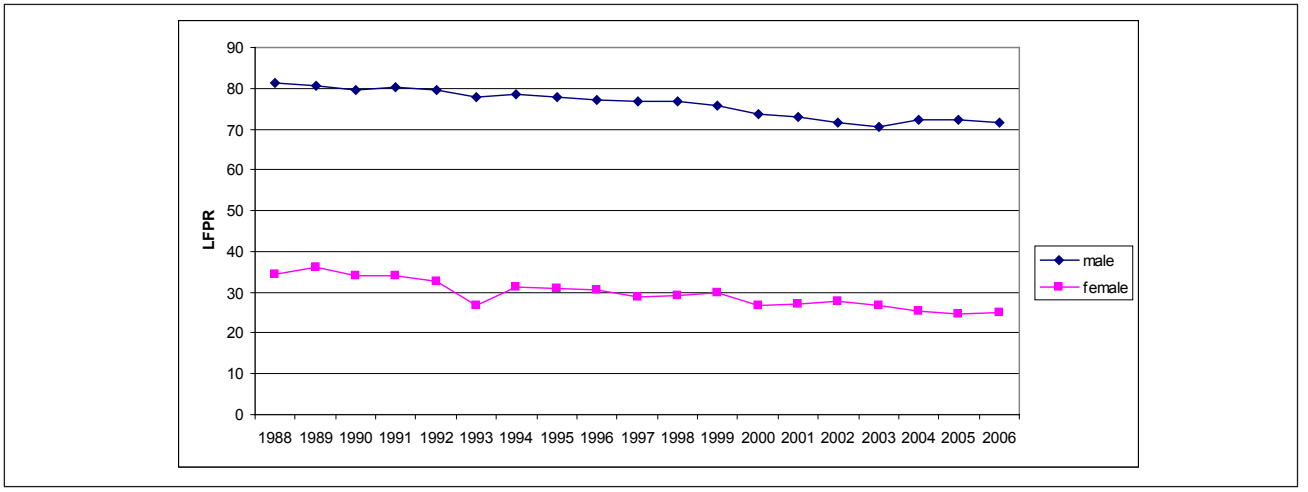
Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus.

Figure 3: Age Structure of the Urban Population



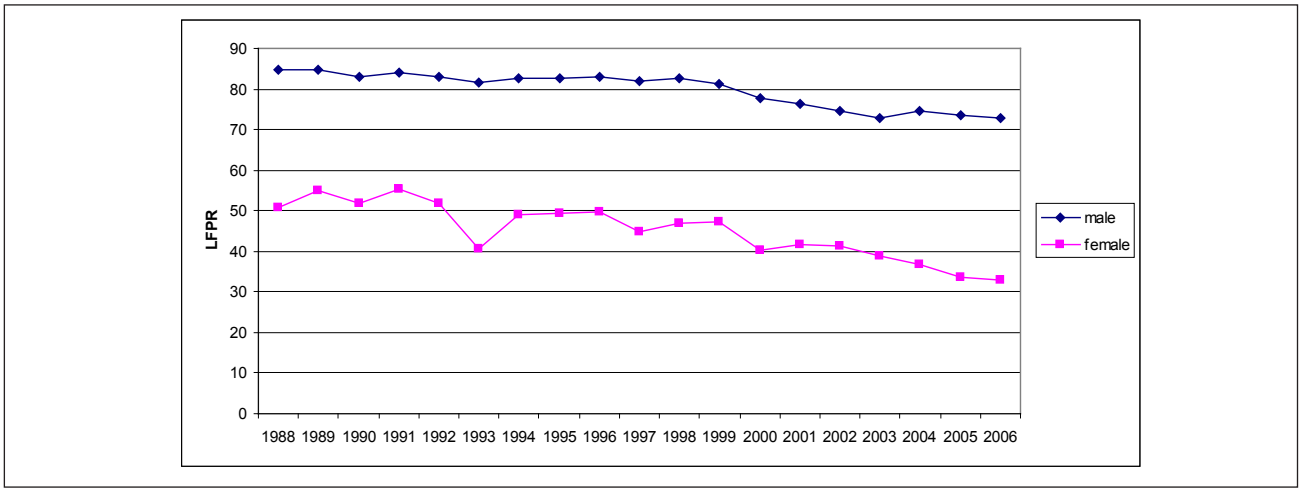
Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus.

Figure 4: Labor Force Participation by Sex



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data see Appendix Table A1.

Figure 5: Labor Force Participation by Sex in Rural Areas

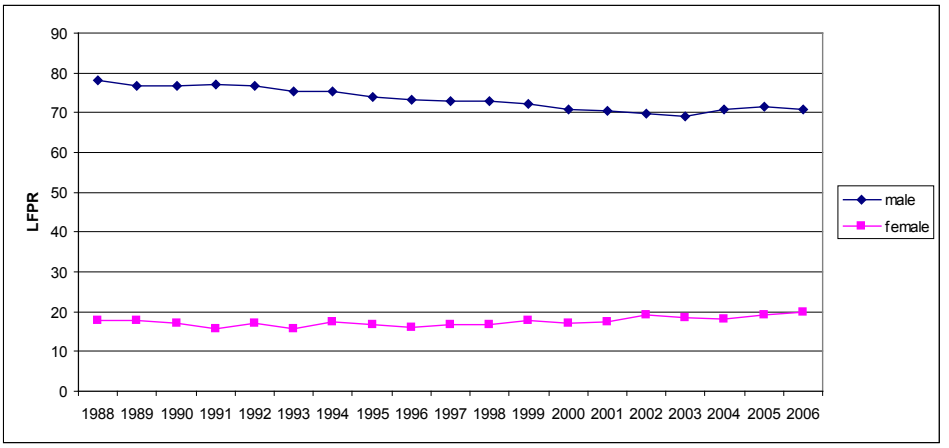


Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data see Appendix Table A1.

59. Figures 5 and 6 show the participation rates in rural and urban areas over time. As would be expected, there is a general fall in the participation rates in rural areas, which are defined as settlements with population less than 20,001. The fall in the participation rates are particularly sharp in the case of women. While in 1988, 50.7 percent of rural women entered the labor market, this rate was down to 33 percent in 2006 (Figure 2). Corresponding rates for males were 84.7 percent and 72.7 percent, respectively.

60. A declining trend is also observed among men in urban areas: in comparison to the late 80s, participation rates were down by almost 10 percentage points in the early 2000s (Figure 6). In contrast to men, women's participation in urban areas was stagnant in much of the 1990s, but recorded a slight increase in the last few years, with the result that the gender participation gap has somewhat narrowed (Figure 6). Despite the recent improvement, women's participation remained below 20 percent.

Figure 6: Labor Force Participation by Sex in Urban Areas

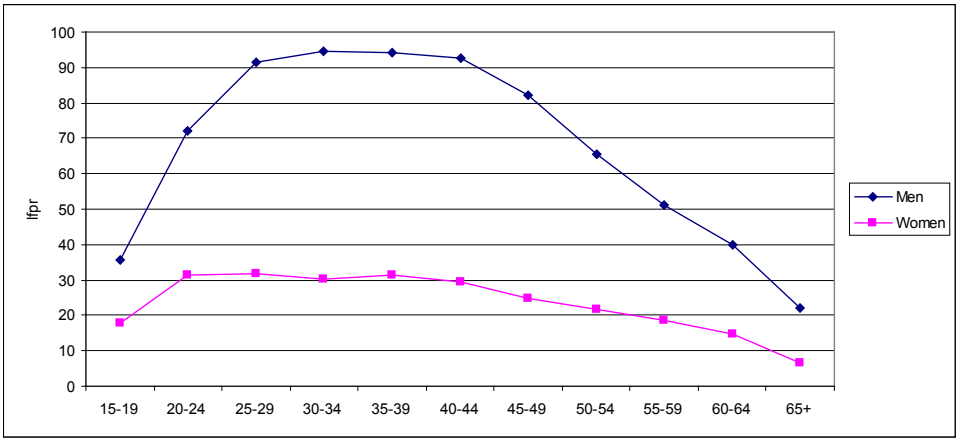


Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data see Appendix Table A1.

5.2.1. Female labor force participation rates by age over time

61. The age-participation profiles of men and women are hump-shaped: participation is low at young ages, increases at prime age years (24-45) and declines thereon. The labor force participation rate of men is highest during their prime age years exceeding 90 percent (Figure 7). For women, participation is also highest during prime age years but reaches rates of only 30 percent.

Figure 7: Labor Force Participation in 2006 by Age Groups

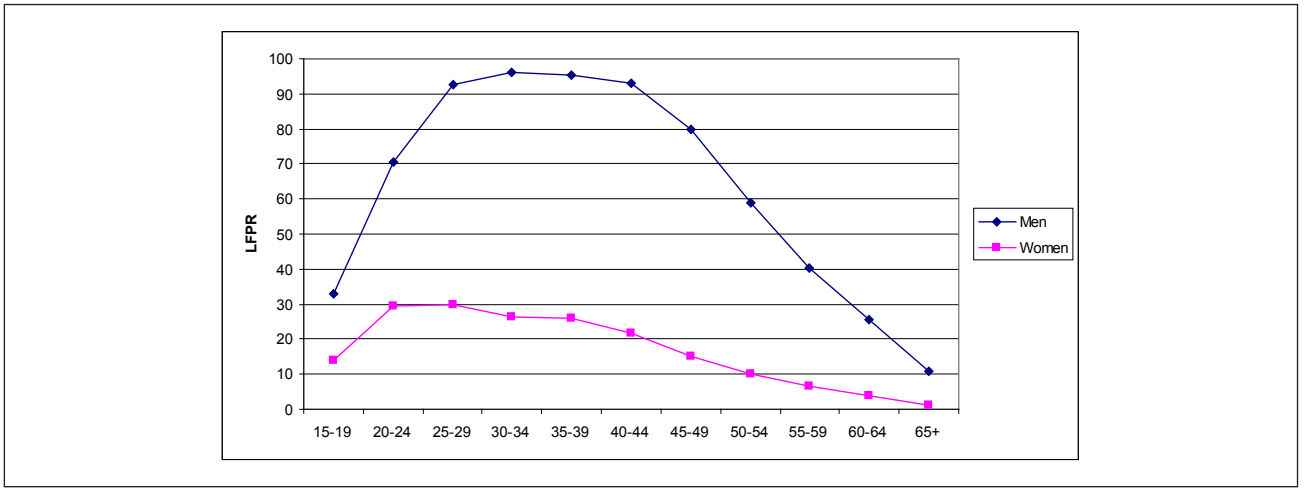


Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus.

62. In urban areas, the hump-shape participation profile of men strengthens as a result of faster exits from the labor market at older ages and delayed entry at younger ages owing to higher average schooling levels in urban areas. In comparison to their male counterparts, urban women's participation peaks rather early-when they are in their twenties -reaching rates of about 30 percent. Participation rates of urban women decline as they reach their 30s. Even faster declines occur as they reach their 40s when many women make their transition to retirement (Figure 8). In the 45-49 age group, only 15.2 percent of women enter the labor market, which is half the figure observed for the 20-29-year-old women.[3]

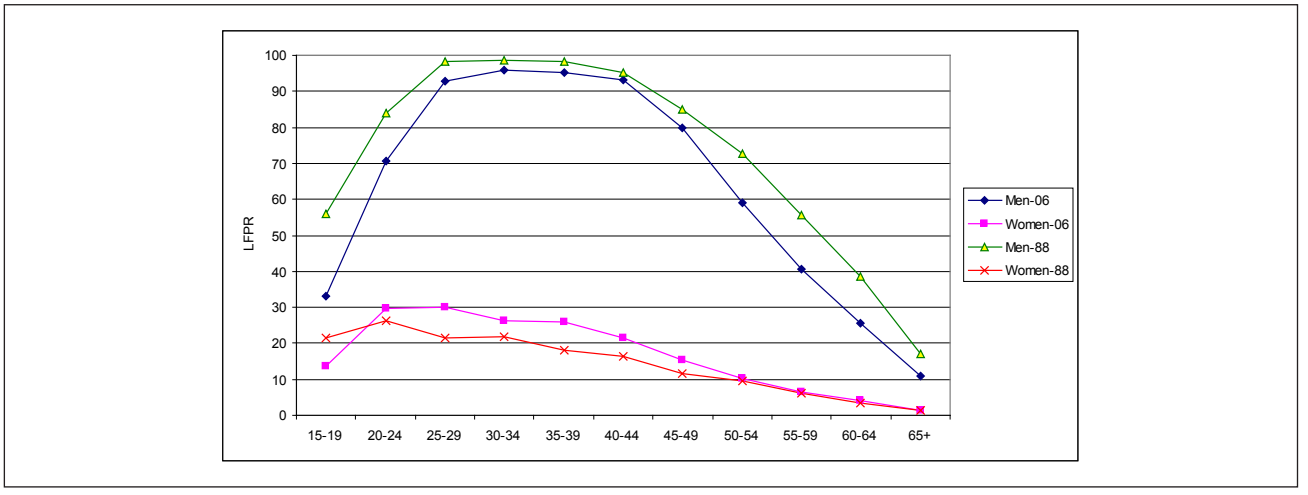
[3] The rather generous retirement scheme in Turkey – which is being gradually phased out (see Section 4) - is among the possible explanations for the drastic drop in participation as early as mid 40s. Appendix Figures B1 and B2, compare age-participation profiles of men and women in Turkey to their counterparts in the US, OECD, EU member countries. That the drop is observed for both men and women starting around mid 40s, but much later in other countries, gives support to the conjecture that early retirement explains part of the reason for the relatively lower participation rates in Turkey.

Figure 8: Labor Force Participation in 2006 in Urban Areas by Age Groups



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data on women see Appendix Table A2.

Figure 9: Labor Force Participation in Urban Areas by Age Groups in 1988 and 2006



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data on women see Appendix Table A2.

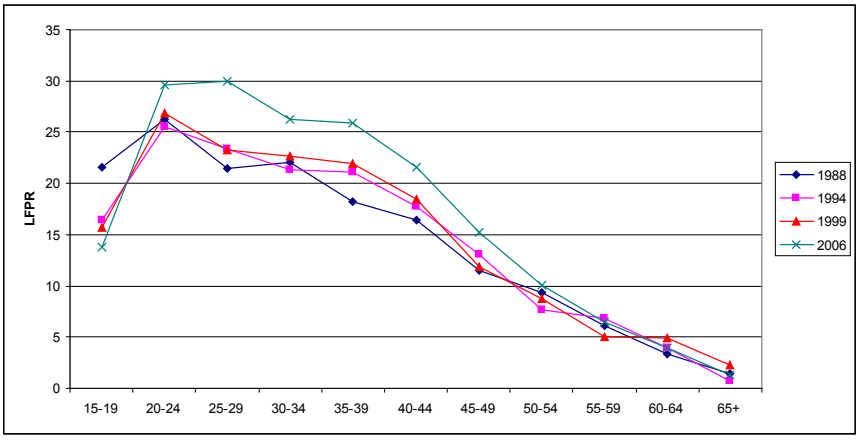
63. Figure 9 compares the change in the age-participation profiles of men and women between 1988 and 2006 for urban areas. For all age groups a declining trend is observed for men, which is particularly sharp at younger and older ages. In the case of women, the average participation is up by 2.2 percentage points. The increase is particularly sharp among those in their prime age years. For instance, in comparison to 1988 participation is up by almost 9 percentage points among the 25-29-year-olds. However, a sharp decline (8 percentage points) in participation is observed among the youngest age group (15-19 years). Falling participation rates among younger and older women pull the average participation rate down. Re-estimating participation among 20-49 year-old women indicates an improvement in average participation on the order of 5.1 percentage points between 1988 and 2006. Increasing participation among prime age women is consistent with the observed improvements in educational outcomes and demographic changes such as delayed marriage and reduced fertility.

64. A closer look at urban women's participation over time reveals that the observed increase is not a consequence of the years chosen for comparison purposes but that the labor market participation of women has been on the increase among the 20-54 age group for some time (Figure 10). It is also interesting to note that except for the year 2006, in all other years under consideration, the peak in women's participation occurred in the 20-24 age group followed by a sharp decline in the 25-29 age group. The profile for 2006 shows a delayed peak and a postponed fall to the 30-

34 age group. Whether this will be the new trend remains to be seen. However, in none of the profiles do we see a second significant upsurge in participation.

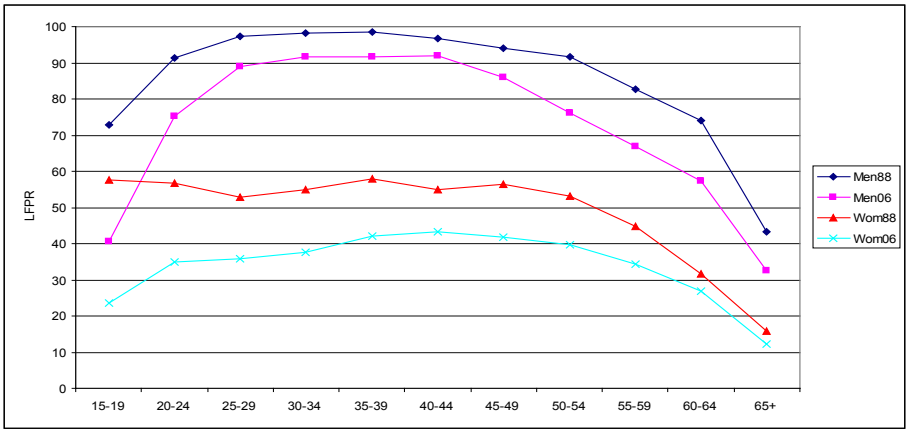
65. To what extent the participation profiles obtained from cross-section analysis shows how an average woman behaves in the urban labor market as she ages depends on the size of time and cohort effects. It might very well be that the patterns observed in age-participation profiles tell a different story when they are corrected for time and cohort effects. We will return to this discussion in Section 5.3 where we construct synthetic panels.

Figure 10: LFPR of Women in Urban Areas by Age Groups in 1988, 1994, 1999 and 2006



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data on women see Appendix Table A2 For data see Appendix Table A2.

Figure 11: LFPR of Women in Rural Areas by Age Groups in 1988, 1994, 1999 and 2006



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data on women see Appendix Table A3.

66. The picture is quite different for women in rural areas: labor market participation is on the decline in all age groups with particularly sharp declines observed among younger women (Figure 11). While men's participation rates in rural areas have also declined over time, the decline observed for women has been particularly sharp.

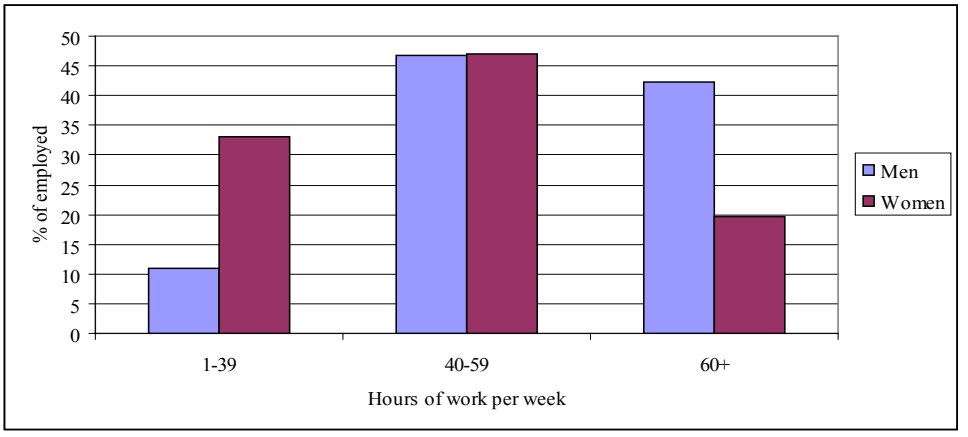
5.2.2. Hours Worked for Employed Females over Time

67. Long hours of work characterize the labor market in Turkey. Figure 12 shows the distribution of employed individuals by hours of work per week. Nine out of 10 employed men work 40 or more hours per week. Full-

time work is also prevalent among women, 67 percent of whom work 40 or more hours per week.

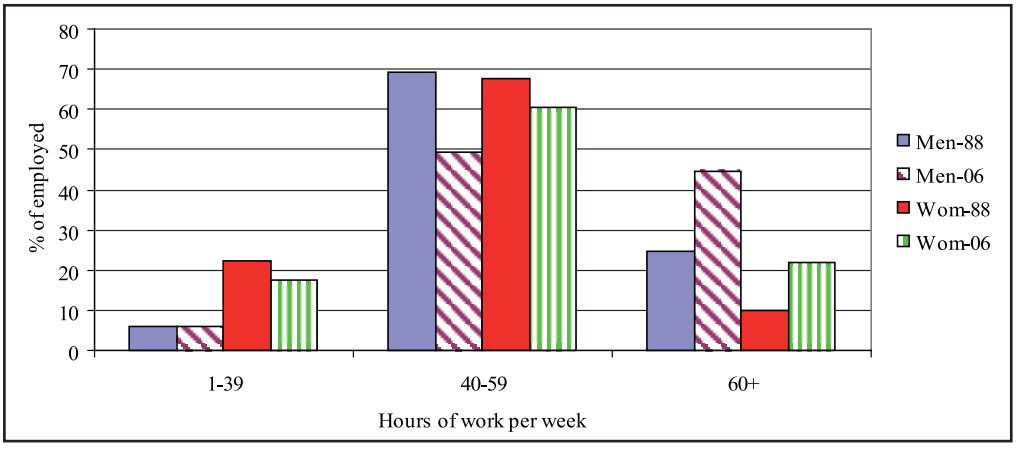
68. An interesting question in the context of hours of work is whether the increase in the participation rates observed among urban women has occurred through an increase in the proportion of women in part-time jobs. Figure 13, which depicts the distribution of hours of work among employed male and female populations in urban areas in 1988 and 2006 indicate the opposite. For both men and women, an increase in the hours of work is observed. While in 1988, 22.5 percent of women were employed for fewer than 40 hours per week, this proportion dropped to 17.3 percent in 2006. Furthermore, for both men and women the proportions who work very long hours (60 hours per week or more) increased dramatically. These finding indicate that if we were to weigh the participation rate of women by hours worked, the total labor input would, in no doubt, show a stronger increase than the participation rate itself.

Figure 12: Hours of Work by Sex in 2006



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus.

Figure 13: Hours of Work in Urban Areas by Sex in 1988 and 2006



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus.

5.2.3. Occupational Distribution of the Employed by Sex and Year[4]

69. The occupations held by working women are shown in Table 2. About 60 percent of working women are found in agricultural occupations. This result stems from the dominance of agricultural activities in rural areas, which is evident from the observation that 24.7 percent of men are also in agriculture, and the fact that rural women make up six out of 10 working women in Turkey.

To get a better sense of the distribution outside agriculture we turn to urban areas.[5] Table 3 shows that even in urban areas, the proportion of women engaged in agriculture is non-negligible, though its share is on the decline. While in 1988, 14.4 percent of urban working women were in agriculture, in 2003, this figure dropped to 9.7 percent. Besides agriculture, women are over-represented among professionals/ technical workers and clerical workers: excluding agricultural workers, about half of the working women in 2003 were found in one of these two occupations as opposed to 18 percent of men. When the distribution is

Table 2: Occupational Distribution by Sex in 2003 (%)

ISCO-68	Men	Women
Professional, Technical and Related Workers	7.85	10.70
Administrative and Managerial Workers	3.93	0.96
Clerical and Related Workers	5.11	8.80
Sales Workers	14.01	5.25
Service Workers	12.47	5.93
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	24.66	59.05
Production and Related Workers, Transport Equipment Operators and Laborers	31.96	9.31

Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. 2003 is the final year in which ISCO-68 was used.

Table 3: Occupational Distribution in Urban Areas by Sex (%)

	Men			Women		
ISCO-68	1988	2000	2003	1988	2000	2003
Professional, Technical and Related Workers	8.80	10.02	10.48	19.74	25.24	23.89
Administrative and Managerial Workers	3.76	4.14	5.27	1.30	2.10	2.30
Clerical and Related Workers	6.72	7.44	6.99	21.32	22.50	20.19
Sales Workers	15.81	18.72	18.89	6.33	10.32	11.25
Service Workers	12.85	14.03	14.93	10.06	12.28	13.78
Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters	4.43	2.66	3.10	14.43	8.71	9.67
Production and Related Workers, Transport Equipment Operators and Laborers	47.62	42.97	40.33	26.82	18.88	18.93

Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. 2003 is the final year in which ISCO-68 was used.

[4] The occupational classification used by TUIK from 1988 to 2003 followed ISCO-68. From 2004 onwards, occupations were categorized in line with ISCO-88. To ease comparison across time we report 2003, the final year that ISCO-68 was used.

[5] This is partly due to the definition of urban places which relies on the size of the settlement rather than other characteristics such as economic activity or services rendered to the population.

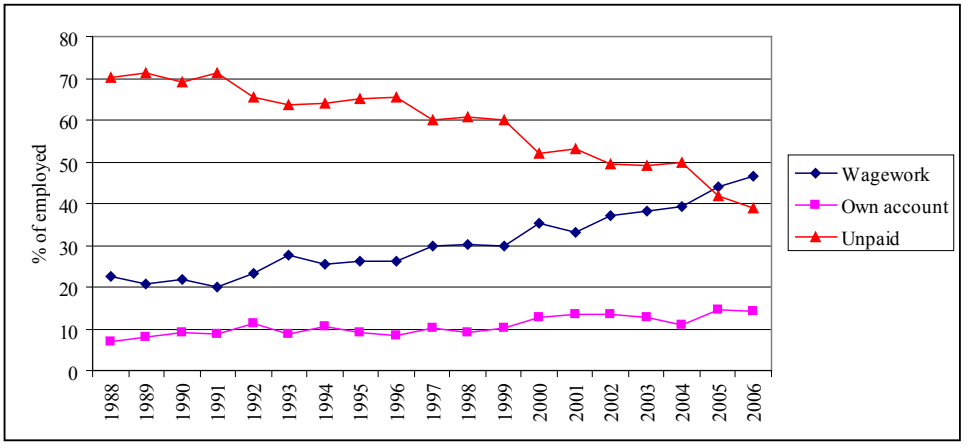
examined over time, a fall in the share of agricultural and production workers are observed. In contrast, the proportion of men and women engaged in other occupations (with a single exception) showed an increase. In the case of women, the sharpest increases occurred among professionals, sales and services workers. Quite interestingly, the proportion of women engaged in clerical jobs did not record an increase and in fact, slightly fell.

5.2.4. Employment Status by Sex and Year

70. Another important stylized fact about women's employment in Turkey is that a sizeable proportion works as unpaid family workers. In 2006, such women constituted 39 percent of all working women. However, the declining share of agriculture in employment, where the overwhelming majority of such women work, meant a fall in unpaid family work as well. Figure 14 shows the declining trend in unpaid family work for women, which is occurring in parallel to the decline in self-employment among men, depicted in Figure 15.

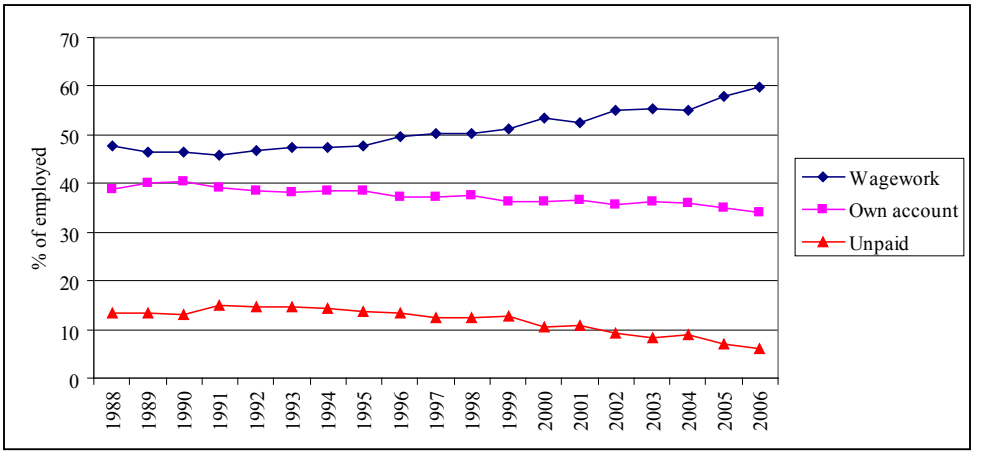
71. For the first time in 2005, the share of unpaid family workers among working women fell short of wage workers. Figure 14 shows that the decline in unpaid family work and increase in wage work has been happening, pretty much uninterrupted, since 1988 so that we could expect this trend to continue in the coming years as well. In the case of men, we also observe that an increasing proportion is turning to wage employment. In 2006, wage earners constituted 60 percent of all working men, while own account workers 34 percent.

Figure 14: Employment Status of Women by Year



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data see Appendix Table A4.

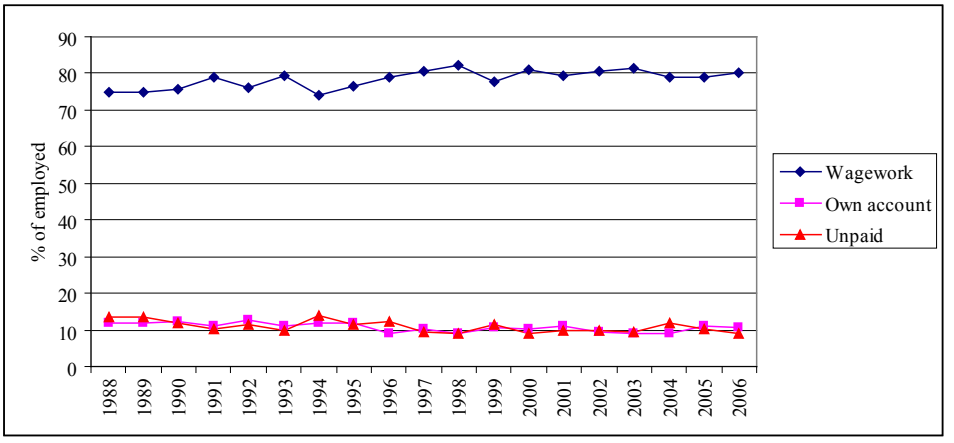
Figure 15: Employment Status of Men by Year



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data see Appendix Table A4

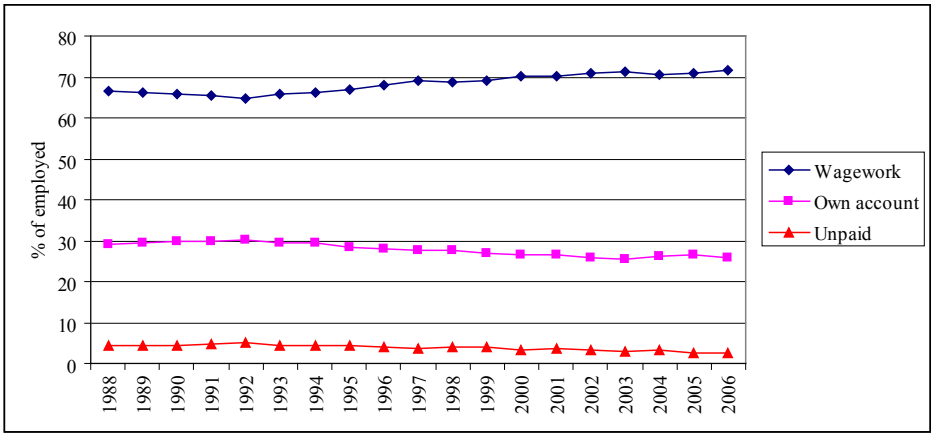
72. In urban areas, wage employment has been the major form of employment for women (and for men) and there is indication that more and more women are seeking wage work. Indeed, Figure 16 shows that while in 1988, 74.8 percent of women were employed as wage earners, this figure increased to 80.3 percent in 2006. Similar developments are taking place in the employment status of men, among whom we also see a rising share of wage workers (see Figure 16). It is also interesting to note from Figure 16 that the two years in which significant declines in wage employment among women occurred (in 1994 and 1999) were both crisis years.[6] Interestingly, during these two years, the proportion of men employed as wage earners has slightly increased (Figure 17).

Figure 16: Employment Status of Women in Urban Areas by Year



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data see Appendix Table A5.

Figure 17: Employment Status of Men in Urban Areas by Year



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data see Appendix Table A5.

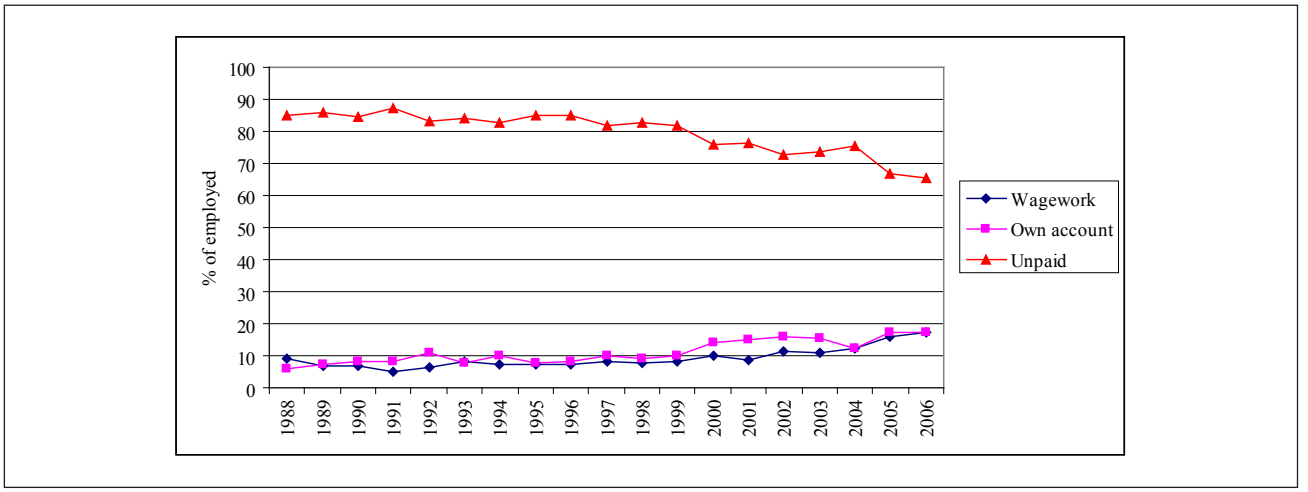
73. To complete the picture, in Figure 18, we also show the changes in the status of employment among rural women over time. As noted earlier, the proportion of women employed as unpaid family workers has been continuously declining since 1988. Wage work, on the other hand, has been on the increase.

74. It is also worth noting that wage work often takes the form of regular employment (see Appendix Table A7). For instance, in 2006, 92 percent of women wage workers in urban areas and 71.6 percent in rural

[6] However, it must be noted that a similar decline was not observed during the 2001 crisis, which was a deeper recession that those in 1994 and 1999.

areas were regular workers. The corresponding figures for men were 90.1 percent and 78.2 percent, respectively. While the proportion of women wage workers employed regularly in urban areas has fluctuated around 90 percent over the 1988-2006 period, in the case of rural women, this proportion seems to be on the rise (see Appendix Table A7). While during the 1988-1994 period, the proportion of wage workers in regular employment fluctuated around 55-65 percent, after registering a dip in 1995 at 47.6 percent started to increase and reached 72.8 percent in 2000.

Figure 18: Employment Status of Women in Rural Areas by Year



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data see Appendix Table A6.

5.3. Cohort Profiles

5.3.1. Female Labor Force Participation Rates by Age for Successive Birth Cohorts

75. As discussed earlier, we see a hump-shape in the age-profile of labor force participation of women both in rural and urban areas – much weaker in rural areas, though–. However, since a single-cross section is used to generate these profiles, these age effects could also stand for cohort and calendar time effects as data points for different ages correspond to different birth-cohorts and calendar times as well. To capture age effects, we would ideally need panel data where we can follow the same birth-cohorts over time. However, even when panel data are not available, it is possible to construct a synthetic panel using a series of cross-section data.[7] We construct these synthetic

Table 4: Cohort Definitions

Cohort	Year of Birth	Age in 1990	Age in 1995	Age in 2000	Age in 2005
1	1986-1990				15
2	1981-1985			15	20
3	1976-1980		15	20	25
4	1971-1975	15	20	25	30
5	1966-1970	20	25	30	35
6	1961-1965	25	30	35	40
7	1956-1960	30	35	40	45
8	1951-1955	35	40	45	50
9	1946-1950	40	45	50	55
10	1941-1945	45	50	55	60
11	1936-1940	50	55	60	
12	1931-1935	55	60		
13	1926-1930	60			

[7] See Browning et al. (1985) and Attanasio (1998).

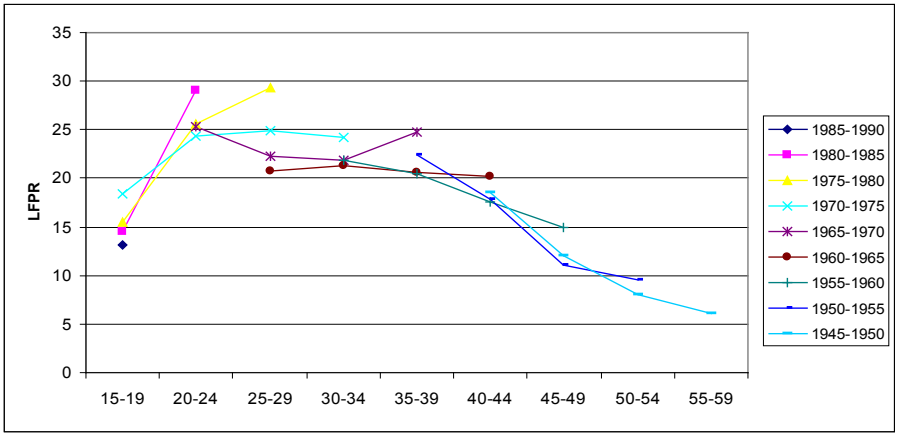
cohorts based on four rounds of HLFS: 1990, 1995, 2000 and 2005. The cohort definitions are given in Table 4. For instance, individuals from the 1971-1975 birth-cohort are 15 to 19-year-old in the 1990 data, 20 to 24-year-old in the 1995 data, 25 to 29-year-old in the 2000 data, and 30 to 34-year-old in the 2005 data.

76. Although in these surveys, the same people are not followed over time we can nevertheless learn about the changing behavior by looking at successive cohorts and their participation rates since individuals of the same cohort would share, for instance, similar educational opportunities, birth control technologies, and exhibit similar attitudes towards birth control, marriage and schooling than individuals of different cohorts. For instance, we would expect women aged 15-19 from the 1986-1990 birth cohort to have the lowest labor force participation rate in 2006, since this is the only cohort that has been affected from the extension of compulsory schooling from five to eight years in 1997. To the extent that younger generations participate more in the labor market, the average participation rates would mask the recent developments by averaging participation rates over younger and older birth cohorts.

5.3.1.1 Women in Urban Areas

77. Indeed, Figure 19 which depicts age-participation profiles by birth cohorts for urban women shows that except for the youngest age-group (15-19 years), in all other age groups, labor force participation of women tends to be higher for younger than older cohorts. For instance, while the participation rate among the 25-29 year-old women in the 1960-1965 cohort was on the order of 20.7 percent, this rate was recorded at 22.3 percent in the 1965-1970 birth cohort, 24.9 percent in the 1970-1975 birth cohort and finally at 29.3 percent in the 1975-1980 birth cohort (see also Appendix Table A8). The observed changes would reflect both the changing behavior (changing attitudes towards participation, higher levels of schooling, etc.) – cohort effects, as well as changing economic circumstances that affect respective cohorts –time effects.

Figure 19: Female Labor Force Participation in Urban Areas by Birth Cohort



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: For data see Appendix Table A8.

78. Comparing Figures 9 and 19, we can deduce that age-participation profiles that are not corrected for cohort and time effects somewhat exaggerate the decline in participation by age at older age categories. Although participation is clearly higher during prime age years, significant declines in participation seem to occur only beyond age 40. Consider for instance the 1960-1965 birth cohort: participation rates for this birth cohort at ages 20-24, 25-29, 30-34 and 35-39 were on the order of 20.7 percent, 21.8 percent, 20.5 percent and 20.2 percent, respectively. This profile is distinctly different from that would obtain from a regular cross-section. Figure 6 indicates the following participation rates for the same age groups: 30 percent, 26.3 percent, 25.9 percent and 21.6 percent.

79. A regression analysis on the synthetic panel used to construct Figure 19 confirms that participation is higher among younger than older cohorts (Figure 20). Controlling for age, we find, for instance, that the average participation rate of women from the 1976-1980 cohort is roughly five and a half percentage

points ($p<0.01$) higher than their counterparts from the 1961-1965 cohort. The regression results also indicate age to be an important determinant of participation. However, controlling for cohort effects, the difference in the participation rates among women aged 20-39 is not more than two percentage points ($p<0.01$ for all categories). In contrast, there is more than 10 percentage point difference between the participation rates of 15-19 and 20-24 year-old women. Moreover, even bigger differences are observed between women of prime age years and those older. For instance, the difference in the participation rates between women aged 25-29 and 55-59 is on the order of 15 percentage points. The predicted changes in the participation rates of women of different ages, corrected for cohort and time effects, are shown in Figure 21. Any effort to increase the participation rate of women will not only need to increase the participation rates of prime-age women but reduce the sharp decline that comes at age 40 as well, which is primarily a result of the availability of retirement at these early ages.

Figure 20: Cohort Effects (in percentage points) on Labor Force Participation Rate in Urban Areas (Baseline Cohort = 1986-90)

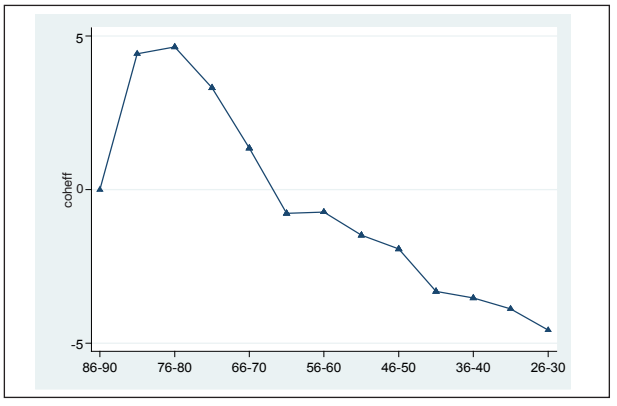


Figure 21: Age Effects (in percentage points) on Labor Force Participation in Urban Areas (Baseline Age Group = 15-19)

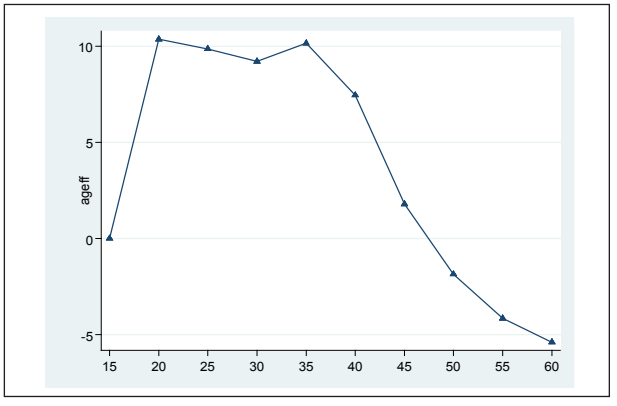
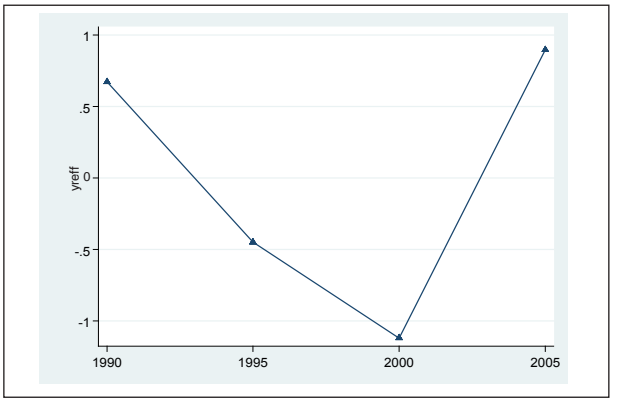


Figure 22: Year Effects (in percentage points) on Labor Force Participation Rate in Urban Areas



Note: Year effects add up to zero by assumption.

80. Finally, the year effects, displayed in Figure 22, indicate that labor force participation of women in urban areas were more likely in 1990 and 2005.

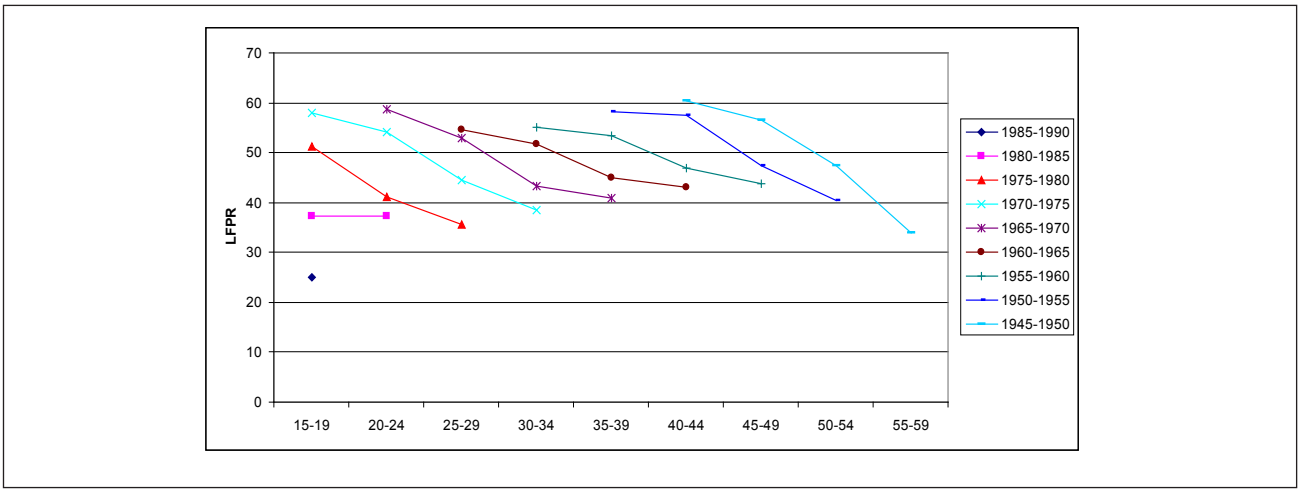
5.3.1.2 Women in Rural Areas

81. To better asses the falling labor market participation among rural women, we carry out a cohort analysis using a synthetic panel. The age-participation profiles depicted for various cohorts in Figure 23 look very different from the urban profile (see Figure 19). While for urban women we arrived at the conclusion that younger cohorts are more likely to participate in the labor market, for rural women the opposite observation is made: for all age categories under consideration, women from younger generations have lower likelihood of participating in the labor market than their counterparts from older generations and furthermore, the fall in participation rates from one birth cohort to the next especially among the recent cohorts is very drastic. To give an example, consider the participation rates for 25-29 year-old women from four successive birth cohorts: 54.5 percent for the 1960-1965 cohort, 52.9 percent for the 1965-1970 cohort, 44.4 percent for the 1970-1975 cohort and 35.6 percent for the 1975-1980 cohort (see also Appendix Table A9). In the face of rising education levels among rural women and declining fertility rates, illustrated later in the report, these findings are surprising.

82. The age-participation profiles also show a very strong age effect: holding the birth cohort constant, participation drops as women age. To give an example, consider the 1970-1975 birth cohort. For this birth cohort, participation is highest for women aged 20-24 at 58 percent. Participation then drops to 54.2 percent for the 25-29 year age group, further to 44.4 percent for

the 30-34 year age group and finally, to 38.5 percent for the 35-39 year-age group. These figures indicate that the age-participation profiles obtained from cross-sectional analyses underestimate the age effect on participation due to the higher likelihood of participation among older generations at all ages.

Figure 23: Female Labor Force Participation in Rural Areas by Birth Cohort



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: For data see Appendix Table A9.

Figure 24: Age Effects (in percentage points) on Labor Force Participation in Rural Areas (Baseline Age Group = 15-19)

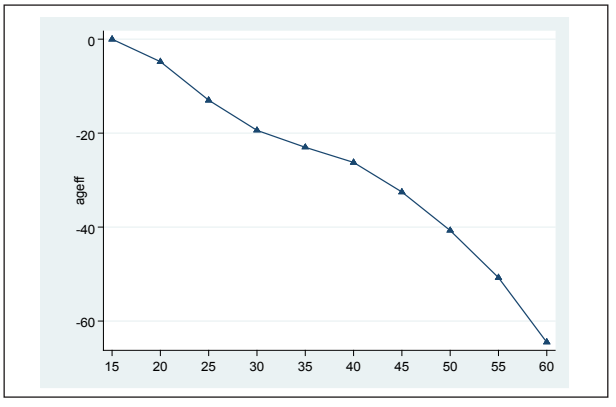


Figure 25: Cohort Effects (in percentage points) on Labor Force Participation, Rural Areas (Baseline Cohort = 1986-90)

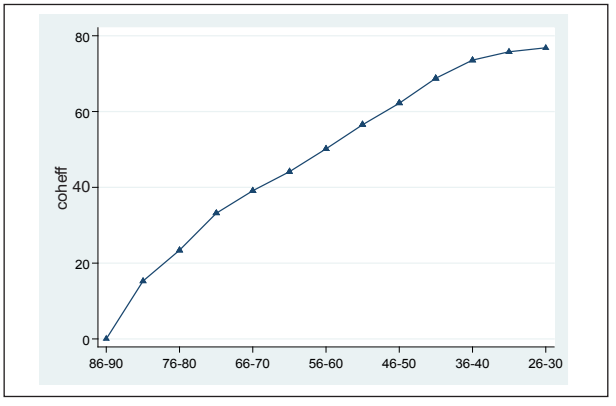
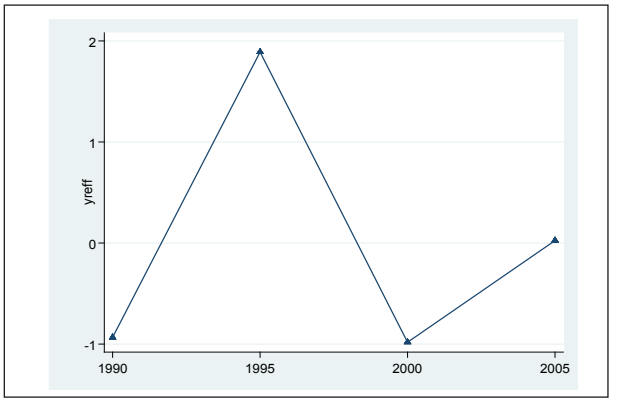


Figure 26: Year Effects (in percentage points) on Labor Force Participation Rate in Rural Areas



Note: Year effects add up to zero by assumption.

83. Age effects from the decomposition of age, cohort, and time effects in the labor force participation decision of rural women are presented in Figure 24. Unlike the age effects in urban areas – where it displayed a hump shape with a flat region between the ages of 20 and 40 – the age effects in rural areas display a monotonically decreasing profile. In rural areas, women become less likely to participate in the labor market as they age.

84. Cohort effects for women in rural areas are illustrated in Figure 25. According to this, younger cohorts of women in rural areas are less likely to participate in the labor market. This is contrary to the finding in

urban areas where younger cohorts are more likely to participate.

85. Finally, time effects from the decomposition analysis are presented in Figure 26. Women in rural areas had a higher propensity to participate in the labor market in 1995 than in the other three years.

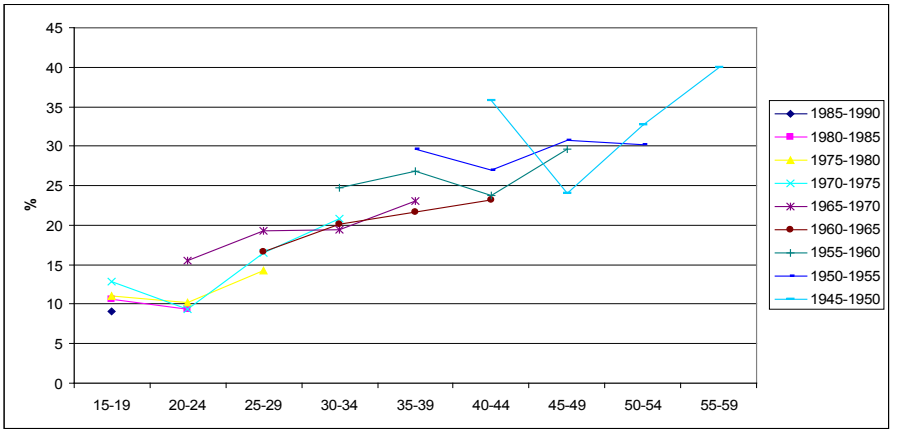
5.3.2. Weekly Hours Worked by Age for Successive Birth Cohorts

5.3.2.1. Urban Women

86. The TUIK data base, from where we derive the cohort profiles, provides the distribution of work hours but not the mean hours of work. In our analysis of the change in the weekly work hours by age and birth cohorts, we, therefore, look at the distribution of women across different work hour categories. For this purpose, we consider the proportion of women working less than 40 hours and those working for 50 hours or more.

87. Figure 27 depicts the proportion of women who work for less than 40 hours per week by age and birth cohort in urban areas. The proportion working for less than 40 hours per week increases in age. However, it is also the case that, among older cohort, the proportion of women working for less than 40 hours per week is higher.

Figure 27: Proportion of Women Working for Less than 40 hours per Week by Age and Birth Cohort in Urban Areas



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).

88. Figure 28 displays the cohort effects from the decomposition of age, cohort, and time effects in working less than 40 hours per week for urban women. Previously, we showed that younger cohorts of urban women were more likely to participate in the labor market. Here, we further show that these younger cohorts of urban women are also less likely to have a short work week compared to older cohorts. In other words, the higher propensity of labor force

Figure 28: Cohort Effects (in percentage points) on Working for Less than 40 Hours per Week, Urban Areas (Baseline Cohort = 1986-90)

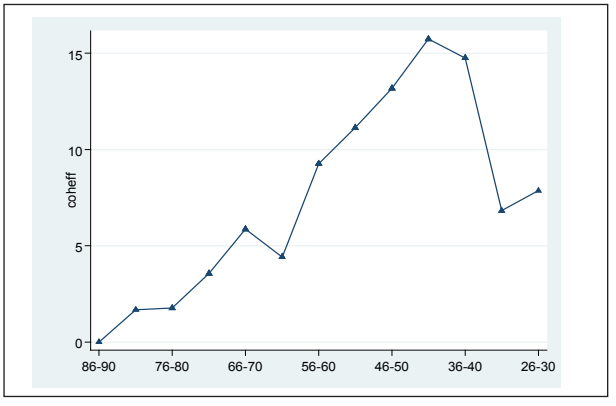
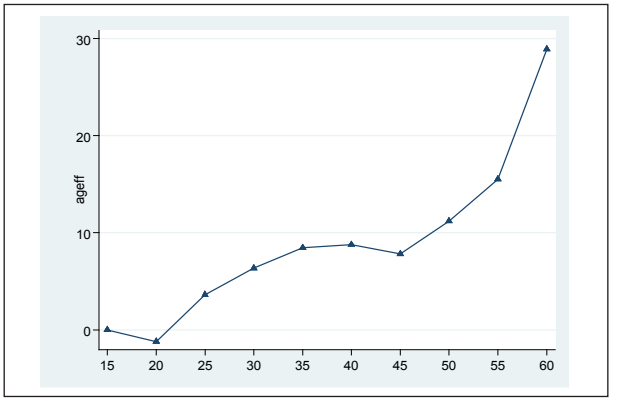


Figure 29: Age Effects (in percentage points) on Working for Less than 40 Hours per Week, Urban Areas (Baseline Age Group = 15-19)



participation of younger cohorts of urban women in Turkey is not driven from their part-time work.

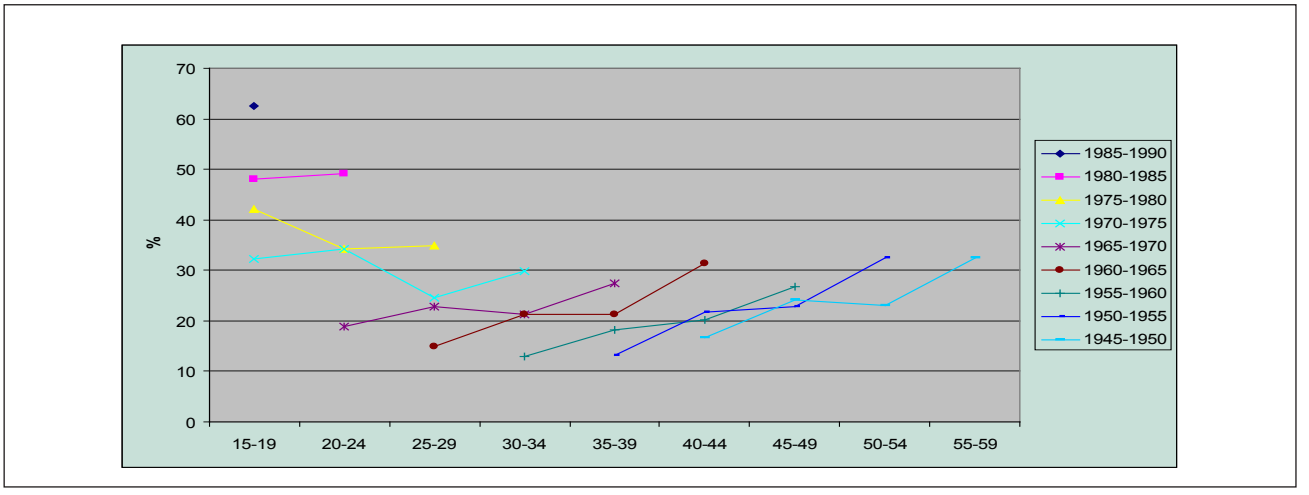
89. Age effects in working for less than 40 hours per week are given in Figure 29. Overall, as age increases, working for less than 40 hours per week becomes more likely. The rise in shorter working hours after age 50 is more prominent.

90. Next, we decompose the cohort, age, and time effects in working for long hours, in particular for longer than 50 hours per week. Figure 30 plots the data points used in the decomposition analysis, and Figures 31 and 32 display the cohort effects and age effects, respectively, obtained from this decomposition analysis.

The cohort effects, displayed in Figure 31, reveal that younger cohorts are more likely to work for longer hours. This is also consistent with the previous finding that these later cohorts were also less likely to work for less than 40 hours per week. Therefore, we can claim that younger generations of women are not only more likely to participate in the labor market but also they are more likely to work for longer hours.

91. Age effects in working for more than 50 hours per week exhibit a surprising trend. As age increases, the probability for working more than 50 hours per week increases. This is also apparent from Figure 32.

Figure 30: Proportion of Women Working for 50 Hours or More per Week by Age and Birth Cohort in Urban Areas



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).

Figure 31: Cohort Effects (in percentage points) on Working for More than 50 Hours per Week, Urban Areas (Baseline Cohort = 1986-90)

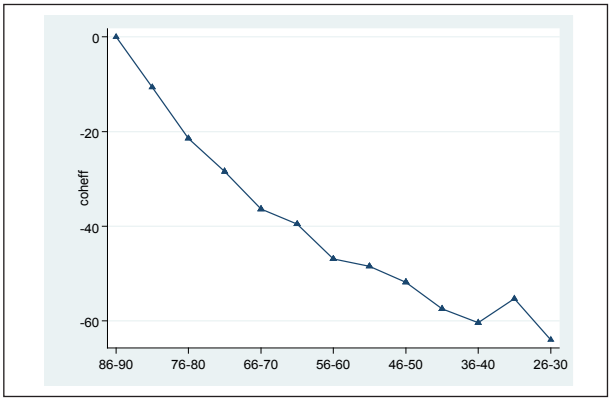
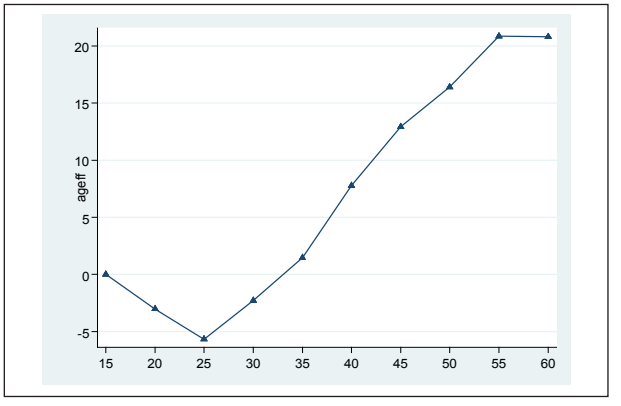


Figure 32: Age Effects (in percentage points) on Working for More than 50 Hours per Week, Urban Areas (Baseline Age Group = 15-19)



6. Education, Marital Status, Fertility, Migration and Labor Force Participation

6.1. Education

6.1.1. Schooling attainment by age over time for female population

92. The majority of women in Turkey do not have more than primary school education. This situation, no doubt, negatively affects their participation and puts them at a disadvantage in comparison to men, who in terms of schooling fare somewhat better than women. In 2006, one out of five women was illiterate in comparison to only 4 percent of men. The proportion with more than primary school education, on the other hand, was limited to one third of the female population, as opposed to half the male population.[8] However, the schooling levels of both men and women are improving. In less than two decades, the proportion of illiterate women dropped from 33.9 percent to 19.6 percent, the proportions of men and women with just primary school education became equal and the proportion of women with more than primary school education more than doubled (Table 5).

93. The urban-rural divide in educational attainment among women is as drastic as the gender education gap. In 2006, while the proportion of illiterate women in urban areas was on the order of 14.8 percent, this figure was 27.7 percent among rural women (Table 6). Likewise, while the proportion of women with more than primary school education was near 40 percent in urban areas, it was half this figure among women in rural areas. It also interesting to note that the improvement in the educational attainment of women with no or limited education (no diploma) has been faster in urban than rural areas with the result that the education gap among this group of women has actually increased over time. However, it is also the case that the proportion of women with more than primary school education has grown at a faster rate in rural than urban areas, helping somewhat to close the gap among urban and rural women.

Table 5: Distribution of Male and Female Population by Education (%)

	Men 1988	Women 1988	Men 2000	Women 2000	Men 2006	Women 2006	% Change Men 1988 - 2006	% Change Women 1988 - 2006
Illiterate	11.63	33.85	5.46	21.69	4.01	19.61	-65.5	-42.1
No Diploma	9.57	8.64	3.98	4.68	5.24	8.03	-45.2	-7.1
Primary	51.78	42.76	49.62	48.88	40.53	40.61	-21.7	-5.0
Secondary	11.5	6.19	14.9	8.22	18.63	11.75	62.0	89.8
High School	7.08	5.02	13.08	9.12	12.63	9.02	78.4	79.7
Vocational	3.77	1.69	5.93	3.16	9.61	5.18	154.9	206.5
University	4.68	1.84	7.04	4.25	9.36	5.79	100.0	214.7

Source: 1988, 2000 and 2006 HLFS, http://www.tuik.gov.tr
Note: Covers individuals age 15 plus.

94. The urban-rural divide is not unique to women but exits for men as well (Table 7). To give an example, while in 2006, 6.2 percent of rural men were illiterate this was the case for 2.8 percent of urban men. Similarly, while almost 60 percent of urban men had above primary school education, the corresponding rate among rural men was limited to 40 percent. As observed for women, relatively faster improvements occurred in educational attainment at the lower end in urban than rural areas, though the rate was not as differentiated for men as it was for women. Similar to women, faster improvements occurred in the proportion of men with more than primary school education in rural areas, helping to close the urban to rural gap. In the face of continuing migration from rural to urban areas, the urban-rural divide deserves special attention especially from the perspective of women's participation in the labor market since, as will be demonstrated shortly, the participation rate of women with less than primary school education is extremely low in urban areas.

[8] In 1997, compulsory schooling was extended from five to eight years and primary and junior-high schools were merged under Basic Education Schools. To ease comparison across time, we have created the 'secondary school' category that refers to the graduates of junior-high schools and more recently, of Basic Education.

Table 6: Distribution of Urban and Rural Female Population by Education (%)

	Urban 1988	Rural 1988	Urban 2000	Rural 2000	Urban 2006	Rural 2006	% Change Urban 1988 – 2006	% Change Rural 1988 – 2006
Illiterate	26.05	41.61	14.37	32.37	14.76	27.68	-43.3	-33.5
No Diploma	8.31	8.96	4.3	5.23	6.86	9.98	-17.4	11.4
Primary	43.21	42.32	46.19	52.8	39.38	42.66	-8.9	0.8
Secondary	9.15	3.26	10.93	4.28	12.75	10.08	39.3	209.2
High School	7.7	2.35	13.23	3.12	11.41	5.04	48.2	114.5
Vocational	2.74	0.65	4.44	1.27	6.71	2.63	144.9	304.6
University	2.84	0.85	6.54	0.92	8.12	1.92	185.9	125.9

Source: 1988, 2000 and 2006 HLFS, http://www.tuik.gov.tr
Note: Covers individuals age 15 plus.

Table 7: Distribution of Urban and Rural Male Population by Education (%)

	Urban 1988	Rural 1988	Urban 2000	Rural 2000	Urban 2006	Rural 2006	% Change Urban 1988 –2006	% Change Rural 1988 –2006
Illiterate	7.46	16.2	2.9	9.35	2.76	6.24	-63.0	-61.5
No Diploma	7.28	12.08	2.82	5.73	4.12	7.24	-43.4	-40.1
Primary	49.82	53.94	42.82	59.93	36.1	48.57	-27.5	-10.0
Secondary	14.16	8.58	17.06	11.62	19.1	17.8	34.9	107.5
High School	9.45	4.47	16.89	7.29	14.78	8.76	56.4	96.0
Vocational	4.94	2.47	7.54	3.48	10.96	7.19	121.9	191.1
University	6.88	2.25	9.97	2.59	12.22	4.22	77.6	87.6

Source: 1988, 2000 and 2006 HLFS, http://www.tuik.gov.tr
Note: Covers individuals age 15 plus.

95. To get a better sense of the extent of recent educational developments, we look at changes in average education levels of different age groups over time. Figure 33 shows that younger women and men have considerably higher levels of schooling than older individuals and that for all age groups, the average years of schooling is on the rise. For instance, the average schooling of 20-24 year-old men and women – those who would have completed their schooling and entered the labor market - has improved by 2.2 years from 1988 to 2006. However, it is striking to note that even after eight years, the average years of schooling of prime age women still lagged behind the average schooling levels of their male counterparts in 1988. Judging from the gender schooling gap among the 20-24 year-olds, the education gap between the prime age men and women is not likely to improve significantly in the near future.[9]

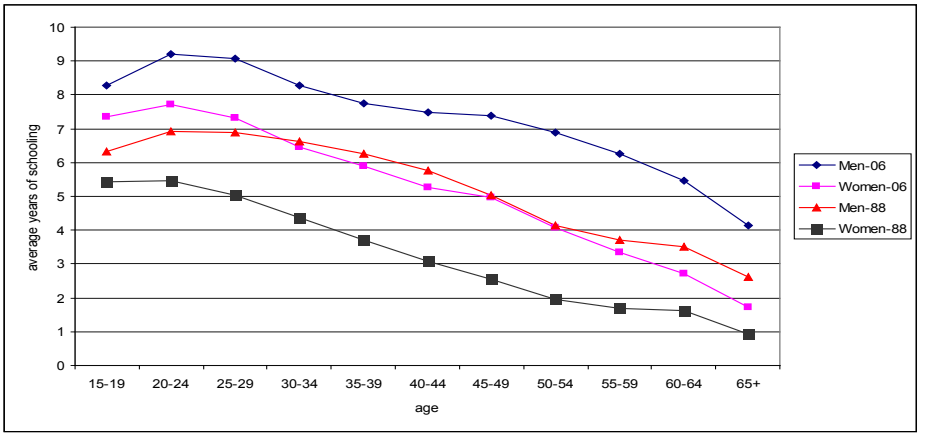
96. Turning to the rising labor force participation rate among urban women, it might be instructive to look at improvements in average education levels of urban residents over time. Is the rising labor force participation of urban women consistent with changes

[9] The fact that gender education gap exists and is not likely to close in the very near future, has important implications for the labor market. From the perspective of women's labor market entry, it puts them at a disadvantage compared to men. From the perspective of labor market attachment, by reducing women's earnings and other promotion opportunities vis-à-vis men, makes them more likely to exit the labor market.

in their levels of schooling? Indeed, Table 8 shows that there has been improvement in the schooling levels of urban women. For instance, while in 1988, university graduates constituted only 2.8 percent of the urban female population (15+), in 2006 this figure became 8.1 percent (Table 8). Similar improvements took place in all educational categories above primary school. In contrast, the proportion of illiterates, functional literates and primary school graduates dropped.

97. However, it is interesting to note that the education composition of the labor force did not change as drastically as the composition of the urban population. For instance, while in 1988, 12.9 percent of the labor force was made up of university graduates, the figure in 2006 was about twice this rate recorded at 28.5 percent. While the changing composition of the urban work force towards more educated women would certainly explain the rising participation rates, it is of interest to also look at the changes in the participation rates of women in different schooling levels over time.

Figure 33: Average Years of Schooling in 1988 and 2006 by Age and Sex



Source: 1988 and 2006 HLFS, http://www.tuik.gov.tr

Table 8: Distribution of Female Population and Labor Force by Education -Urban Areas

	1988		2000		2006	
	Population	Labor Force	Population	Labor Force	Population	Labor Force
Illiterate	26.1	12.5	14.4	4.3	14.8	4.2
No Diploma	8.3	5	4.3	2	6.9	3.5
Primary School	43.2	34.1	46.2	27.9	39.4	26.3
Secondary	9.2	8.61	10.9	8	12.8	9.8
High School	7.7	19.3	13.2	21.1	11.4	15.8
Vocational School	2.7	7.7	4.4	10.3	6.7	12
University	2.8	12.9	6.5	26.5	8.1	28.5

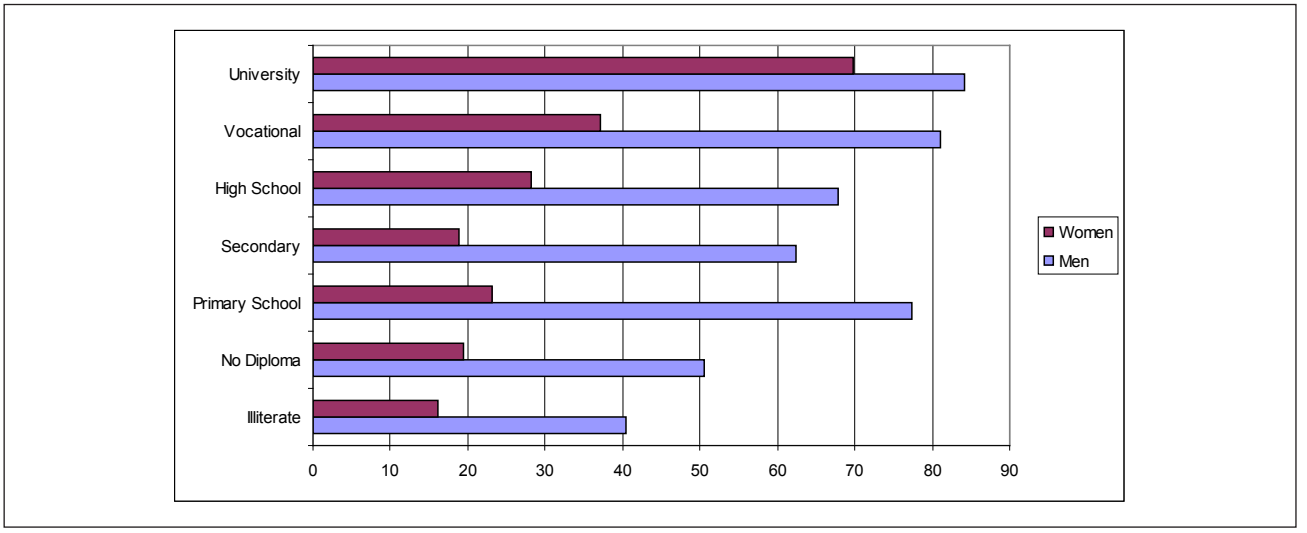
Source: 1988, 2000 and 2006 HLFS, http://www.tuik.gov.tr
Note: Covers individuals age 15 plus.

6.1.2. Female labor force participation rates by educational attainment over time

98. Labor force participation increases with education for both men and women. Figure 34 illustrates the participation rates at different schooling levels. For both men and women, the highest participation rates are recorded for university graduates. Although men's participation rates change with schooling, the observed changes between different categories of schooling are not as drastic as those observed for women. What matters for men's labor market participation seems to be a primary school diploma, while for women this does not open many doors.

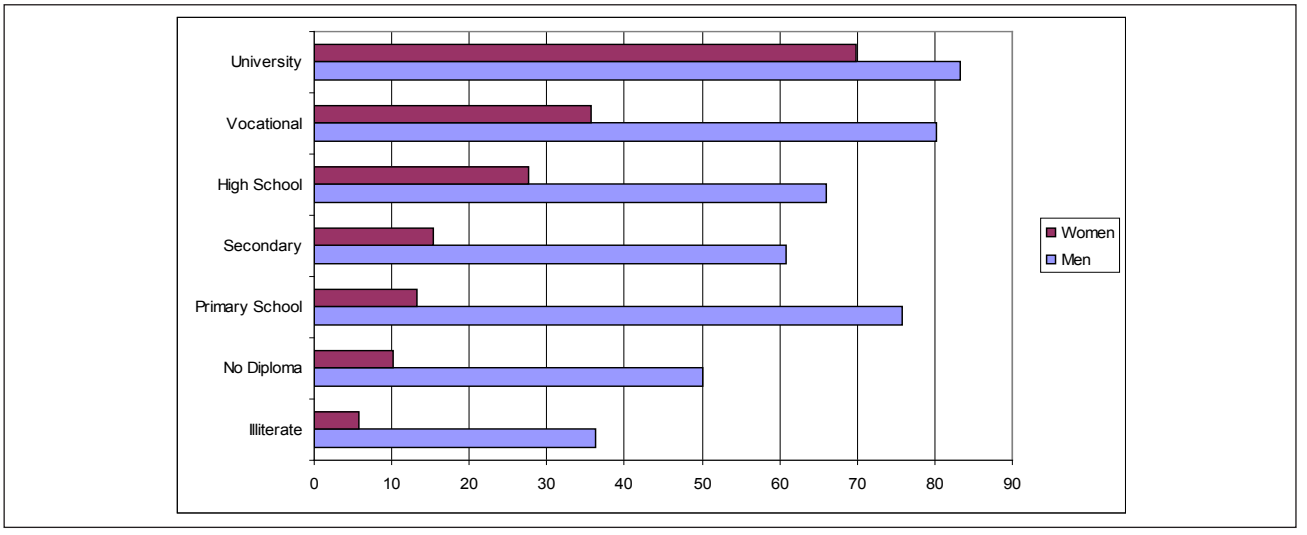
99. The role education plays in the labor force participation of women becomes more apparent when we consider urban areas. Participation rates shown in Figure 35 indicate that urban labor market is practically closed for women who have no education. The labor force participation rate among illiterate women in urban Turkey in 2006 was 5.6 percent. The corresponding rate for men was on the order of 36.4 percent. The participation rates gradually improve for women as they become more educated, ending with a drastic jump for those with a higher education diploma. While the labor force participation for women with vocational training was on the order of 35.6 percent in 2006, it jumps to 69.8 percent for university graduates.

Figure 34: Labor Force Participation by Education in 2006



Source: 2006 HLFS, http://www.tuik.gov.tr
Note: Covers individuals age 15 plus. For data on women see Appendix Table A10.

Figure 35: Labor Force Participation by Education in Urban Areas in 2006



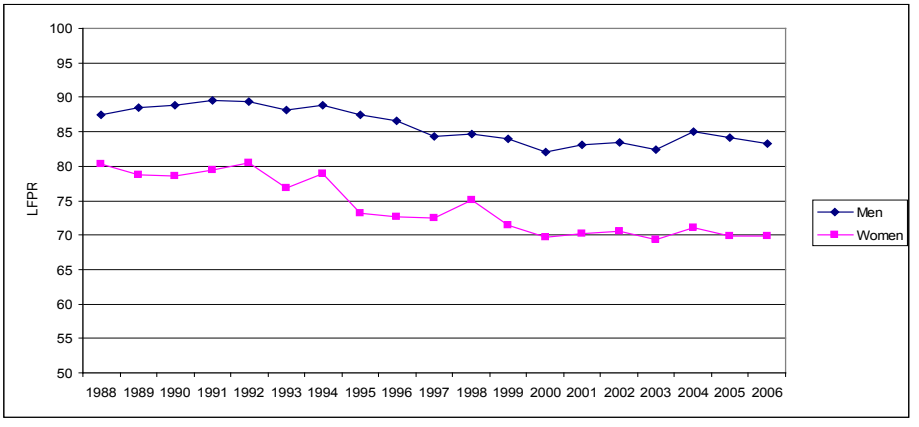
Source: 2006 HLFS, http://www.tuik.gov.tr
Note: Covers individuals age 15 plus. For data on women see Appendix Table A10.

100. Figure 36 shows the changes in the participation rates of men and women university graduates in urban areas over time. Participation rates of university graduate women, although quite high in all years, have recorded a decline over time. In comparison to the early 90s during which participation rates among university graduate women were 80 percent, this rate declined and stabilized around 70 percent in the 2000s. It is again interesting to note that a similar trend although at a smaller scale has been observed among university educated men as well.

101. Figure 37 illustrates the participation rates for general and vocational high school graduates over time. For both groups of women, a declining trend is observed. While in 1988, the participation rate of general high school graduate women was on the order of 44.3 percent, this rate declined to 27.6 percent in 2006. Similar changes occurred for the male graduates of general high schools as well. In the case of vocational school graduates, while men's rates have remained rather stable, women's participation rates showed a decline over time.

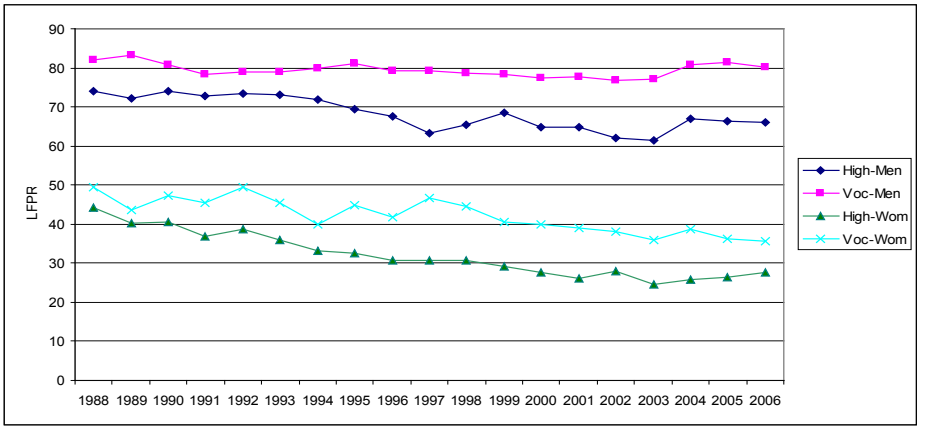
102. Finally, Figures 38 and 39 illustrate the participation rates for those with secondary school education and less. Among women, in none of the categories do we see significant changes worth mentioning. However, in the case of men a fall in participation is observed in all categories except for secondary school graduates for whom participation has been roughly constant and functional literates whose participation rates after rather sharp decreases over several years looks on the rise.

Figure 36: LFPR of University Graduates in Urban Areas



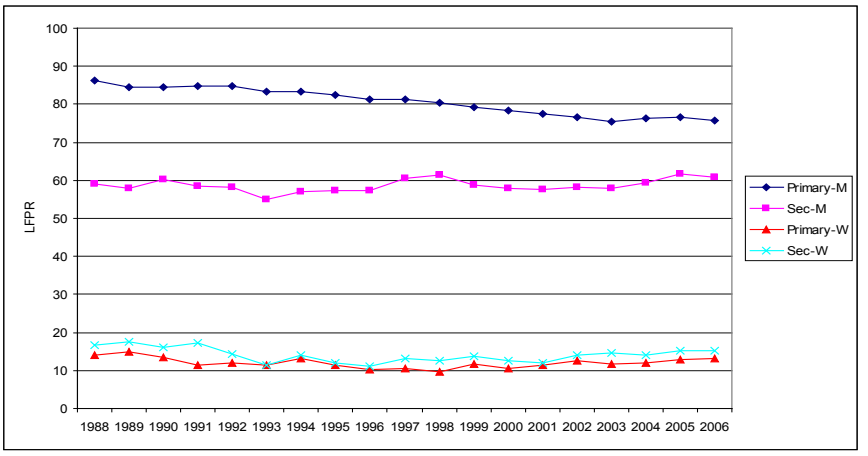
Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data on women see Appendix Table A11.

Figure 37: LFPR of High School Graduates in Urban Areas



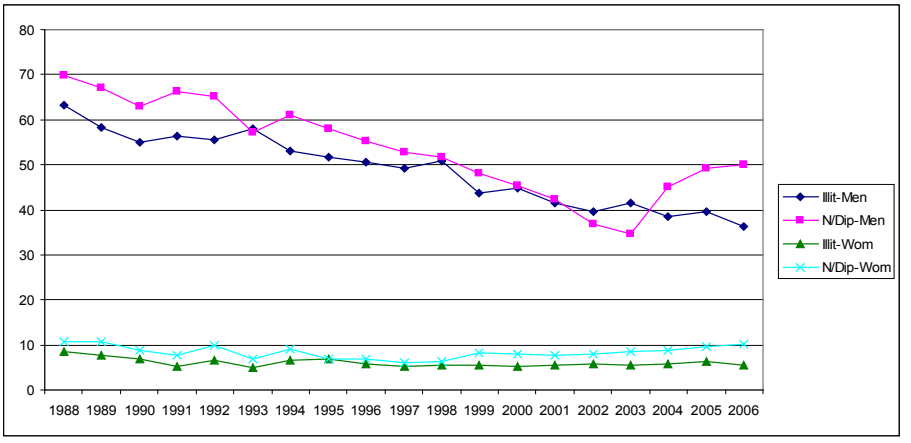
Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data on women see Appendix Table A11.

Figure 38: LFPR of Primary and Secondary School Graduates in Urban Areas



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data on women see Appendix Table A11.

Figure 39: LFPR of Illiterates and Functional Literates in Urban Areas



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).
Note: Covers individuals age 15 plus. For data on women see Appendix Table A11.

103. The above findings indicate that had the participation rates of high school and university graduates remained at levels recorded in the 1990s, women's current labor force participation rates would have been considerably higher. It is interesting to note that conditional on schooling, the participation rates are either stagnant or falling for women yet, the overall participation in urban areas are increasing, albeit rather slowly. This is to do with the shift in the composition of the workforce towards more educated women who have higher participation rates.

104. On the other hand, the declining participation rates among highly educated women must be to do with the composition of the university graduates. We conjecture that when university graduates constituted a much smaller proportion of the urban population, they were more of select group. As the numbers increase, the group becomes more heterogeneous and so is the participation behavior. We investigate this conjecture and other possible reasons for the falling participation among highly educated women later in the report (see Section 8).

6.2. Marital Status

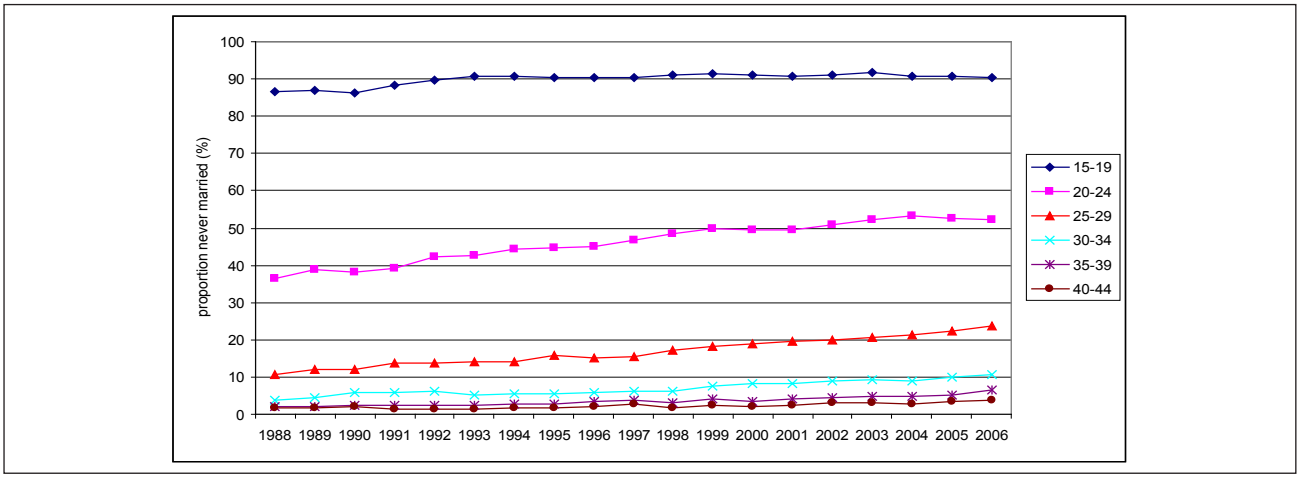
6.2.1. Marital status of women by age over time

105. Marriage is almost universal in Turkey, which makes married women's labor market participation all the more important and requires monitoring the changes occurring in married women's participation over time. The DHS data indicate that nearly 98 percent of women marry by age 49. In contrast, divorce is an unlikely event, with its rate estimated at less than 1

percent among 15-49 year-old women. Furthermore, marriage occurs early on in life; the average age at first marriage is 20.7 years among women aged 15-49.

106. The HLFS data conf irm the near universal marriage rates. In 2006, only 2.1 percent of women aged 50-54 had never been married. Though marriage is almost universal and takes place when women are young, Figure 40, which shows the proportion of never married women over time, indicates that it is being gradually postponed to later years. The proportion of never married women has registered the sharpest increase among the 20-24-year-old women, followed by the 25-29-year age group.

Figure 40: Proportions of Never Married Women by Age over Time

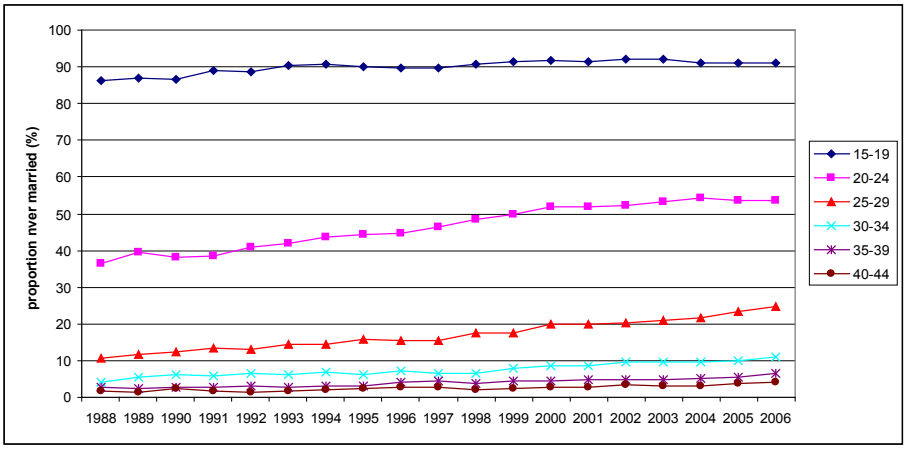


Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).

107. Marriage, as an institution, remains strong in urban areas as well. Despite the considerably different education profiles of urban and rural women illustrated earlier, the incidence of marriage turns out to be very similar among rural and urban women: by age 50-54, 97.7 percent of urban and 98.2 percent of rural women had been married at least once. However, the timing of marriage somewhat differs, with rural women marrying younger. Even then, the marriage behaviors of urban and rural women converge relatively early; by age 30-34, 89 percent of urban and 89.6 percent of rural women had been married at least once.

108. Figure 41 shows the changes in the proportion of never married women by age groups in urban areas. As noted for the country at large, there is a tendency for delaying marriage to later ages. Again the sharpest increases have been observed among the 20-24 and 25-29-year age groups. These developments are consistent with the increasing participation

Figure 41: Proportions of Never Married Women in Urban Areas by Age over Time



Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).

of women in urban areas since, as will be discussed later in the report marital status is an important predictor of labor market participation in urban areas.

6.2.2. Female labor force participation rates by marital status and age over time

109. Table 9 shows the drastically different labor force participation behavior of men and women by marital status in Turkey. While in the case of men, the highest participation rate is recorded for married men, for married women, we observe the second lowest rate after widowed women, who are much older than their married counterparts. In 2006, while the participation rate of married women was 23.1 percent, for single and divorcee women significantly higher rates were observed at 34.3 percent and 42.1 percent, respectively. This pattern in distinctly different from that of men for whom the above rates were 86.4 percent for married, 81.1 percent for divorced and 71.8 percent for single men. The 'age effect' – the fact that single men tends to be younger, less experienced and more likely to attend school – explain the difference in the participation rates between married and single men. In the case of women, the fact that married women participate less than their single counterparts indicate that in addition to the age effect, there is a 'marriage effect' that works in the opposite direction to reduce the labor market participation of women.

110. Table 9 also shows that for both men and women, a general decline in the participation rates has been observed in all categories over time, which is consistent with the overall decline in the participation rates of men and women. Divorcee women constitute the only exception to this general pattern for whom we

Table 9: Labor Force Participation by Marital Status

(in percentages)	1988		2000		2006		% Change Male 1988-2006	% Change Female 1988-2006
	Male	Female	Male	Female	Male	Female		
Single	71.8	47.8	59.4	35	58	34.3	-19.2	-28.2
Married	86.4	32	81.1	25.2	78.2	23.1	-9.5	-27.8
Divorced	81.1	41.5	72.5	41	68.2	42.1	-15.9	1.4
Widowed	30.1	16	29.7	11.5	22.4	10	-25.6	-37.5
Overall	81.2	34.3	73.7	26.6	71.5	24.9	-11.9	-27.4

Source: 1988, 2000 and 2006 HLFS, http://www.tuik.gov.tr
Note: Covers individuals age 15 plus.

Table 10: Labor Force Participation in Urban Areas by Marital Status

(in percentages)	1988		2000		2006		% Change Male 1988-2006	% Change Female 1988-2006
	Male	Female	Male	Female	Male	Female		
Single	66.6	34.3	54.7	30.9	57.5	35	-13.7	2.0
Married	84	13.1	79.5	13	77.7	15.5	-7.5	18.3
Divorced	74.5	35.5	72.7	41.7	68.9	43.2	-7.5	21.7
Widowed	19.2	9.1	21.5	5.7	15.8	5.6	-17.7	-38.5
Overall	78.1	17.7	70.9	17.2	70.8	19.9	-9.3	12.4

Source: 1988 and 2006 HLFS, http://www.tuik.gov.tr
Note: Covers individuals age 15 plus.

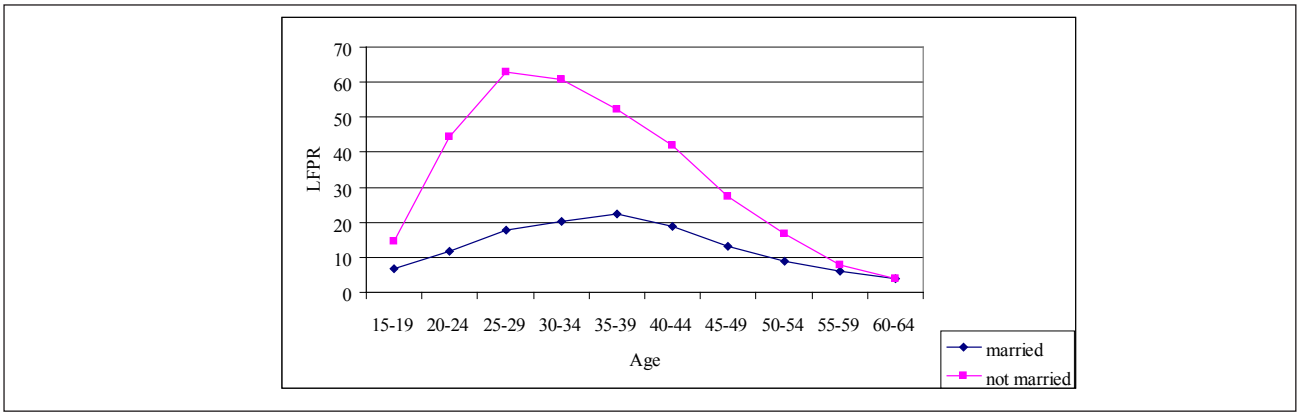
observe a slight improvement in participation. This deviation from the general behavior might be to do with the changing composition of the divorcees as societal attitudes towards divorce changes.

111. Table 10 repeats the same exercise for urban areas showing participation rates and changes in them over time. Owing to the wider schooling gap and the tendency to marry younger in rural areas, single men's participation is lower in urban areas. However, this gap seems to have closed over time so that except for married and widowed women, participation rates in urban areas for men and women are very similar to the overall rates obtained for the country at large. The lower participation rates of married women in urban areas indicate that the "marriage effect" is stronger in urban than rural areas. The lower participation rates of divorcee women, on the other hand, indicate that the urban labor market is closed for older women.

112. Looking at changes over time, we note the general fall in the participation rates of men irrespective of their marital status. However, with the exception of widowed women, in all other categories women's participation has increased. While for single and married women, the increase has been limited to less than 2.5 percentage points, there has been a huge jump (on the order of almost 10 percentage points) in the participation rates of divorcee women. However, since this group constitutes a very small portion of the female workforce, the average participation rate has not been affected to that degree.

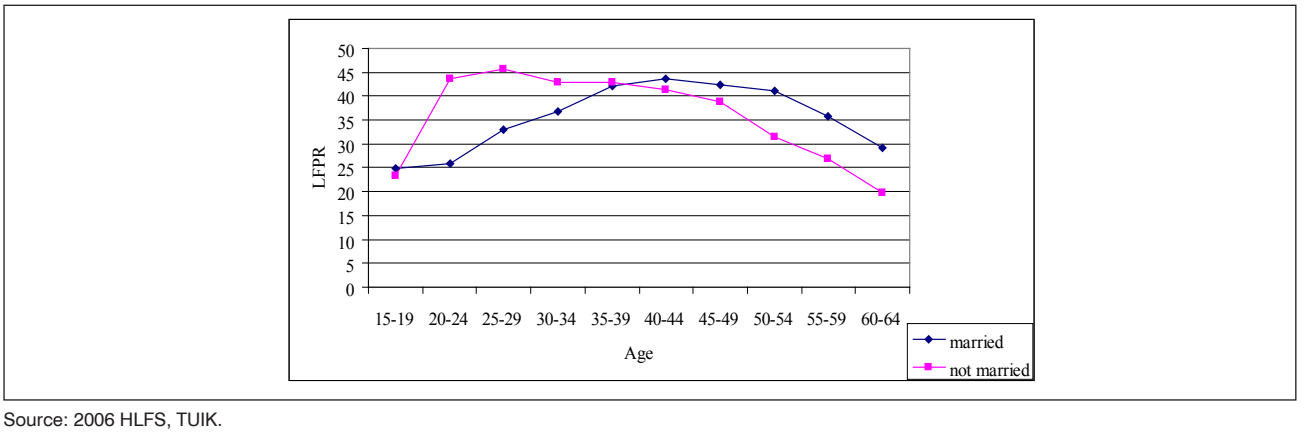
113. Given the low rates of participation among married women and their share in potential workforce, if women's participation rate is to be increased, this would heavily depend on the change in the participation behavior of married women. It is therefore, important to understand the reasons behind the low participation rates of married women. Plausible explanations include child bearing, societal norms that see women's proper role as motherhood, lack of affordable child care facilities, reliance on informal arrangements for child care, and female seclusion. While quantifying the role of tradition and societal values in determining women's participation rate is hard, the results of multivariate analysis undertaken and discussed later in the report shows that the number of children affects women's participation negatively.

Figure 42: LFPR of Women by Marital Status and Age in Urban Areas



Source: 2006 HLFS, TUIK.

Figure 43: LFPR of Women by Marital Status and Age in Rural Areas



Source: 2006 HLFS, TUIK.

114. Finally, we examine the age-participation profiles of women by marital status. Figure 42 displays this comparison in urban areas and Figure 43 for rural areas. In urban areas, we find that married women are much less likely to participate in the labor market at all ages. For instance, for 25- to 29-year-old women, while the participation rate for married women is below 20 percent, it is above 60 percent for non-married women. This gap diminishes in later ages once women with high propensity to work also get married. In rural areas, between the ages of 20 and 35, married women are also less likely to participate; however, the gap is much narrower than that in urban areas. Moreover, there is a reversal after age 40. Nonetheless, it is hard to interpret this reversal because very few women above this age are non-married in rural areas.

6.3. Fertility

115. Total fertility rate has fallen substantially in Turkey in the last 30 years. As can be seen in Figure B3 in Appendix B, it was recorded at a level of 2.2 children per woman in 2003, down from a level of 5.7 children per woman in 1968 and 3 children per woman in 1988.

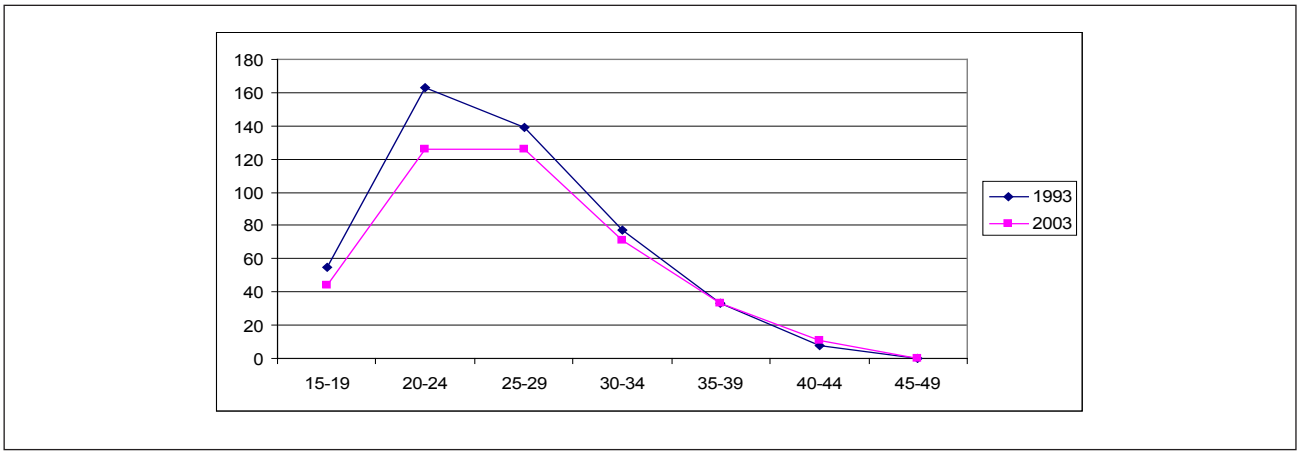
116. There is a rigid sequencing of demographic events in Turkey. In less than two years following marriage, women give birth to their first child. Although over the years, the age at marriage has increased, the lapse of time between marriage and first-birth has remained constant at around 1.8 years.[10] According to 2003 DHS results, the average age at first-birth is 22.5 years. An average woman then expects to be married with one child before she reaches 25 years and a second child before she reaches age 30 (DHS, 2003). Perhaps, more importantly, by the end of their productive years, less than 2 percent of women fail to have a child. Notwithstanding these general patterns, the fertility rate is closely associated women women's education level. As given in Appendix Table B1, while an illiterate woman expects to have 3.7 children before the end of her reproductive years, the corresponding figure among women with high school education or more is 1.4 children.

117. Given the importance of children in the lives of the majority of women in Turkey, in this subsection, we examine the fertility behavior of women according to rural/urban residence and how it has changed over time. We, then, analyze how the fertility behavior of successive birth cohorts compares. Finally, we compare the labor force participation rates according to motherhood.

6.3.1. Age specific fertility rates over time

118. Figure 44 compares the fertility rates for various age groups in urban areas in 1993 and 2003 using the DHS data for both years. Fertility rates until age 35 are considerably lower in 2003 than in 1988. There is also a counter-clockwise rotation in this profile in the sense that fertility moves to later ages in urban areas. While the fertility rate at ages 20-24 is higher than that at age 25-29 in 1993, they are at about the same level in 2003.

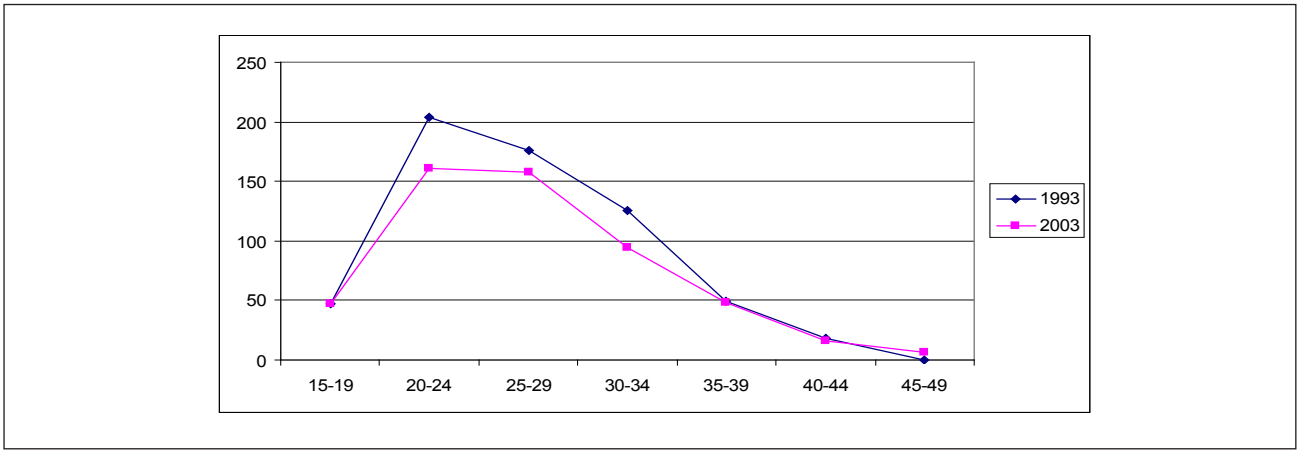
Figure 44: Age Specific Fertility Rates (per 1000 Women) in Urban Areas



Source: 1993 and 2003 DHS.

[10] Giving birth out-of-wedlock is a very rare event.

Figure 45: Age Specific Fertility Rates (per 1000 Women) in Rural Areas



Source: 1993 and 2003 DHS.

119. Figure 45 displays the age-specific fertility rates in rural areas in 1993 and 2003. Even though the levels of fertility are higher in rural areas than those in urban areas, the patterns of change from 1993 to 2003 are similar. Fertility rates between the ages of 20 and 34 are much lower in 2003. Moreover, there is a counter-clockwise rotation in the profile.

6.3.2. Age specific fertility rates by birth cohorts over time

120. In order to examine differences in fertility behavior over successive birth cohorts, we also carry out a decomposition analysis of cohort, age, and calendar time effects using three cross-section waves of the DHS (1993, 1998, 2003). Figure 46 displays the cohort effects according to this decomposition. Women born after 1974 have a lower propensity to have children compared to the earlier cohorts.

6.3.3. Female labor force participation rates by number of births and age over time

121. Figures 47 and 48 display how labor force participation rates of women with children and without children compare in urban areas and rural areas, respectively. In urban areas, women with children are much less likely to participate until age 40. In rural areas, too, mothers are less likely to participate. However, in this case, the evidence exists until age 35. Moreover, the gap is not as acute as that in urban areas.[11] Therefore, we can conclude that there is a negative association between children and labor force participation of women, in particular for those in urban areas.

122. The findings that there is a negative association between children and labor force participation of women and that fertility rates are falling in Turkey as well as that later cohorts of women in Turkey have

Figure 46: Coefficient Estimates of Cohort Effects on Fertility Rates in Urban Areas

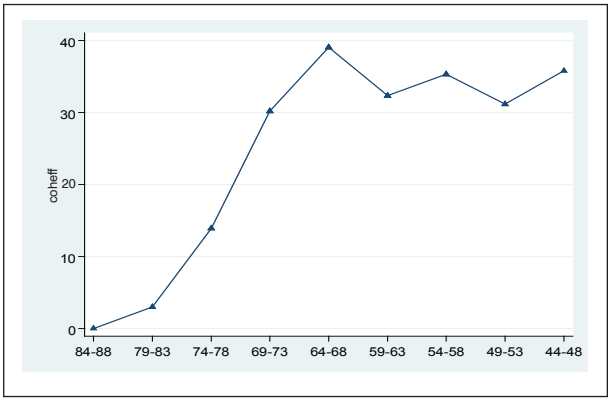
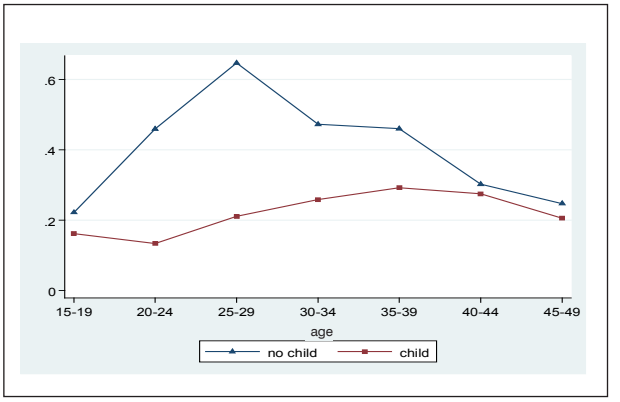


Figure 47: Labor Force Participation Rate by Motherhood Status in Urban Areas

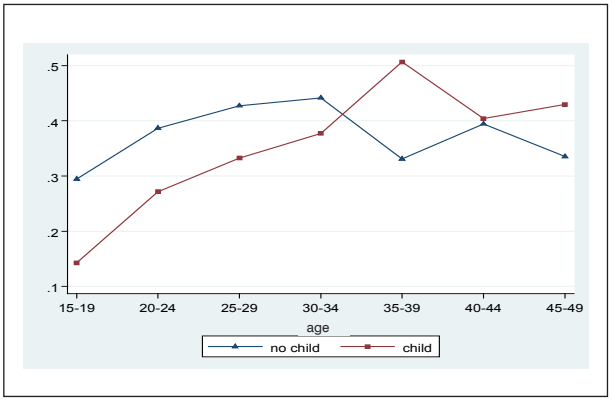


Source: 2003 DHS.

[11] The sample size for women who are older than 35 and do not have children is very small in rural areas.

a lower propensity to have children imply that labor force participation of women in Turkey is likely to increase in the near future due to the changes that have taken place in fertility behavior.

Figure 48: Labor Force Participation Rate by Motherhood Status in Rural Areas



Source: 2003 DHS.

6.4. Migration

123. The decline in the agricultural sector may also affect the participation rates in urban areas through migration. The move out of agriculture in rural areas and the resulting migration to urban areas would change the urban participation rates if the participation propensities of rural migrants differed from those of urban residents. The difference in the dependency ratios between migrant and non-migrant households, increasing school enrollment among younger men and the change in the age-composition of the urban residents over time would also contribute to the downward trend. Given the high internal migration from agricultural rural areas to urban areas in Turkey, an important question is how migrants fare in the labor markets of urban areas. Could poor economic integration of migrant women explain part of the low labor force participation rates in urban areas?

124. Table 11 presents the share of employment in agriculture from 1988 to 2006, which exhibits a significant decline. While 46.5 percent of employment was in agriculture in 1988, this share went down all the way to 27.3 percent in 2006.

125. According to 2003 wave of the Demographic and Health Survey, migrants – those who changed residence in the last five years- constitute 15.1 percent of the working-age female population in urban areas. The survey identifies migrants originating from cities, towns and villages. Migrant women from villages constitute 4.3 percent of the working-age female population in urban areas.

126. While 29.6 percent of migrant women in urban areas are in the labor force, among non-migrants this rate is 27.0 percent. In other words, migrant women are in fact slightly more likely to be in the labor force. However, when we examine the migrant women who originate from villages, we see that their labor force participation rate is lower at 23.6 percent. Therefore, we can conclude that while migrants in general are not pulling the labor force participation rate in urban areas to lower levels, migrants from villages are.

Table 11: Share of Agriculture in Employment (%)

Year	Share	Year	Share
1988	46.5	1998	41.5
1989	47.4	1999	40.2
1990	46.9	2000	36.0
1991	47.8	2001	37.6
1992	44.8	2002	34.9
1993	42.5	2003	33.9
1994	44.0	2004	34.0
1995	44.1	2005	29.5
1996	43.7	2006	27.3
1997	41.7		

Source: HLFS web data base, TUIK (http://www.tuik.gov.tr).

127. The fact that migrants originating from villages are less likely to participate in the labor market is resulting from their personal characteristics. Table 12 displays the effects of migrant status according to origin destination on the odds of labor force participation. Once we account for the schooling attainment, household wealth, marital status, age as well as regional variation in residence, there is no evidence that migration from a village within the last five years is associated with a lower labor force participation probability. However, there is evidence that migration from a city center is associated with lower odds of labor force participation in the new destination.

Table 12: Effect of Migrant Status According to Origin Destination Type on Labor Force Status in Urban Areas

	Odds Ratio	Standard Error	Share in the population (%)
Migrant * Village	1.135	.156	4.3
Migrant * Town	1.196	.165	4.5
Migrant * City	0.762**	.100	5.7
Migrant * Abroad	0.670	.306	0.4
Number of obs.=10,652 pseudo R^2=0.1309			

Note: Other controls include dummies for schooling attainment, household wealth, marital status, age, city size, and region. ** significant at 5%.

128. We also defined migrant status based on whether the current province of residence matches the province of birth. Based on this definition, we find that while 25.8 percent of the non-migrants in urban areas are in the labor force, 29.4 percent of the migrants in urban areas are. Furthermore, we checked this for low educational groups because migrants with low educational attainment could be more likely to stay out of the labor force. However, again migrants are more likely to be in the labor force: while 14.9 percent of the non-migrants with no education in urban areas are in the labor force, 18.6 percent of the migrants with no education are in the labor force. Therefore, with this definition of migration, there is no evidence that migrants are pulling the labor force participation of women to lower levels.

7. Determinants of Female Labor Force Participation

129. The analyses in Section 6 indicate that schooling, age, marital status and the number of children are important determinants of women's labor force participation. Besides supply side factors, demand side factors are also important in determining the participation of women. As also shown in Section 6, employed women are clustered into a small number of occupations so that economic growth would benefit women's participation to the extent that job opportunities expand in these occupations. In this section of the report, we carry out multivariate analyses to ascertain the role of demand and supply side factors noted above in determining women's participation. We base our analyses on two data sets: 2006 HLFS and 2003 DHS. As noted earlier, we primarily rely on DHS to see the role of children in determining women's participation. An added advantage of DHS data is that it includes wealth indicators, which are constructed on the basis of household durables and facilities, which we use to asses the role of permanent household income on women's participation. Both surveys lack demand side factors. To proxy for these, we use the place of residence information provided at NUTS2 level.

130. The logistic regression on women's participation shown in Table 13 confirms our earlier findings: women with more schooling are more likely to participate in the labor market (with the exception of primary and secondary school graduates who surprisingly have lower participation rates than illiterate women); participation increases in age, reaches a peak around 35-39 years and then declines; it is more likely for single women to participate in the labor market; the number of children in the household (ages 0-14) decreases the participation of women. Women living in rural areas are more likely to participate than their urban counterparts. Regions are also found to impact on the participation probability of women differently. To get a better sense of the impact of both supply and demand side factors we run separate regressions for rural and urban areas, which are also given in Table 13.

Table 13: Logit Regression Results for the Likelihood of Labor Market Participation (based on 2006 HLFS data)

	Turkey		Urban		Rural	
	Coeff	Odds ratio	Coeff	Odds ratio	Coeff	Odds ratio
Education: (ref: illiterate)	(std error)	(std error)	(std error)	(std error)	(std error)	(std error)
Functional Literate	0.078**	1.081**	0.404***	1.498***	-0.012	0.988
	[0.032]	[0.034]	[0.058]	[0.087]	[0.041]	[0.040]
Primary School	-0.097***	0.908***	0.103**	1.109**	0.018	1.018
	[0.023]	[0.021]	[0.043]	[0.047]	[0.032]	[0.032]
Secondary School	-0.163***	0.850***	0.232***	1.261***	-0.326***	0.722***
	[0.034]	[0.029]	[0.051]	[0.064]	[0.053]	[0.038]
General High School	0.233***	1.262***	0.619***	1.858***	-0.320***	0.726***
	[0.033]	[0.042]	[0.048]	[0.089]	[0.062]	[0.045]
Vocational High	0.737***	2.090***	1.145***	3.143***	0.255***	1.291***
	[0.036]	[0.074]	[0.049]	[0.154]	[0.073]	[0.095]
Higher Education	2.148***	8.566***	2.510***	12.302***	1.313***	3.716***
	[0.036]	[0.308]	[0.049]	[0.604]	[0.091]	[0.340]
Age categories (ref: age 60-64)						
Age 15-19	-0.421***	0.657***	0.593***	1.810***	-0.309***	0.734***
	[0.054]	[0.036]	[0.100]	[0.180]	[0.075]	[0.055]
Age 20-24	0.534***	1.706***	1.624***	5.074***	0.247***	1.281***
	[0.047]	[0.080]	[0.094]	[0.478]	[0.062]	[0.080]
Age 25-29	0.861***	2.366***	2.101***	8.178***	0.346***	1.413***
	[0.045]	[0.106]	[0.092]	[0.756]	[0.059]	[0.084]
Age 30-34	0.992***	2.696***	2.292***	9.891***	0.462***	1.587***
	[0.045]	[0.122]	[0.093]	[0.922]	[0.060]	[0.095]
Age 35-39	1.130***	3.095***	2.364***	10.630***	0.682***	1.979***
	[0.045]	[0.139]	[0.093]	[0.986]	[0.060]	[0.118]
Age 40-44	1.063***	2.896***	2.107***	8.222***	0.779***	2.180***
	[0.043]	[0.126]	[0.092]	[0.757]	[0.057]	[0.123]
Age 45-49	0.767***	2.154***	1.475***	4.370***	0.731***	2.077***
	[0.045]	[0.096]	[0.094]	[0.411]	[0.058]	[0.120]
Age 50-54	0.566***	1.760***	0.987***	2.683***	0.626***	1.869***
	[0.045]	[0.079]	[0.097]	[0.260]	[0.057]	[0.106]
Age 55-59	0.311***	1.364***	0.489***	1.630***	0.352***	1.422***
	[0.047]	[0.064]	[0.105]	[0.172]	[0.058]	[0.083]
Marital status (ref: never married)						
Married	-1.059***	0.347***	-1.352***	0.259***	-0.446***	0.640***
	[0.026]	[0.009]	[0.032]	[0.008]	[0.042]	[0.027]
Separated	-0.344***	0.709***	-0.056	0.945	-0.375***	0.688***
	[0.088]	[0.062]	[0.105]	[0.099]	[0.142]	[0.098]
Divorced	-0.033	0.968	0.07	1.072	-0.248**	0.780**
	[0.054]	[0.053]	[0.059]	[0.063]	[0.119]	[0.093]
Widowed	-1.081***	0.339***	-0.849***	0.428***	-0.761***	0.467***
	[0.046]	[0.016]	[0.065]	[0.028]	[0.069]	[0.032]
No of children aged 0-14 in household	-0.023***	0.977***	-0.157***	0.855***	0.035***	1.035***
	[0.007]	[0.007]	[0.012]	[0.010]	[0.010]	[0.010]
Regions (ref: Istanbul)						

	West Marmara	0.374***	1.454***	0.325***	1.384***	1.198***	3.313***
		[0.036]	[0.052]	[0.046]	[0.063]	[0.060]	[0.198]
	Aegean	0.131***	1.140***	0.090***	1.095***	0.945***	2.573***
		[0.027]	[0.031]	[0.032]	[0.035]	[0.053]	[0.135]
	East Marmara	0.139***	1.149***	0.208***	1.231***	0.872***	2.391***
		[0.031]	[0.035]	[0.034]	[0.041]	[0.061]	[0.145]
	West Anatolia	-0.264***	0.768***	-0.122***	0.885***	0.127*	1.136*
		[0.033]	[0.025]	[0.036]	[0.032]	[0.076]	[0.086]
	Mediterranean	0.079***	1.083***	0.229***	1.257***	0.842***	2.322***
		[0.030]	[0.032]	[0.035]	[0.043]	[0.055]	[0.128]
	Central Anatolia	-0.377***	0.686***	-0.615***	0.541***	0.561***	1.752***
		[0.043]	[0.029]	[0.048]	[0.026]	[0.068]	[0.119]
	West Black Sea	0.597***	1.817***	0.071*	1.073*	1.670***	5.311***
		[0.031]	[0.056]	[0.041]	[0.044]	[0.055]	[0.290]
	East Black Sea	1.051***	2.860***	0.600***	1.822***	2.122***	8.345***
		[0.038]	[0.109]	[0.058]	[0.105]	[0.061]	[0.509]
	North East Anatolia	0.080**	1.083**	-0.593***	0.552***	1.198***	3.314***
		[0.039]	[0.043]	[0.064]	[0.035]	[0.061]	[0.203]
	Mid East Anatolia	-0.386***	0.680***	-0.938***	0.391***	0.691***	1.996***
		[0.039]	[0.027]	[0.065]	[0.025]	[0.062]	[0.123]
	South East Anatolia	-1.622***	0.198***	-1.331***	0.264***	-1.041***	0.353***
		[0.046]	[0.009]	[0.053]	[0.014]	[0.081]	[0.029]
Rural		1.070***	2.917***				
		[0.016]	[0.048]				
Constant		-1.513***		-2.513***		-1.552***	
		[0.051]		[0.100]		[0.077]	
N		167,033		112,803		54,230	
Pseudo R squared		0.1585		0.2234		0.0959	

Notes: Robust standard errors in brackets. Covers women aged 15-64 years. * significant at 10%; ** significant at 5%; *** significant at 1%.

131. The role of education in determining women's participation becomes stronger when we consider women in urban areas only. Compared to illiterate women, those with higher levels of schooling have progressively higher participation rates that peak for those with higher education. Among rural women, illiterates and primary school graduates are not any more likely to participate than illiterate women. Surprisingly, those with secondary and general high school education have a lower likelihood of entering the labor market as compared to illiterate women, which may stem from demand side factors: the unavailability of "socially appropriate" jobs for them and the changing economic structure of rural households with the proportion engaged in agriculture declining. The last point is taken up in Section 8. However, vocational high school graduates and those with university degrees have a higher likelihood of entering the labor market. The effect is especially strong for university graduates.

132. As depicted earlier, the age-participation profiles are hump-shaped in both urban and rural areas, though age is a stronger correlate of participation in urban areas. However, as discussed earlier, these profiles mask cohort and time effects.

133. Being married is negatively associated with participation in both urban and rural areas, with a particularly large effect in urban areas. Separated and divorced women are also less likely to participate in rural areas but not in urban areas. In both places, it seems less likely for widowed women to enter the labor market. The number of children in the household are also negatively associated with the participation probability of women in urban but not in rural areas.

134. Finally, regions are found to be strongly associated with the participation of urban and rural women. In seven regions out of 12, the effect of regions on women's participation is in the same direction in urban and rural areas. However, while residence in the regions of West, Central, North East and Mid East Anatolia as opposed to Istanbul decreases the likelihood of women's participation in urban areas, it increases it in rural areas.

135. Table B2 in Appendix B presents the odds ratios from a logit estimation of labor force participation equations according to four highest educational attainment groups using 2003 DHS data: no education, primary, secondary, and higher education. According to these estimates, Figure 49 displays the effect of number of children on labor force participation according to education. What we see from this figure is that the number of children matters more for more educated women. In fact, for women with no education, there is no evidence at all that number of children matters in the labor force participation decision. This is perhaps because the majority of such women are in rural areas where they work as unpaid family workers. The increasing negative association between labor force participation and children as the number of children increases is especially prominent for women with higher education who are more likely to be in urban areas working as wage earners.

Figure 49: Coefficient Estimates of Effect of Number of Children on Labor Force Status by Highest Educational Attainment (Baseline: No Children)

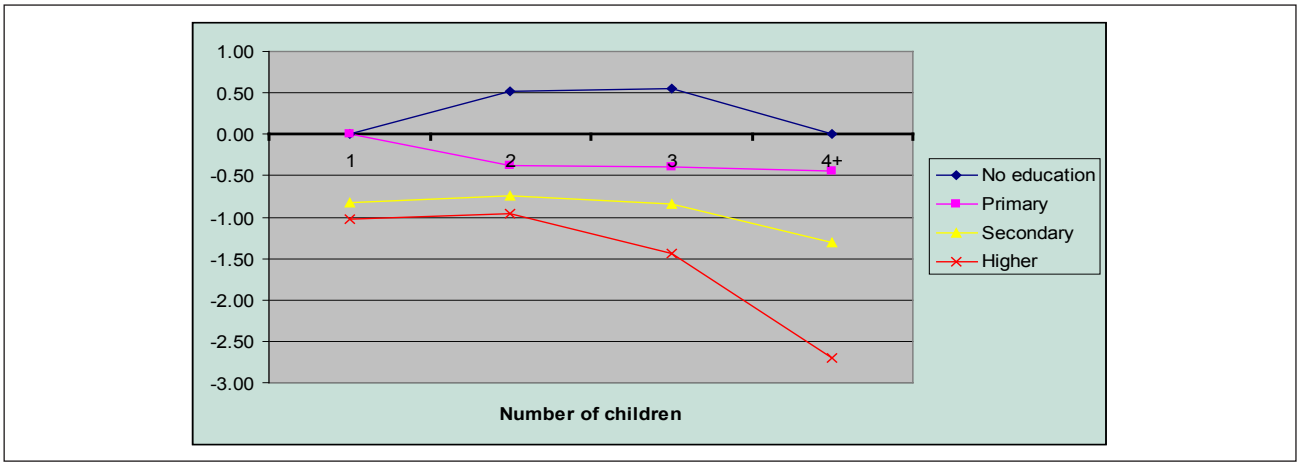
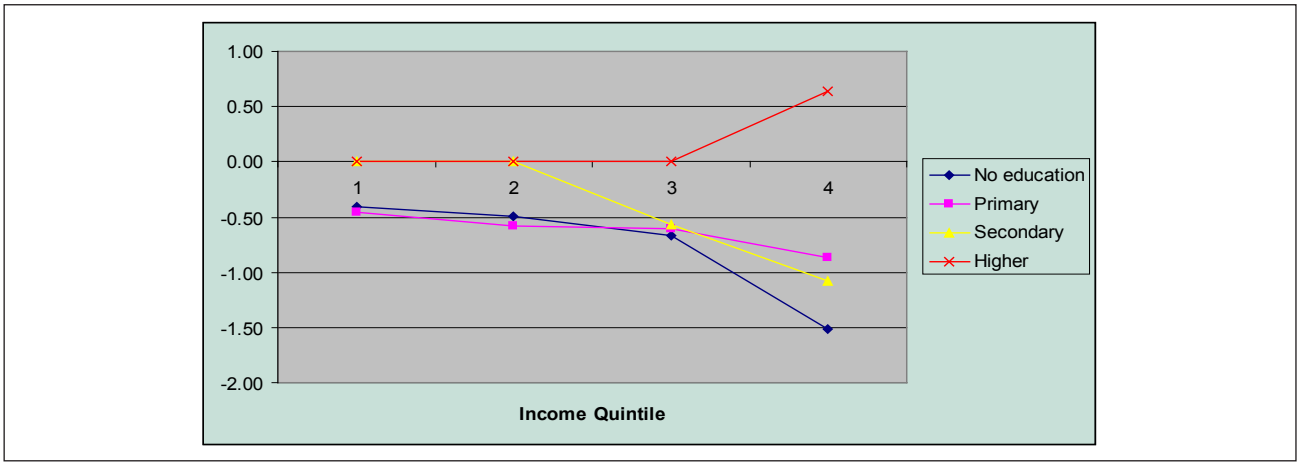


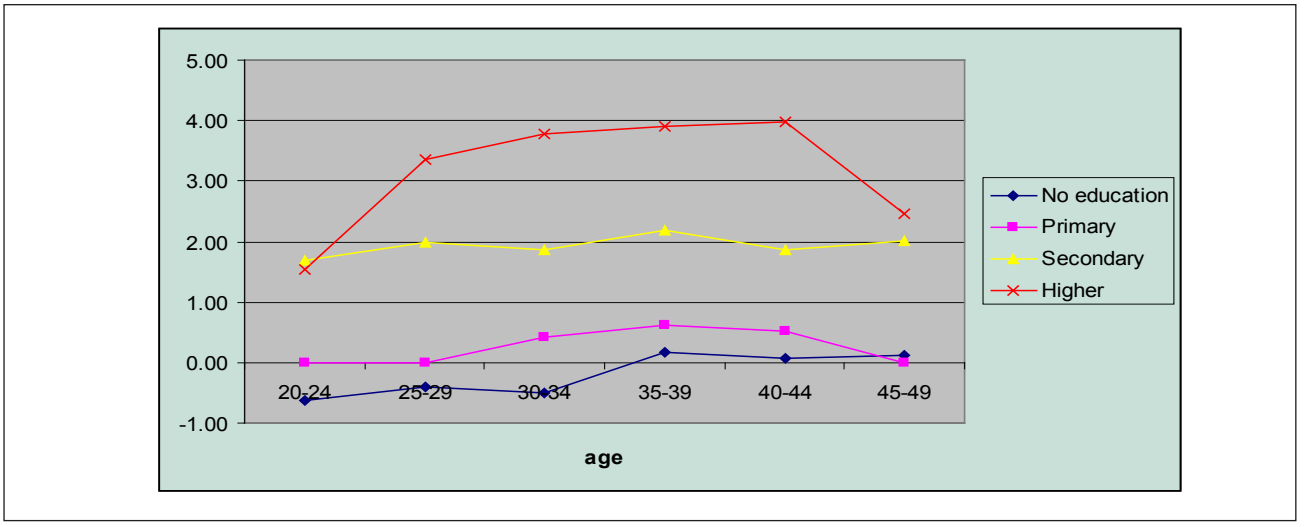
Figure 50: Coefficient Estimates of Effect of Wealth Quintile on Labor Force Status by Highest Educational Attainment (Baseline: Lowest Quintile)



136. Also according to the estimates in Table B2, Figure 50 displays the effect of household wealth on the labor force participation decision of Turkish women by highest educational attainment. In this case, the wealth of the family matters more for less educated women, in particular those with no education or primary education. For those with secondary education, only those in the two highest quintiles are less likely

to participate than those in the lowest quintile. For women with higher education, there is no evidence at all that household wealth is negatively associated with labor force participation. This last finding implies that the fall in the labor force participation among the higher-educated urban women in Turkey is not likely to be caused by their increasing non-labor income (like spouse's income).

Figure 51: Coefficient Estimates of Effect of Age on Labor Force Status by Highest Educational Attainment (Baseline: 15-19 age group)



137. Finally, Figure 51 illustrates age effects once we hold all other variables in the logit regression constant. As it was displayed before, for the two lower educational groups, age does not matter much in labor force participation status. For secondary school graduates, all other age groups are more likely to participate than the youngest, 15-19, age group; whereas for the highest educational group, there is more of a hump-shape where labor force participation is more likely between the ages of 25 and 44 compared to earlier as well as later ages.

138. Few other points in Table B2 are worth mentioning. For women with no education, labor force participation is much less likely in large cities compared to towns. On the contrary, for women with secondary school education, labor force participation is more likely in urban areas than in towns. Regional differences matter more for less educated women: labor force participation of women residing in the eastern regions lag behind that of women residing in Istanbul more for less educated women. There is no obvious pattern with regard to how the association between marital status and labor force participation changes with educational attainment, except that marital status does not seem to matter at all for the highly educated women.

8. A Closer Look at High and Low Skilled Women in Urban Areas and Rural Women

139. The analysis carried out in previous sections on the labor force participation of women has shown three interesting trends: the labor participation of highly educated women in urban areas is rather high, while those of less educated women very low. Furthermore, since 2000, the participation rates of both groups have been stagnant. On the other hand, the labor force participation of women in rural areas is substantially higher than the low skilled women in urban areas but their participation rates have recorded a drastic fall since 2000. The purpose of this section is to understand the possible factors behind these trends. To ease the discussion in this section, we define low skilled workers as those with less than high school education.

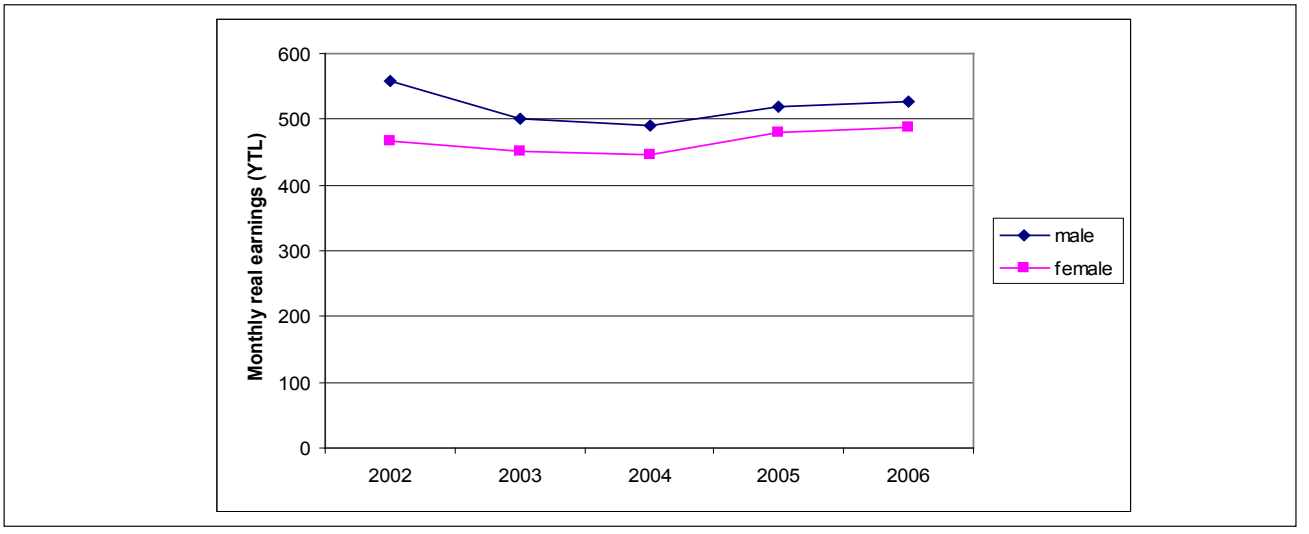
8.1. Understanding the Declining Participation Rates among the Highly Educated Urban Women

140. As illustrated earlier, labor force participation of high skilled women – those with high school education and above - showed a declining trend from 1988 to 2000. For university graduates, the labor force parti-

cipation rate stabilized after 2000 at around 70 percent. For high school graduates, the decline in the labor force participation slowed down beyond 2000, but did not quite stabilize. Potential reasons for falling/non-increasing participation rates include declining market wages making it less likely for them to enter the labor market, increasing reservation wages due for instance to higher household incomes and changes in the composition of the highly educated women in Turkey.

141. Figures 52 and 53 show the changes in the monthly and hourly wages of highly skilled women (those with high school education and more) over the 2002 to 2006 period. The monthly earnings of these women somewhat deteriorated from 2002 to 2004, and picked up again only to reach slightly higher figures in 2006 as compared to 2002. A similar pattern was observed for men as well. In term of hourly wages, the drop over the 2002-2004 is rather sharp, but so is the recovery after 2004. In 2006, the level of the hourly wages of women was close to its 2002 level but somewhat higher than that of their male counterparts. The fact that hourly wages of highly skilled women (and for that matter for the entire group of highly skilled workers including men) in 2000s did not record an appreciable increase is a potential factor that can explain their stagnant participation rates.

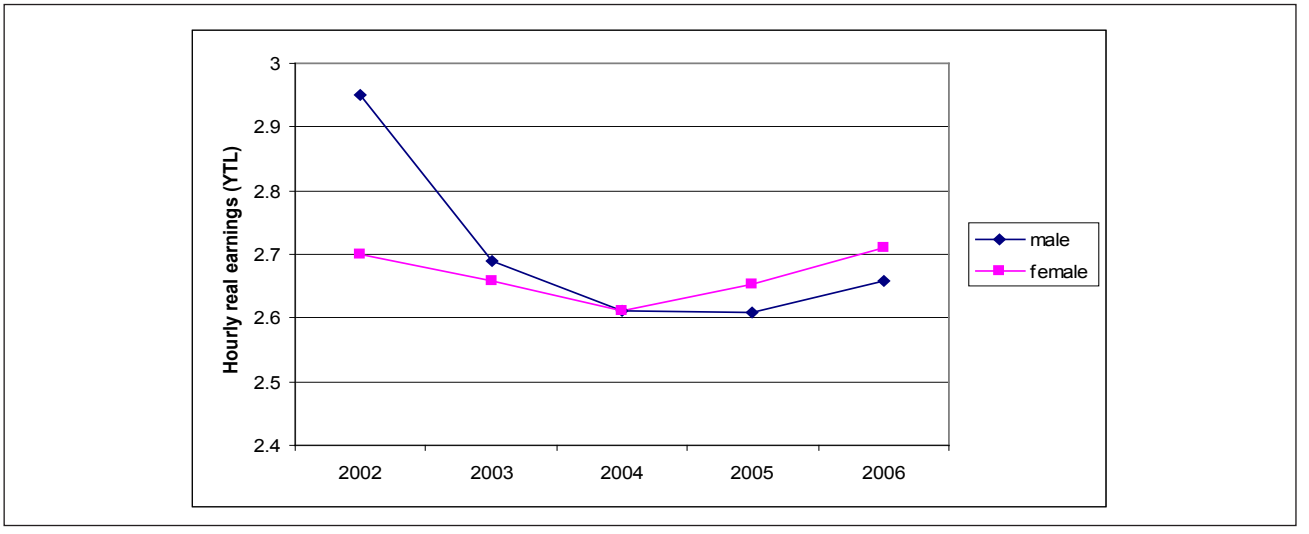
Figure 52: Monthly Real Earnings of Highly Educated Women in Urban Areas



Notes: Covers individuals age 15 plus. Includes wage earners only.

Source: 2002-2006 HLFS.

Figure 53: Hourly Real Earnings of Highly Educated Women in Urban Areas



Notes: Covers individuals age 15 plus. Includes wage earners only.

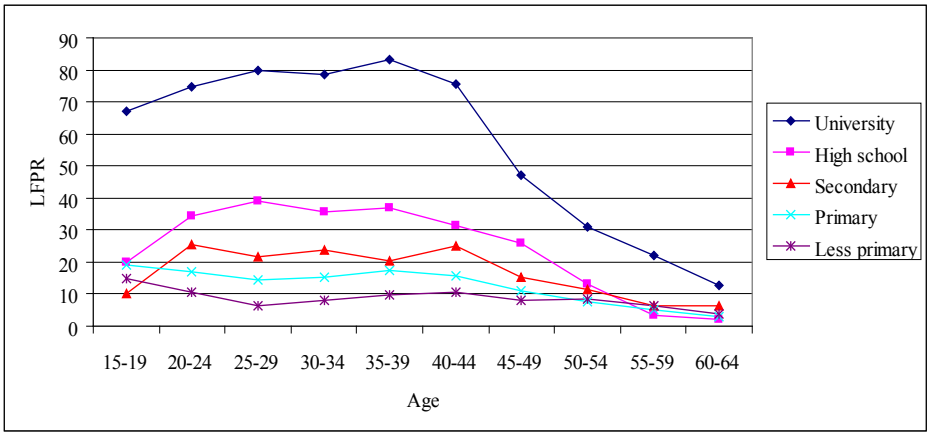
Source: 2002-2006 HLFS.

142. Another potential factor can be the rising household incomes of highly educated women, making it less likely for them to participate in the labor market. However, the regression results on the basis of different educational categories reported earlier had shown household wealth to be an insignificant determinant of the participation probabilities of highly educated women. Furthermore, given that the monthly average earnings of highly skilled men followed similar patterns as that of highly skilled women and a higher likelihood of highly skilled women to come from households with highly skilled men, this does not stand out as a likely explanation.

Table 14: Comparison of Individual Characteristics of Women According to Educational Attainment in 1993 and 2003 (based on DHS data)

	1993				2003			
	No education	*Primary*	*Secondary*	*Higher*	*No education*	*Primary*	*Secondary*	*Higher*
Never Married	0.0846	0.2693	0.5190	0.4648	0.1173	0.1717	0.4735	0.5365
Married	0.8289	0.6913	0.4505	0.5002	0.7875	0.7733	0.4883	0.4222
Widowed	0.0760	0.0282	0.0132	0.0087	0.0806	0.0348	0.0141	0.0054
Divorced	0.0061	0.0079	0.0166	0.0240	0.0085	0.0134	0.0195	0.0313
Not living together	0.0043	0.0033	0.0008	0.0023	0.0062	0.0069	0.0045	0.0046
15-19	0.0564	0.2222	0.3892	0.1046	0.0726	0.1075	0.3485	0.0915
20-24	0.0864	0.1762	0.1985	0.3161	0.0815	0.1473	0.1716	0.3397
25-29	0.0840	0.1384	0.1406	0.1581	0.0669	0.1427	0.1458	0.2164
30-34	0.1016	0.1341	0.1072	0.1075	0.0871	0.1399	0.1057	0.0992
35-39	0.1207	0.1027	0.0559	0.1202	0.1051	0.1320	0.0780	0.0811
40-44	0.1306	0.0772	0.0404	0.0853	0.1286	0.1177	0.0650	0.0678
45-49	0.1060	0.0547	0.0320	0.0523	0.1192	0.0982	0.0414	0.0473
50-54	0.1608	0.0550	0.0260	0.0432	0.1788	0.0724	0.0308	0.0409
55-59	0.1536	0.0395	0.0104	0.0127	0.1601	0.0424	0.0131	0.0161
Head	0.0623	0.0295	0.0229	0.0468	0.0716	0.0405	0.0366	0.1042
Spouse	0.6935	0.5344	0.3681	0.4485	0.6628	0.6290	0.4078	0.3805
Son/Daughter	0.0809	0.2595	0.4790	0.4260	0.1065	0.1701	0.4327	0.3986
Son/Daughter in law	0.0837	0.1172	0.0466	0.0177	0.0725	0.1032	0.0491	0.0130
Grandchild	0.0006	0.0101	0.0203	0.0207	0.0021	0.0070	0.0233	0.0084
Mother/Father	0.0419	0.0094	0.0028	0.0000	0.0290	0.0059	0.0034	0.0004
Mother/Father in law	0.0059	0.0017	0.0005	0.0000	0.0088	0.0065	0.0010	0.0000
Brother/Sister	0.0112	0.0119	0.0165	0.0049	0.0167	0.0161	0.0141	0.0173
Borther/Sister in law	0.0025	0.0030	0.0114	0.0144	0.0089	0.0050	0.0026	0.0000
Large city	0.1120	0.2151	0.4029	0.5281	0.1672	0.2670	0.3660	0.5000
Small city	0.2455	0.2203	0.2971	0.2807	0.3073	0.2692	0.3201	0.3315
Town	0.1331	0.1335	0.1606	0.1276	0.0897	0.0958	0.1287	0.0899
Countryside	0.5094	0.4311	0.1393	0.0637	0.4357	0.3681	0.1853	0.0786
Number household members	6.6578	5.7615	5.0626	4.2207	6.5986	5.2529	4.6659	3.7870
Number of children under 5	0.7883	0.5289	0.3431	0.2083	0.8197	0.5519	0.3635	0.1835
West	0.2069	0.3635	0.4367	0.4748	0.2525	0.4015	0.4177	0.5132
South	0.1523	0.1663	0.1662	0.1258	0.1466	0.1291	0.1417	0.1076
Central	0.1952	0.2437	0.2214	0.3048	0.1414	0.2494	0.2405	0.2452
North	0.1057	0.0945	0.0776	0.0479	0.0746	0.0767	0.0801	0.0660
East	0.3399	0.1320	0.0981	0.0467	0.3849	0.1433	0.1200	0.0680

Figure 54: LFPR of Women in Urban Areas by Age and Education in 2006



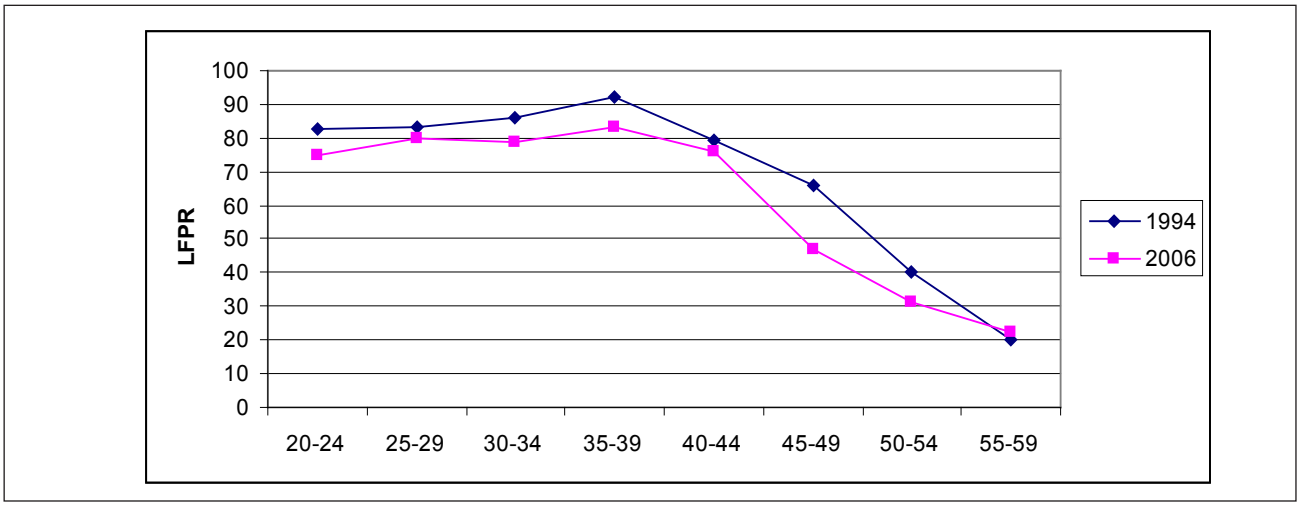
Source: 2006 HLFS.

143. The last explanation can be the changing composition of the highly educated women and therefore, their changing propensities to enter the labor market. Table 14 presents the distribution of certain characteristics of women aged 15 and above according to their educational attainment (the highest schooling level attended) using DHS data. The education categorizations used in DHS is slightly different from that of HLFS such that secondary education includes grades 6 through 11. (This corresponds to secondary education and high school education in the HLFS.) The question we ask here is: Could the lower labor force participation rates of highly educated women after 2000 compared to early 1990's be resulting from the changing characteristics of these women due to the substantial increase in educational attainment within this time frame?

144. According to Table 14, women with higher education are more likely to be never married in 2003. Given the higher probability of never-married women to participate in the labor market, the increasing share of never-married among the highly educated could not explain the decreasing trend in their labor force participation rate. A key difference in the characteristics of women with higher education in 2003 compared to 1993 is their age distribution. The highly educated women in 2003 tend to be younger. The shares in the 20-24 and 25-29 age brackets are much higher in 2003. However, the participation rates in these ages are close to the peak values at mid 30s. (This is illustrated below in Figure 54.) In addition, when we examine how the labor force participation rates by age changed over time, which is displayed in Figure 55, we see that compared to 1994, labor force participation rates in 2006 were lower for women with higher education regardless of age. Therefore, the change in the age composition of university graduates is not likely to explain the declining trend in their participation rates, either.

145. Another important difference in the characteristics of women with higher education in 2003 is with regard to their household head status. They are more likely to be household heads in 2003. However, since we would expect household heads to be more likely to participate in the labor market, this does not help us explain the non-increasing trend in the participation rates of educated women.

Figure 55: LFPR of Women in Urban Areas with Higher Education in 1994 and 2006



Source: 1994 and 2006 HLFS.

146. In 2003, a higher share of women with higher education was residing in the Northern and Eastern regions of the country, where labor force participation rates are lower. However, labor force participation rates for women with higher education exhibit little regional variation according to 2004 HLFS.

147. In essence, the pool of women with higher education in 2003 are in fact different in certain ways from the corresponding pool in 1993 in the ways that they are more likely to be never married, younger, heads of their households, and reside in Northern and Eastern regions of the country. However, none of these changes would help us explain the falling LFPR for women with higher education in the mid 1990s. Obviously, women with higher education in 2003 could still be different from the women with higher education in 1993 in other ways that we cannot observe, and these unobserved characteristics could explain the fall in LFPR. Given the significant expansion in the pool of college graduates in this time interval, it is very possible that certain other characteristics of college graduates changed over time.

148. Finally, it is important to note that the LFPR of women with higher education decreased primarily between 1994 and 2000. When we examine the increase in the fraction of women with higher education in the

total population, we see that the increase was faster in this period than it was before or after. While the fraction of women with higher education grew by 0.22 percent points on average per year between 1988 and 1994, and by 0.26 percent points on average per year between 2000 and 2006, it grew by 0.40 percent points on average per year between 1994 and 2000.

8.2. Understanding the Low and Stagnant Participation Rates among the Low-Skilled Urban Women

149. The reasons behind the low participation of low skilled women are likely to be their relatively high reservation wages due to the large household sector in Turkey and low market wages for this group of women. Given that domestic work is largely looked upon as women's work, the reservation wages of women are likely to be higher than that of men, making it less likely for them to join the labor market. Time-use surveys show the importance of women's household production for the livelihood of low income households (Dayıoğlu and Kasnakoğlu, 2000). Joining the labor force becomes even less likely if low skilled women are offered wages lower than those of their male counterparts. Lower wages (for the same skill level) may stem from women pushed into segments of the labor market where lower wages prevail or their limited access to better paying jobs, or simply due to wage discrimination.

150. The wage data available from HLFS 2002 onwards show that low skilled women do indeed receive lower wages compared to their male counterparts. Measured on the basis of monthly earnings from main job, women's earnings (wage workers only) were equal to 71 percent of men's earnings in 2006. When corrected for hours of work, women's earnings were equal to 80.6 percent of men's earnings. These figures were up from 65.6 percent and 71.4 percent, respectively, in 2002. Table 15 shows the gradual closing of the discrepancy in the earnings of low skilled men and women in urban areas.

151. Female workers are somewhat younger than their male counterparts, which may partly explain their lower earnings. Over a quarter of low skilled female wage earners living in urban areas are younger than 25 years (Table 16).

Table 15: Earnings of Low Skilled Women Wage Earners Compared to Low Skilled Male Wage Earners in Urban Areas

Year	Share of monthly earnings of men	Share of hourly earnings of men	LFPR men	LFPR women
2002	65.6	71.4	68.2	11.4
2003	67.2	74.7	67.1	10.9
2004	70.4	79.1	68.0	10.9
2005	70.1	82.2	68.8	11.6
2006	71.0	80.6	67.8	11.8

Notes: Covers individuals age 15 plus. Includes wage earners only.

Source: 2002-2006 HLFS, TUIK.

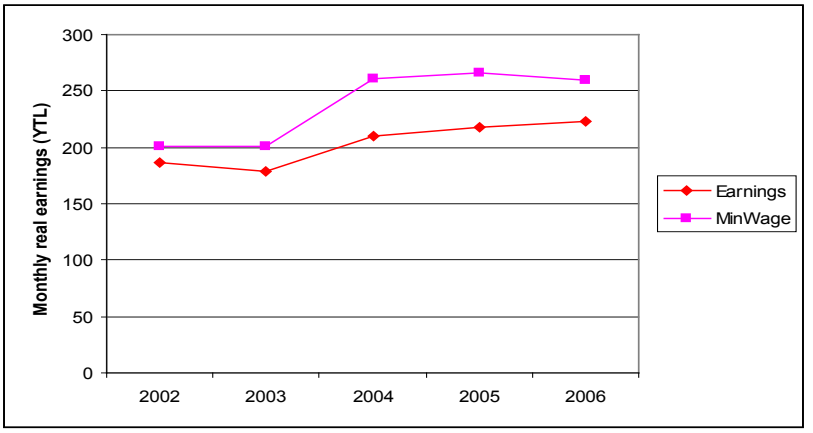
Table 16: Distribution of low skilled urban men and women by age categories

	All		Wage earners	
Age categories	Men	Women	Men	Women
Ages 15-19	7.37	11.38	8.59	14.72
Ages 20-24	9.44	13.45	10.54	15.28
Ages 25-29	15.24	13.38	17.08	14.25
Ages 30-34	17.35	15.91	18.76	15.79
Ages 35-39	15.64	15.4	16.08	15.31
Ages 40-44	13.2	12.62	13.22	11.84
Ages 45-49	9.53	7.83	8.34	6.95
Ages 50-54	6.28	5.08	4.49	3.69
Ages 55-59	3.22	2.68	1.88	1.44
Ages 60-64	1.48	1.29	0.71	0.57
Ages 65+	1.25	0.98	0.31	0.16

Source: 2006 HLFS, TUIK.

152. Women's earnings have not only improved vis-à-vis men but also in real terms. Figure 56 shows that in comparison to 2002, monthly earnings of low skilled urban women were up by about 20 percent in 2006. Hourly earnings of women have also shown similar improvements (Figure 57). Notwithstanding these favorable developments, the average earnings of low skilled women remained below the (net) minimum wage, and the gap grew over time. While in 2002, the average earnings of women were 93 percent of the minimum wage, this figure dropped to 85 percent in 2006. That the average earnings of women are below the minimum wage indicates that an average low skilled woman living in urban is not covered by the

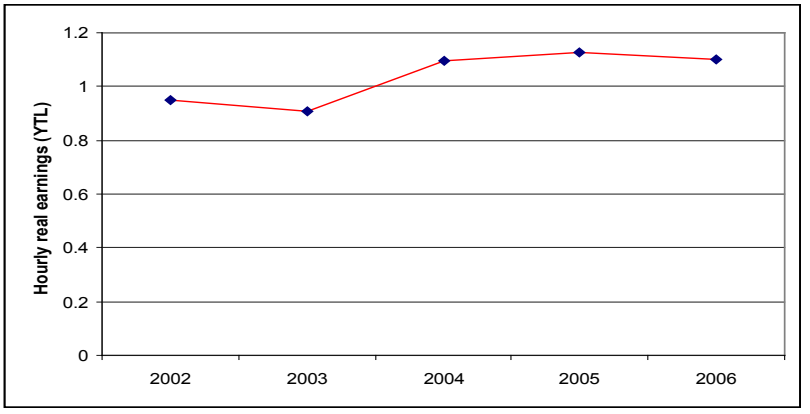
Figure 56: Minimum wages and monthly earnings of low skilled women in urban areas



Notes: Covers individuals age 15 plus. Wage earners only. 2002=100.

Source: 2002-2006 HLFS, TUIK and MLSS.

Figure 57: Hourly earnings of low skilled women in urban areas



Notes: Covers individuals age 15 plus. Wage earners only. 2002=100

Source: 2002-2006 HLFS, TUIK.

Table 17: Proportion of low skilled workers earning less than the minimum wage in urban areas

Year	Men	Women
2002	46.8	75.4
2003	42.7	72.3
2004	50.5	78.3
2005	51.2	78.7
2006	47.3	77.0

Notes: Covers individuals age 15 plus. Wage earners only.

Source: 2002-2006 HLFS, TUIK.

Table 18: Employment status of low skilled workers in urban areas - 2006

Employment status	Men	Women
Regular wage workers	57.5	53.7
Casual workers	10.4	13.1
Employer	8.1	1.8
Self-employed	21.8	15.1
Unpaid family worker	2.3	16.3

Note: Covers individuals age 15 plus.

Source: 2006 HLFS, TUIK.

minimum wage law, though improvements in minimum wages favorably reflect on her wages. Indeed, in 2006, 77 percent of low skilled women as opposed to 47 percent of men had monthly earnings that were below the minimum wage (see Table 17). The low female earnings – despite the recent improvements – and their relatively higher reservation wages probably explain why women's participation remained around 11 percent as opposed to almost 70 percent of men.

153. The wage information presented above is for wage earners who made up about 70 percent of all low skilled male and female workers in 2006 (Table 18). The employment status of the remaining 30 percent varied between men and women. While the overwhelming majority of men worked on their own account (either as employers or self-employed), over 16 percent (over half this group) of women worked as unpaid family workers. As the figures in Table 18 show, a distinctly smaller proportion of low skilled women are able to join the labor market working on their own-account.

154. Judging on the basis of the size of their workplace, the majority of low skilled wage workers and those who work on their own-account are concentrated in small establishments. However, quite interestingly, the distributions of male and female low-skilled wage workers across firms of different sizes are quite similar (Table 19). About 60 percent of both male and female wage earners work in establishments employing less than 25 workers. The proportion of those in very large establishments (250+) is also quite similar: 10.1 percent of men and 8.7 percent of women worked in large establishments in 2006.

155. However, in terms of social security registration a sizeable gender gap emerges. Considering the whole group of low skilled workers, while 55.2 percent of men were registered with a social security institution in 2006, the corresponding figure for women was 30.9 percent. The larger proportion of unpaid family workers among the latter no doubt contributes to this difference. However, a large gap is also observed among the self-employed. In the case of men, while 42.2 percent of the self-employed were registered, the corresponding figure among women was a meager 12.2 percent. Registration improves for both men and women wage workers. In fact, the improvement occurs on a larger scale for women. While 58.7 percent of wage workers in 2006 were registered with a social security institution, the corresponding figure was 40.8 percent among women. Therefore, although a larger proportion of women wage workers work without coverage, the gender gap in coverage is smaller for them than those who are not wage workers.

Table 19: Establishment size of low skilled workers in urban areas- 2006

	All		Wage workers	
Establishment size	Men	Women	Men	Women
<10 workers	61.2	61.2	44.7	42.6
10-24 workers	9.3	10.7	12.5	15.5
25-45 workers	10.0	10.1	14.3	15.0
50-249 workers	12.7	12.2	18.5	18.2
250-499 workers	3.2	2.7	4.7	4.0
500+ workers	3.7	3.1	5.4	4.7

Note: Covers individuals age 15 plus.

Source: 2006 HLFS, TUIK.

156. In terms of sector of economic activity, low skilled female wage workers are found in manufacturing (44.6 percent), community services (24.2 percent), wholesale and retail trade (16.5 percent) and in agriculture (7.3 percent) (Table 20). The distribution for male low skilled wage workers is somewhat different with a sizeable proportion found in construction (12.5 percent) and in communications (7.2 percent). The proportion in wholesale and retail trade is also higher among men. However, smaller proportions are found in manufacturing, community services and in agriculture. It is also interesting to note that the distribution of low skilled wage earners across sectors of economic activity differs considerably from their group at large. For instance, while a fifth of low skilled women work in the agricultural sector, this proportion is limited to 7.3 percent of female low skilled wage earners. Notwithstanding these differences, it is still the case that manufacturing, community services and wholesale and retail trade employ the majority of low skilled female workers.

157. The average earnings prevailing in various sectors for low skilled workers are also given in Table 20. Highest wages are observed in mining and electricity gas and water sectors where very few men and almost no low skilled women are found. Lowest wages, on the other hand, are observed in agriculture where a larger

fraction of low skilled women work. Looking at the three sectors where low skilled women are mostly found - manufacturing, community services and wholesale and retail trade – reveal that community services offer relatively higher wages than the rest. Using the sectoral distributions of men and women as weights, the average hourly wages of low skilled men and women are found to be 2.3 YTL for both groups. Hence, in terms of the sectoral distribution of women, low skilled women do not seem to be at a disadvantage.

Table 20: Distribution of Low Skilled Men and Women across Economic Sectors in Urban Areas in 2006

	All		Wage Earners		Av. monthly wage in sector for low skilled workers	Av. hourly wage in sector for low skilled workers
Sector of economic activity (NACE 1.1)	Men	Women	Men	Women		
Agriculture	4.8	20.44	1.62	7.26	342.7 (236.1)	1.7 (2.1)
Mining	0.62	0.04	0.89	0.06	834.9 (480.8)	3.9 (2.5)
Manufacturing	29.73	36.23	36.66	44.61	515.2 (239.4)	2.2 (1.2)
Electricity, gas, water	0.28	0.06	0.41	0.09	863.9 (457.7)	4.5 (2.5)
Construction	10.87	0.64	12.46	0.91	521.4 (280.0)	2.3 (1.8)
Wholesale, retail trade	31.81	19.24	24.27	16.51	487.5 (233.2)	1.9 (1.1)
Communication	8.12	0.88	7.17	1.22	600.7 (326.8)	2.7 (2.0)
Financial services	3.02	3.65	3.7	5.13	464.2 (200.7)	2.2 (1.1)
Community services	10.75	18.81	12.81	24.2	563.3 (330.5)	2.9 (2.0)

Notes: Covers individuals age 15 plus. Average monthly wages are based on wage earners only. Hourly wages are calculated by dividing monthly wages to weekly hours worked. Standard deviations are in parentheses.

Source: 2006 HLFS, TUIK.

Table 21: Distribution of Low Skilled Men and Women across Occupations

	All		Wage Earners	
Occupational distribution (ISCO-88)	Men	Women	Men	Women
Legislators, senior officials and managers	1.38	0.45	11.21	3.05
Professionals	0.39	0.78	0.36	0.73
Technical and associate professionals	3.89	4.92	3.52	3.71
Clerks	3.48	6.11	2.64	4.48
Service workers and shop and market sales workers	16.45	18.47	14.65	17.7
Skilled agricultural and fishery workers	0.65	0.73	3.98	13.18
Craft and related trades workers	30.08	15.88	27.16	16.04
Plant and machine operators and assemblers	23.38	16.79	19.21	11.89
Elementary occupations	20.3	35.88	17.26	29.22

Note: Covers individuals age 15 plus.

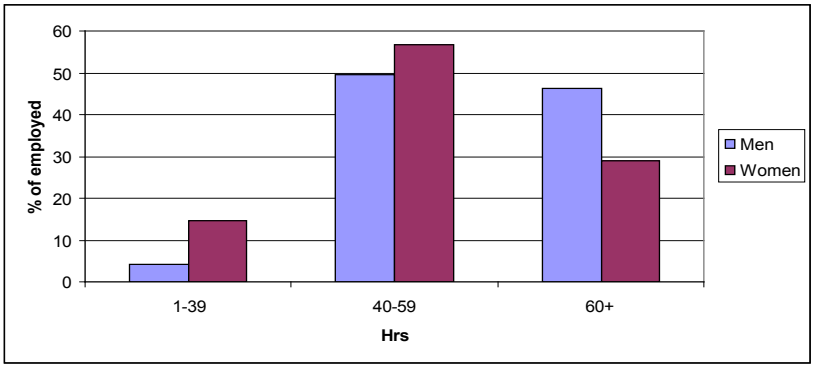
Source: 2006 HLFS, TUIK.

158. The occupations held by male and female low skilled workers in urban areas show significant variations. Male wage earners, for instance, are more likely to work as craft and trades workers, and plant and machine operators and assemblers, while women are more likely to work in elementary occupations (Table 21). It is also interesting to note that, unlike the sectoral distribution, the occupational distribution of low skilled female wage workers and the rest (own account workers and unpaid family workers) are quite similar.

159. Although the statuary work week in Turkey is 45 hours, low skilled wage earners work well beyond these hours. The mean hours worked in the reference week was 56.7 hours among men and 49.8 hours among women in 2006. The distribution of hours illustrated in Figure 58 shows a very small proportion of women working less than 40 hours. The mean hours worked among the self-employed women at 37.3 hours per week is substantially lower than that of their wage earner counterparts. Although the mean hours worked by self-employed men is higher than male wage earners at 58.2 hours per week, the difference is rather small.

160. Figure 59 illustrates the distribution of hours worked by low-skilled self-employed men and women in 2006. The distribution is drastically different from that of female wage earners: 56.4 percent of women work less than 40 hours per week as opposed to only 14.5 percent of female wage earners. In the case of men, while it is the case that a larger proportion of self-employed men work less than 40 hours (13 percent as opposed to 4.2 percent), the proportion working for 60 hours or more is also higher (57.2 percent as opposed to 46.3 percent). Low skilled women who chose/are able to enter the labor market as own-account workers are probably a select group, who may desire to work limited number of hours. Considered in this perspective, the limited availability of part-time jobs may be limiting the participation of low skilled workers.

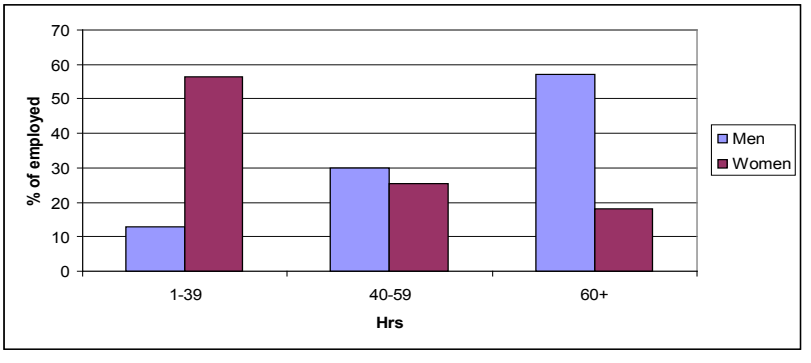
Figure 58: Distribution of Low Skilled Wage Earners in Urban Areas by Hours Worked in 2006



Source: 2006 HLFS, TUIK.

Note: Covers individuals age 15 plus.

Figure 59: Distribution of Low Skilled Self-Employed Men and Women in Urban Areas by Hours Worked in 2006



Source: 2006 HLFS, TUIK.

Note: Covers individuals age 15 plus.

161. The above analyses have shown that the low participation of low skilled women in the labor market and the non-increasing trend is unlikely to stem from employment discrimination against women. The distribution of women across industries shows that apart from construction and communication sectors, women are able to enter sectors where low skilled men are also found. Neither is there an unexpected concentration of women in firms of certain size. However, the occupational distribution does show variations among low-skilled men and women, indicating that women take up work of different nature within these firms/industries. The plausible explanations then for the low participation of low skilled women are low market wages and high reservation wages. The conditions of work, as measured by hours of work, also indicate heavy work hours, which possibly conflict with the domestic demand on women's time. It is not surprising then that the majority of low skilled women workers are relatively young.

8.3. A further look at the declining participation rates of women in rural areas

162. Potential reasons for the decline in participation rates in rural areas include a geographical shift – due to the regional differences in out-migration and fertility rates – in the distribution of rural population to areas where female labor force participation is low, migration of rural women with higher propensity of labor force participation to urban areas, a fall in agricultural wages and earnings, which could arise as a result of falling prices for agricultural products for instance, production shifts from more to less labor-intensive crops, and a fall in the fraction of households engaged in self-account agriculture in rural areas.

163. First, we examine how the geographical distribution of rural women changed over time, which is displayed in Table 22 for the years 1990 and 2000. The last column of Table 22 displays the variation in LFPR in these geographical areas in 2004. (We took

Table 22: Geographical Distribution of the Population of Rural Women and Participation Rate of Rural Women by Geographical Region (HLFS data)

	Share of Rural Population (%)		LFPR in Rural Areas (%)
	1990	*2000*	2004
İstanbul	1.8	3.9	18.5
Western Marmara	5.8	5.4	39.1
Agean	14.2	14.5	41.3
Eastern Marmara	7.4	7.9	32.0
Western Anatolia	5.7	6.2	26.3
Mediterranean	13.0	14.7	28.3
Central Anatolia	8.3	7.7	24.8
Western Black Sea	12.6	10.4	50.5
Eastern Black Sea	7.4	6.7	69.0
Northeastern Anatolia	6.1	5.1	50.0
Central Eastern Anatolia	7.6	7.2	22.8
Southeastern Anatolia	10.0	10.4	22.9

LFPR values in 2004 as the previous Household Labor Force Surveys do not have this regional information.) We observe a fall in the share of rural population in regions where the labor force participation rates of rural women are the highest like Western Black Sea, Eastern Black Sea and Northeastern Anatolia. The share of rural women in the Western Black Sea region fell from 12.6 percent to 10.4 percent, and the share in Eastern Black Sea Region from 7.4 percent to 6.7 percent, and the share in Northeastern Anatolia from 6.1 percent to 5.1 percent. The LFPR in rural areas of these regions are above fifty percent, it is actually 69 percent in the Eastern Black Sea region. On the other hand, the share of rural population in Istanbul increased from 1.8 to 3.9 percent, where few of these rural women would be living on family farms where jobs are easily available. In fact, the LFPR in this region is the lowest at 18.5 percent. Another region with increasing share of rural population is the Mediterranean region, where this share rose from 13.0 to 14.7 percent. However, the LFPR of rural women in this region is also relatively low at 28.3 percent.

164. Another potential explanation to the fall in participation rates in rural areas is that women who choose to migrate from rural areas to urban areas could be different from the ones who choose to stay. For this purpose, using the 2003 DHS, we compare the certain characteristics of "stayers" in rural areas – who are living in rural areas now and were living there five years ago as well – with the characteristics of "movers", who were living in rural areas five years ago but live elsewhere now. The first striking difference between stayers and movers is in their age distribution: Movers are much younger compared to stayers. Three quarters of movers are under the age of 30, whereas less than 45 percent of the stayers are. Movers are

also different from stayers in the ways that they are wealthier, they are more likely to married (because a husband facilitates migration), and they have smaller household sizes.

165. The key difference between stayers and movers is in their educational attainment. Movers are more educated compared to stayers. Compared to 14.8 percent of movers, 27.3 percent of stayers have no education at all. Primary school completion rate of movers is roughly 12 percentage points higher for movers. Similarly, secondary school education as the highest educational level (incomplete or complete) is also higher for movers. Furthermore, secondary school completion rate is roughly 3 percentage points higher for movers.

166. Given the fact that movers include a higher fraction of primary and secondary school graduates at the expense of women with no diploma and that primary and secondary school graduates have much higher participation rates compared to those with no diploma could in part account for why labor force participation rate in rural areas is falling.

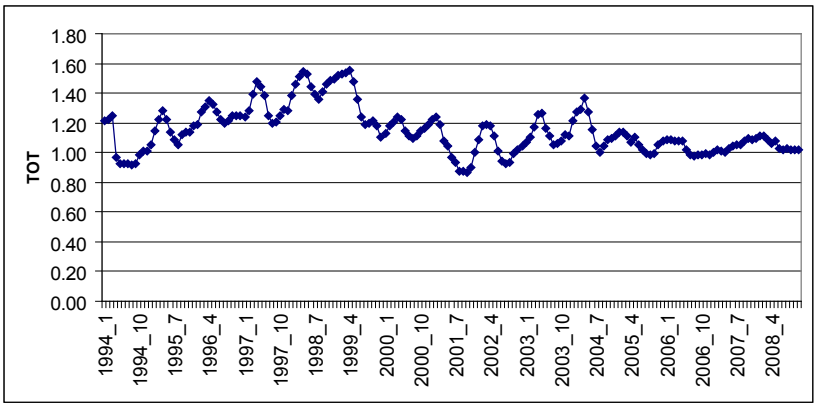
167. Moreover, our argument that out-migration of more educated women accounts for part of the decline in rural LFPR is consistent with our previous finding that the LFPR has fallen much more for younger women than older women in rural areas. In Table 23, we show that migrants are much more likely to be younger women. Therefore, the selection in terms of educational attainment will be stronger among the younger women, and, as a result, the fall in their LFPR is more prominent.

168. Next, we investigate how the terms of trade between agricultural and manufacturing products have changed over time. The prices of agricultural products not only determine the wage rate in agriculture but also the earnings of households in the agricultural sector. As can be seen from Figure 60, the terms of trade between agriculture and manufacturing, in fact, improved from 1994 to 1999. However, labor force participation rates of females in rural areas decreased from 48.9 percent to 47.4 percent in the same period. The terms of trade between agriculture and manufacturing decreased from a level of roughly 1.2 in 2000 to a level of 1.0 in 2006. In this period of declining terms of trade for agriculture, the labor force participation rate for rural females fell from 40.2 to 33 percent. In other words, the fall in the labor force participation was higher in a period of declining terms of trade than in a period of improving terms of trade. Therefore, there is some indication that the fall in the terms of trade in agriculture could have contributed to the fall in the participation rate in rural areas for females. However, the fact that the participation rate fell even in a period of improving terms of trade between 1994 to 1999 points out that there are some other factors contributing to the decline in the participation rates in rural areas. The terms of trade in agriculture is just a contributing factor. (Note that the participation rate in rural areas for females fell

Table 23: Comparison of Characteristics of Emigrants from Rural Areas (Movers) and Residents of Rural Areas (Stayers) - based on 2003 DHS data

	Stayers	Movers
15-19	0.187	0.202
20-24	0.148	0.341
25-29	0.100	0.195
30-34	0.112	0.087
35-39	0.109	0.069
40-44	0.098	0.039
45-49	0.086	0.027
50-54	0.085	0.028
55-59	0.075	0.011
First Wealth Quintile	0.337	0.257
Second Wealth Quintile	0.263	0.260
Third Wealth Quintile	0.187	0.248
Fourth Wealth Quintile	0.139	0.135
Fifth Wealth Quintile	0.075	0.100
No Education	0.273	0.148
Incomplete Primary	0.086	0.083
Complete Primary	0.475	0.593
Incomplete Secondary	0.104	0.085
Secondary	0.042	0.071
Higher Education	0.021	0.020
Never Married	0.304	0.155
Married	0.653	0.822
Widowed	0.033	0.015
Divorced	0.007	0.005
Not living together	0.004	0.003
Number household members	6.134	5.533
Number of children under 5	0.654	0.863

Figure 60: Changes in internal terms of trade between agriculture and manufacturing



Note: Terms of trade shows the ratio of the value-added in agriculture to manufacturing.

Source: Producer Prices Indices, TUIK.

from 47.4 percent in 1999 to 40.2 percent in 2000. As discussed earlier, the change in the sampling frame in 2000 can be a factor in this fall. However, the falling LFPR is observed both before and after 2000.)

169. We also analyze the area devoted to various crops to see whether there has been any shift toward products that are less labor-intensive. Table 24 compares the shares of total agricultural area devoted to major agricultural products in 1995 and 2004. The crop patterns have not shown drastic changes over time.

170. Finally, the fall in LFPR could arise due to the declining share of agriculture in rural areas, in particular due to the decline in the number of family-run establishments that kept the participation rates of rural women at levels higher than their urban counterparts. On the basis of a number of measures, Table 25 provides the change in the importance of agriculture and family-run agricultural establishments in rural areas. The first column lists the fraction of household heads in rural areas engaged in agriculture on own-account. This share drops from 41.3 percent to 30.5 percent from 2000 to 2006. This is a remarkable decline in such a short period of time. Similarly, the fraction of household heads in rural areas engaged in agriculture, but not necessarily on their own-account – which would also include wage-earners – also display a similar remarkable fall. Therefore, the fall in the importance of self-employed agriculture is not due to a transition to wage-work in agriculture but a transition to other sectors. (This would in part be due to the change in the rural/urban classification of certain areas over time. For instance, some rural areas may become part of metropolitan areas.)

171. As a robustness check, we also look at the fraction of households with at least one member working in agriculture. We find similar results. The proportion of households that have at least one member working on own-account in the agricultural sector – we identify these households as having an agricultural establishment - has declined from 18 percent in 2002 to 14.5 percent in 2006. A similar exercise that considers only the rural areas shows a more drastic drop in agricultural establishments. While in 2002, 48.4 percent of rural households had an agricultural establishment, this figure drops to 36.8 percent by 2006.

Table 24: Changes in the area contributed to the cultivation of various crops (%)

Area in hectares (‘000)	1995	2004
Cereals	66.4	64.5
Pulses	6.4	8.7
Industrial crops	5.9	6.5
Oil seeds	3.0	3.4
Tuber crops	1.3	1.7
Vegetables	3.9	3.7
Fruits, olive trees, tea	13.1	11.5

Source: 2004 figures are from Çakmak and Eruygur (2008), Table 9. Table excludes fallow land.

Table 25: Declining Share of Agriculture in Rural Areas

	% of hh heads in rural areas engaged in agriculture on own-account	% of hh heads in rural areas engaged in agriculture	% of hh with at least one member engaged in agriculture on own-account	% of households in rural areas with at least one member engaged in agriculture on own-account
2000	41.3	44.2	19.3	48.4
2001	42.5	44.6	20.0	50.3
2002	36.4	38.6	18.0	44.1
2003	35.7	38.2	17.4	42.7
2004	37.3	40.2	17.2	42.6
2005	32.1	34.9	15.6	38.6
2006	30.5	33.6	14.5	36.8

Source: 2002-2006 HLFS, TUIK.

9. Conclusion

172. In this study, we describe the main features of women's labor force participation and determine the associations of a number of demographic and economic factors with women's labor force participation. In addition, we search for answers for a number of interesting findings about women's labor force participation in Turkey including the declining labor force participation rates in rural areas as well as for highly educated women in urban areas and the low and stagnant participation rates for urban low-educated women.

173. Female labor force participation rate in Turkey is low by OECD standards. Moreover, it has decreased from 34 percent in 1988 to 27 percent in 2006. An important reason for this fall in participation rate is urbanization. Turkey has witnessed high levels migration from rural to urban areas since 1988. The share of urban population rose from 51.1 percent in 1988 to 63.3 percent in 2006. Since the labor force participation rate in urban areas is much lower, at approximately 20 percent in 2006, than that in rural areas, at approximately 33 percent in 2006, the increasing share of urban population pulls down the labor force participation rate of women.

174. However, it is not only the decreasing share of rural population that is pulling down the participation rate for women. Labor force participation rate in rural areas for women has been declining itself: it has gone down from a level of 50.7 percent in 1988 to 33 percent in 2006. We need to be careful, though, in comparing the numbers before and after 2000 because the sampling frame of the Household Labor Survey used in constructing these numbers changed in 2000. However, when we examine these periods separately, we still find that the rural labor force participation rate decreased from 50.7 percent to 47.4 percent over the 1988 - 1999 period, and from 40.2 percent to 33 percent over the 2000 - 2006 period. The decline in rural labor force participation rate for females has been more prominent since 2000. In addition, when we examine the change in the participation rates by age groups, we see that the decline has been larger for younger rural women.

175. Unlike the declining labor force participation rate in rural areas, participation rates in urban areas have been more stable. It displayed an almost flat profile between 1988 and 1999 at a level of approximately 17 percent. In fact, since 2000, it has shown an upward trend: the participation rate of urban women increased by 2.5 percentage points from a level of 17.4 percent in 2000 to 19.9 percent in 2006. When we examine the participation rates by age, we find that the increase in the participation rates for certain age groups in urban areas have been remarkable. For instance, the participation rate for 25- to 29-year-olds increased by 8.5 percentage points from 1988 to 2006 and by 5.1 percentage points from 2000 to 2006.

176. We also find that it is not the increasing prevalence of part-time work that is behind the increasing participation of women in urban areas. To the contrary, part-time work has decreased over time. Close to 70 percent of women in Turkey work for 40 hours or more per week. This figure approaches to 85 percent in urban areas.

177. Agriculture carries a heavy weight in the lives of women workers in Turkey. Although declining, a sizeable proportion of women, 60 percent, still work

in agriculture. This implies that changes in agricultural activities will exert a strong influence on the trends in the labor force participation of women. Since the agricultural sector in Turkey is dominated by small-scale family run establishments, the female labor force in rural areas predominantly work as unpaid family workers. In fact, about 40 percent of all working women are unpaid family workers as a result of the large share of agriculture in female employment. However, with the decline in agriculture, and family-run establishments, the importance of wage work among working women has been on the rise in both rural and urban areas. In fact, wage work is the dominant form of employment in urban areas where 80 percent of women are found. These imply that labor force participation rate of urban women is rising along with a rising incidence of wage work.

178. A cross-section analysis of the age-participation profiles of female labor market participants in urban and rural areas in 2006 reveals a hump-shaped age-profile for urban participants, the peak occurring between ages 20 and 29. A similar hump-shaped profile is also found for rural labor force participants; however, its hump is much weaker– the range between the ages of 20 and 59 is relatively flat –. The problem with these cross-section profiles is that the age effects could also stand for cohort and/or calendar year effects. Therefore, using pseudo-panel techniques with a series of cross-section data, we decompose age, cohort, and calendar year effects in the participation rate profiles.

179. As a result of this decomposition analysis, we find a counter-clockwise rotation in the age-profile of labor force participation rates in urban areas. The peak is now between the ages of 20 and 39, instead of 20 and 29. The age-profile of labor force participation rates in rural areas completely changes as a result of the decomposition. We find a monotonic age effect: rural women become less likely to participate as they age at all ages. In terms of cohort effects, in urban areas we find that younger cohorts of women are much likely to participate in the labor market. In rural areas, on the contrary and perhaps surprisingly, younger cohorts of women are less likely to participate in the labor market.

180. We also carried out a similar decomposition analysis for hours worked in urban areas. As a result of this analysis, we found that younger cohorts of women in urban areas are also less likely to work for shorter hours (less than 40 hours per week) and more likely to work for longer hours (more than 50 hours per week) than older cohorts. In other words, younger cohorts of women in urban areas are not only more likely to participate in the labor market but also more likely to work for longer hours. This implies that the finding for the whole female urban population – that both participation rates and hours worked were on the rise – is driven by the different behavior of younger cohorts of women entering the labor force.

181. Significant improvements have taken in place in women's schooling in recent decades in Turkey. For instance, the share of illiterates fell from 33.9 to 19.6 percent whereas the share of university graduates rose from 1.8 to 5.8 percent from 1988 to 2006. One of the most salient features of female labor force participation in Turkey is that it so much depends on educational attainment: participation rates increase substantially with education. While the participation rates of women in urban areas without a primary school diploma is below 10 percent and those of women in urban areas without a high school diploma is below 15 percent, those of women with university degrees is at 70 percent.

182. Another salient feature of women's labor force participation by educational attainment in urban areas is that participation rates for university graduates as well as regular and vocational high school graduates have fallen over time. The fall for university graduates took place in the mid 1990s, whereas the fall in high school graduates has been more gradual. On the other hand, participation rates of women in urban areas with lower levels of educational attainment have been stagnant. In other words, conditional on schooling, women's participation rates in urban areas are either stagnant or falling, yet the overall participation in urban areas is rising. This is to do with the shift in the composition of the workforce towards more educated women who have higher participation rates. Had the participation rates of highly educated women remained at levels recorded in 90s, women's participation today would have been much higher.

183. Marriage is universal, while divorce is an unlikely event in Turkey: nearly 98 percent of women marry by age 49 and less than 1 percent of women divorce by that age. The timing of marriage is early with the average age at first marriage being 20.7 years. The implication of these demographic factors is that the majority of women spend a good part of their life being married. However, the labor force participation rate of

married women is lower than that of single women in Turkey: while the participation rate of single women is 34.3 percent, the corresponding rate for married women is 23.1 percent. The gap between the two demographic groups widens further in urban areas, where the participation of single women increases to 35 percent but that of married women drops to 15.5 percent. On the bright side, married women's labor force participation rate in urban areas has increased over time. In addition, the share of single women in the population –whose participation rates are higher – is rising.

184. Fertility behavior of women is also very important with regard to their labor force participation decision as children influence the opportunity cost of market work. This is particularly important in Turkey as almost all married women have children. A comparison of fertility rates in 1993 and 2003, using DHS data, reveals falling fertility rates in both rural and urban areas. Moreover, the magnitude of this fall is significant. A decomposition analysis of age, cohort, and time effects shows that cohorts born after the 1970s have a much lower propensity to have children. When we examine labor force participation rates by motherhood status, we find that women with children have lower participation rates, particularly in urban areas. The lower fertility rates of younger cohorts of women and the negative correlation between children and labor force participation imply a higher participation rate for younger women in Turkey.

185. Given the high internal migration rate in Turkey, it is also important to understand how the labor force participation behavior of migrant women compares to that of non-migrant women. We find that the participation rate of migrant women in urban areas – who changed places in the last five years – is, in fact, slightly higher at 29.6 percent than that of non-migrant women in urban areas, which is 27.0 percent. On the other hand, migrant women who originate from villages have a lower participation rate at 23.6 percent than non-migrant women in urban areas. However, the lower participation rate of migrant women originating from villages can be explained by their different personal characteristics. Once we account for these variables, migrant women originating from villages do not have a lower propensity to participate in the labor market. This time, perhaps surprisingly, it turns out that migrant women originating from cities have a lower propensity to participate in the labor market after we account for a number of personal characteristics.

186. The multivariate analyses carried out to see how various factors are associated with female labor market participation confirm the important role of education. In particular, university education is strongly positively associated with labor force participation in both rural and urban areas. As expected, married women are found to have a lower likelihood of participation in both areas. Children younger than 15 years were also found to be negatively associated with the participation probability of urban but not rural women. That the regions were found to be strongly associated with participation shows that demand side factors are also important in determining women's labor market participation.

187. We also conducted multivariate logit analyses separately for four educational attainment groups: no education, primary, secondary, and higher. One interesting finding from this analysis is that children matters much more for highly educated women. In fact, for women with no education, there is no evidence at all that children is associated with labor force participation. On the contrary, the negative association of household wealth with labor force participation strengthens as education level decreases. For women with higher education, there is no evidence at all for a negative association between household wealth and labor force participation. We also find that age effects are stronger for higher educational levels.

188. One key finding that emerged from our examination of female labor force participation in Turkey is the declining labor force participation rates in rural areas. Therefore, we examined the potential underlying reasons to this fact. First, we find that the geographical shift in the shares of rural population could partly account for this fact. There exists substantial variation in rural participation rates across geographical regions. The share of rural population residing in the Black Sea regions and Northeastern Anatolia – where participation rates are much higher – is falling. Second, the fact that women in rural areas with a higher propensity to participate in the labor market are also more likely to migrate could explain the declining participation rates. Comparing the characteristics of migrants leaving rural areas with those of the residents of rural areas, we find that migrants, on average, have higher levels of education and are younger than stayers in rural areas. Given the increasing participation rates with education, the fact that more educated rural women are leaving for other locations would partly account

for the falling participation rates. Moreover, that these movers are much younger also help us explain why the decline in participation rates in rural areas is especially prominent at younger ages.

189. Another potential explanation to the falling participation rates in rural areas is declining agricultural wages due to a worsening of agricultural prices. When we examine the terms of trade between agriculture and manufacturing, we find that the terms of trade for agriculture in fact worsened after 2000. This also could partly account for the falling participation rates in rural areas after 2000. In addition, a shift to less labor-intensive agricultural products could also explain the decline in participation rates. However, we do not observe a significant change in the land allotted to various agricultural products over time.

190. Another important finding with regard to agriculture that could help us explain the falling participation rates is the decline in share of households in rural areas engaged in agriculture, and in particular own-account agriculture after 2000. A decline in own-account agriculture means a loss of an easily available source of work for many women. The above-mentioned worsening of terms of trade in agriculture could partly account for this decline as well. In addition, the redefinition of rural/urban locations over time and certain rural areas becoming part of major metropolitan areas could also explain the declining share of agriculture.

191. Another key finding of the study is the decline in the labor force participation of highly skilled women over the 1988-1999 period and their stagnant participations rates (at about 70 percent) after 2000. The absence of wage data has precluded us from investigating the role of wages in explaining the declining rates prior to 2000. The wage data available for the 2002-2006 period indicate a deterioration and a recovery in women's wages over the studied period. This is a potential explanation for why the labor force participation of highly skilled women did not record an increase in this time period. Another potential explanation for the declining/stagnant participation rates of highly skilled women would be an increase in their reservation wages due to higher household incomes. However, our multivariate analyses showed that for university graduates household income is not negatively associated with participation, unlike other educational attainment groups. As a last potential explanation, we looked at the change in the composition of university graduates over time but could not identify a change in observable characteristics that could have led to their declining participation rates. However, this does not preclude changes occurring in unobserved characteristics that could decrease their participation rates. Indeed, we show that the growth in the share of university graduates has been particularly fast over the 1994-1999 period, when the biggest decline in the labor force participation of university graduates took place.

192. The final interesting finding that requires further investigation is the low and stagnant participation rates of low skilled women – those with less than high school education. Over the 2000-2006 period, the participation rate of low skilled women varied between 10.9 and 11.8 percent. These are considerably lower rates compared to that of low skilled men which, over the same time period, varied between 67.1 and 68.8 percent. To explain this large gap between the participation rates of low-skilled men and women, we compared the wages of the two groups and noted an improvement in women's wages vis-à-vis men. However, we also noted that despite the improvement, women's wages were still very low, with over 75 percent of women receiving wages that were below the minimum wage. These low market wages as well as high reservation wages of women stemming from the big household sector in Turkey coupled with very long hours of work probably explain why they participate in the labor market in so few numbers. A look at broad segregation indicators such as industrial distribution and firm size has not shown drastically different patterns between men and women, though they are distributed differently across occupations, which probably explain some of the gender wage gap.

193. To have a better understanding of why both low and high skilled women in urban areas have had stagnant labor force participation patterns in recent years, it would have been revealing to look at the activities of non-employed women as well. For this purpose, we had originally planned to use the 2006 Time-use Survey of TUIK but at the time of the writing of this report the data were not released yet. Another area that needs further investigation is the family-run agricultural establishments, where we see the biggest change in female labor supply.

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APPENDIX A

Table A1: Male and Female LFPR by Urban/Rural Residence

Year	Turkey		Urban		Rural	
	Men	Women	Men	Women	Men	Women
1988	81.2	34.3	78.1	17.7	84.7	50.7
1989	80.6	36.1	76.8	17.8	84.8	55.1
1990	79.7	34.1	76.8	17	83	52
1991	80.2	34.1	77	15.6	84.1	55.5
1992	79.6	32.7	76.8	17	83.1	51.9
1993	78	26.8	75.2	15.7	81.6	40.5
1994	78.5	31.3	75.3	17.4	82.6	48.9
1995	77.8	30.9	74.1	16.8	82.6	49.3
1996	77.3	30.6	73.2	16	82.9	49.8
1997	76.7	28.8	72.9	16.9	82	45
1998	76.7	29.3	72.8	16.8	82.5	46.9
1999	75.8	30	72.2	17.8	81.2	47.4
2000	73.7	26.6	70.9	17.2	77.9	40.2
2001	72.9	27.1	70.6	17.4	76.4	41.7
2002	71.6	27.9	69.8	19.1	74.5	41.4
2003	70.4	26.6	68.9	18.5	72.9	39
2004	72.3	25.4	70.8	18.3	74.7	36.7
2005	72.2	24.8	71.5	19.3	73.5	33.7
2006	71.5	24.9	70.8	19.9	72.7	33

Source: HLFS data base, TUIK.

Note: Covers individuals aged 15 and above.

Table A2: LFPR of Women by Age in Urban Areas

	Age Groups										
Year	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
1988	21.6	26.3	21.5	22	18.2	16.4	11.5	9.4	6.1	3.3	1.4
1989	20.4	26.1	22.2	23	22	16.3	11.1	7.4	6.1	4.2	1.8
1990	18.4	25.3	20.7	21.8	22.4	18.5	10.7	6.5	4.3	3	0.9
1991	16.5	23.8	20.4	19	17.6	15.5	10.8	6.9	4.4	1.6	0.7
1992	16.3	26.6	21.7	22	19.8	17	10.2	7.5	5.6	2.5	1.7
1993	15.3	23.3	21.8	19.1	19.3	14.7	11.6	5.8	3.9	2.4	1.2
1994	16.4	25.5	23.4	21.3	21.1	17.7	13.1	7.7	6.8	4	0.7
1995	15.5	24.4	22.3	21.3	20.5	17.8	12.1	7.5	5	3.2	2.5
1996	14.7	23.4	21.5	19.8	21.3	16	10.7	7.4	5.5	3.4	1.2
1997	16.2	26.7	22	20.3	20.5	17.3	11.7	7.1	4.3	3.9	1.2
1998	16.2	25.7	23.8	19.2	20.5	16	10.1	7.6	5.6	2.5	2.1
1999	15.7	26.9	23.2	22.7	21.9	18.5	11.9	8.7	5	4.9	2.3
2000	14.5	25.6	24.9	21.9	20.6	17.6	11.1	8	4.5	2.5	1.4
2001	14	26.5	24.1	22.4	21.6	18.1	11.8	7.4	4.5	3.4	1.6
2002	14.5	28.4	27.6	25.7	22.9	19.4	13.9	7.8	5.4	3.6	1.7
2003	13.2	27.8	28	24.6	23	18.9	13.4	7.7	4.8	2.7	1.3
2004	12.9	28.6	27.5	23.3	22.8	18.4	13.5	8.7	5.8	3.6	1.6
2005	13.2	29.1	29.3	24.2	24.7	20.2	15	9.5	6.1	3.6	1.8
2006	13.8	29.6	30	26.3	25.9	21.6	15.2	10.1	6.5	4	1.3

Source: HLFS data base, TUIK.

Note: Covers individuals aged 15 and above.

Table A3: LFPR of Women by Age in Rural Areas

	Age Groups										
Year	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
1988	57.7	60.5	58	62.2	54.3	43.9	52.8	51.2	51.2	42.4	43.2
1989	56.6	60.1	58.6	63.2	59.9	48.1	55.2	54.2	55	50.9	51.1
1990	52.7	55.5	54.5	54.6	52	41.8	49.6	52.9	49.8	46.9	49.1
1991	55	59.2	55.1	60.4	54.7	43.6	52.4	51.8	49.7	45.8	46.7
1992	57.9	63.3	58.1	62.5	60.4	45.9	52.3	53.3	53.3	47.3	51
1993	54.8	64.6	60.4	61.5	59.2	47.1	54.4	57.4	56.7	51.2	55.5
1994	56.3	62.4	59.4	62.4	61.8	46.3	59.9	56.5	58	53.6	56.2
1995	53.1	57.8	55.5	62.3	55.8	44.1	54.2	54.6	57.2	51.4	54.4
1996	44.7	51.8	49.1	58.9	51.4	37.3	47.9	49.9	53.3	51	49.3
1997	31.7	40.9	36.3	38.1	36.3	27.6	35.6	38	44.3	38.6	41.2
1998	15.9	17.3	15	14.5	17.1	11.2	18	19.4	22	21.3	24.9
1999	57.7	60.5	58	62.2	54.3	43.9	52.8	51.2	51.2	42.4	43.2
2000	56.6	60.1	58.6	63.2	59.9	48.1	55.2	54.2	55	50.9	51.1
2001	52.7	55.5	54.5	54.6	52	41.8	49.6	52.9	49.8	46.9	49.1
2002	55	59.2	55.1	60.4	54.7	43.6	52.4	51.8	49.7	45.8	46.7
2003	57.9	63.3	58.1	62.5	60.4	45.9	52.3	53.3	53.3	47.3	51
2004	54.8	64.6	60.4	61.5	59.2	47.1	54.4	57.4	56.7	51.2	55.5
2005	56.3	62.4	59.4	62.4	61.8	46.3	59.9	56.5	58	53.6	56.2
2006	53.1	57.8	55.5	62.3	55.8	44.1	54.2	54.6	57.2	51.4	54.4

Source: HLFS data base, TUIK.

Note: Covers individuals aged 15 and above.

Table A4: Employment Status of Men and Women

	Men			Women		
	Wage Worker	Own account worker	Unpaid family worker	Wage Worker	Own account worker	Unpaid family worker
1988	47.77	38.76	13.48	22.72	7.09	70.19
1989	46.52	40.15	13.33	20.73	8.06	71.21
1990	46.52	40.45	13.03	21.66	9.12	69.22
1991	45.83	39.14	15.03	20.11	8.57	71.33
1992	46.65	38.61	14.74	23.29	11.26	65.44
1993	47.25	38.23	14.52	27.66	8.61	63.74
1994	47.33	38.38	14.29	25.33	10.54	64.13
1995	47.86	38.49	13.65	26.03	8.95	65.02
1996	49.52	37.12	13.37	26.36	8.29	65.35
1997	50.17	37.26	12.57	29.98	10.01	60.01
1998	50.20	37.42	12.38	30.16	9.10	60.75
1999	51.09	36.23	12.68	29.94	10.17	59.89
2000	53.49	36.14	10.37	35.29	12.58	52.13
2001	52.54	36.62	10.84	33.21	13.55	53.24
2002	54.89	35.78	9.33	36.98	13.46	49.56
2003	55.47	36.34	8.19	38.12	12.86	49.02
2004	55.01	36.05	8.94	39.28	10.96	49.77
2005	57.82	35.15	7.04	43.82	14.47	41.70
2006	59.95	34.00	6.05	46.70	14.28	39.01

Source: HLFS data base, TUIK.

Note: Covers individuals aged 15 and above.

Table A5: Employment Status of Men and Women in Urban Areas

	Men			Women		
	Wage Worker	Own account worker	Unpaid family worker	Wage Worker	Own account worker	Unpaid family worker
1988	66.65	28.98	4.37	74.84	11.75	13.41
1989	66.10	29.59	4.31	74.72	11.73	13.55
1990	65.87	29.83	4.30	75.85	12.12	12.03
1991	65.28	29.98	4.74	78.89	10.84	10.26
1992	64.89	30.04	5.07	76.08	12.56	11.36
1993	65.98	29.61	4.41	79.42	10.86	9.72
1994	66.27	29.41	4.32	73.96	11.93	14.10
1995	67.02	28.46	4.51	76.69	11.90	11.41
1996	67.88	27.95	4.18	78.85	8.90	12.25
1997	69.00	27.49	3.52	80.43	10.07	9.50
1998	68.65	27.53	3.82	82.08	8.80	9.13
1999	68.95	27.03	4.02	77.76	10.67	11.58
2000	70.05	26.69	3.27	80.96	10.05	8.99
2001	70.16	26.38	3.45	79.32	10.99	9.69
2002	70.90	25.81	3.29	80.64	9.48	9.88
2003	71.39	25.60	3.00	81.60	9.02	9.38
2004	70.46	26.33	3.21	79.09	8.95	11.96
2005	70.86	26.46	2.68	78.92	10.94	10.14
2006	71.77	25.83	2.40	80.28	10.76	8.96

Source: HLFS data base, TUIK.

Note: Covers individuals aged 15 and above.

Table A6: Employment Status of Men and Women in Rural Areas

	Men			Women		
	Wage Worker	Own account worker	Unpaid family worker	Wage Worker	Own account worker	Unpaid family worker
1988	29.52	48.21	22.27	9.15	5.88	84.97
1989	27.38	50.48	22.14	6.87	7.11	86.02
1990	26.81	51.28	21.91	6.97	8.30	84.73
1991	25.53	48.72	25.75	4.93	7.98	87.09
1992	26.63	48.01	25.37	6.14	10.84	83.01
1993	26.34	47.86	25.79	8.00	7.71	84.28
1994	25.71	48.61	25.68	7.39	10.03	82.58
1995	26.10	49.88	24.01	7.21	7.83	84.97
1996	28.48	47.61	23.91	7.16	8.07	84.77
1997	27.99	48.78	23.23	8.08	9.98	81.94
1998	27.79	49.43	22.79	7.86	9.20	82.94
1999	28.90	47.66	23.44	8.38	9.94	81.68
2000	31.32	48.80	19.88	9.94	13.99	76.07
2001	28.34	50.68	20.98	8.68	14.91	76.41
2002	32.71	49.60	17.69	11.31	15.80	72.89
2003	32.39	51.90	15.71	11.05	15.24	73.71
2004	32.39	50.28	17.33	12.40	12.31	75.29
2005	37.05	48.98	13.97	15.94	17.29	66.77
2006	40.03	47.78	12.19	17.30	17.37	65.33

Source: HLFS data base, TUIK.

Note: Covers individuals aged 15 and above.

Table A7: Regular Work as percent of Wage Work

	Urban		Rural	
	Men	Women	Men	Women
1988	87.05	91.35	72.59	55.26
1989	87.17	90.65	72.09	64.19
1990	88.90	92.12	78.63	60.52
1991	86.54	92.55	74.19	64.50
1992	84.87	91.65	69.93	57.84
1993	84.96	90.73	68.81	63.54
1994	83.33	88.35	69.00	56.69
1995	82.74	90.86	67.95	47.60
1996	83.52	91.65	67.05	49.53
1997	82.03	91.44	64.61	51.99
1998	83.21	93.21	69.80	58.21
1999	82.03	91.44	63.83	50.82
2000	83.26	90.63	61.38	72.78
2001	84.59	90.03	71.30	70.12
2002	87.20	88.29	77.45	63.99
2003	87.23	88.78	75.37	65.59
2004	86.25	89.72	74.42	64.87
2005	88.98	91.37	79.11	71.15
2006	90.11	92.01	78.19	71.64

Source: HLFS data base, TUIK.

Note: Covers individuals aged 15 and above.

Table A8: Female LFPR by Age and Birth Cohort in Urban Areas

	Cohorts								
Age	1985-1990	1980-1985	1975-1980	1970-1975	1965-1970	1960-1965	1955-1960	1950-1955	1945-1950
15-19	13.2	14.5	15.5	18.4					
20-24		29.1	25.6	24.4	25.3				
25-29			29.3	24.9	22.3	20.7			
30-34				24.2	21.9	21.3	21.8		
35-39					24.7	20.6	20.5	22.4	
40-44						20.2	17.6	17.8	18.5
45-49							15	11.1	12.1
50-54								9.5	8
55-59									6.1

Source: HLFS data base, TUIK.

Table A9: Female LFPR by Age and Birth Cohort in Rural Areas

	Cohorts								
Age	1985-1990	1980-1985	1975-1980	1970-1975	1965-1970	1960-1965	1955-1960	1950-1955	1945-1950
15-19	24.9	37.2	51.2	58					
20-24		37.3	41.1	54.2	58.6				
25-29			35.6	44.4	52.9	54.5			
30-34				38.5	43.2	51.8	55.1		
35-39					41	45.1	53.3	58.1	
40-44						43.1	46.8	57.4	60.4
45-49							43.9	47.4	56.5
50-54								40.4	47.4
55-59									34

Source: HLFS data base, TUIK.

Table A10: LFPR of Women by Schooling Level

	Illiterate	No diploma	Primary	Secondary	High	High Vocational	University	All
1988	32.3	31.7	34.3	19.6	45.7	52.6	82.5	34.3
1989	33.9	36.0	36.8	21.7	43.2	46.5	81.4	36.1
1990	31.6	34.8	34.2	19.1	43.7	51.2	80.6	34.1
1991	32.4	33.9	34.2	19.1	38.8	49.7	80.9	34.1
1992	30.6	30.3	32.6	17.3	40.3	51.4	81.6	32.7
1993	24.3	17.5	27.3	14.3	37.3	48.5	78.3	26.8
1994	28.5	25.3	32.3	17.3	35.7	42.1	79.7	31.3
1995	28.4	25.0	31.8	15.9	34.9	46.4	73.8	30.9
1996	27.6	26.6	31.6	14.1	33.0	45.0	72.6	30.6
1997	24.2	21.3	28.9	15.7	33.3	49.0	72.7	28.8
1998	25.1	22.2	29.4	15.7	32.6	47.0	75.2	29.3
1999	26.8	24.8	29.9	17.2	32.1	42.4	71.5	30.0
2000	25.2	22.2	24.5	14.6	28.2	42.3	70.2	26.6
2001	24.8	24.2	26.0	14.1	27.2	40.3	70.8	27.1
2002	24.4	22.4	26.7	16.7	28.5	39.1	71.5	27.9
2003	23.6	21.1	24.8	17.6	25.2	36.5	69.5	26.6
2004	19.2	20.5	24.2	17.7	26.5	40.2	71.2	25.4
2005	17.5	20.1	23.0	18.5	27.5	37.5	70.0	24.8
2006	16.2	19.5	23.1	18.9	28.2	37.0	69.8	24.9

Source: HLFS data base, TUIK.

Note: Covers individuals aged 15 and above.

Table A11: LFPR of Urban Women by Schooling Level

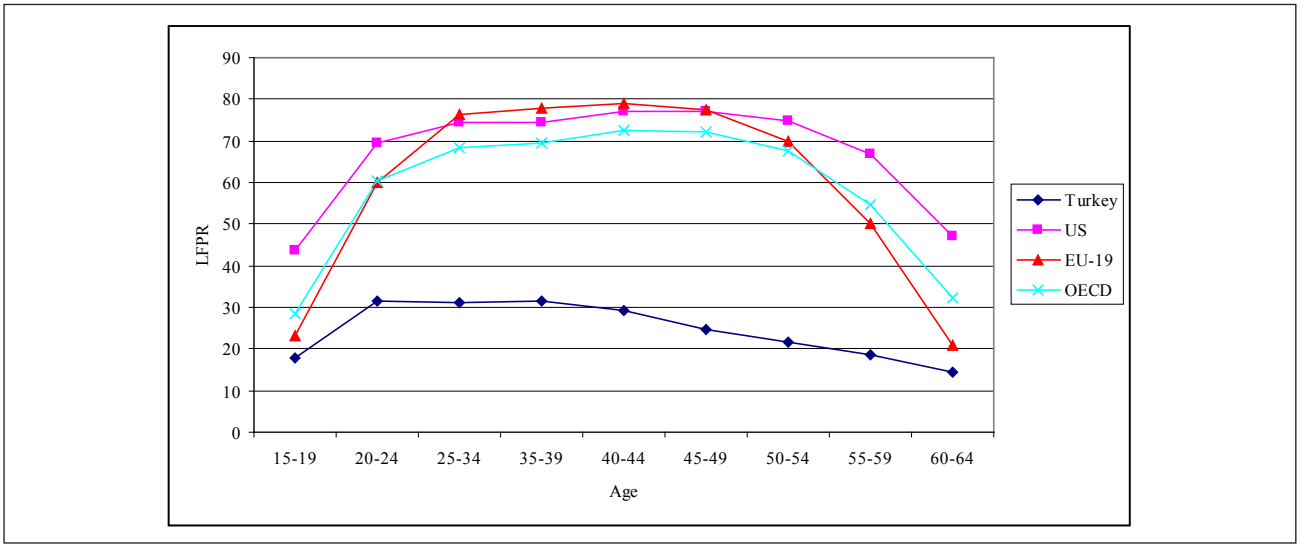
	Illiterate	No diploma	Primary	Secondary	High	High Vocational	University	All
1988	8.5	10.6	14.0	16.7	44.4	49.8	80.2	17.7
1989	7.8	10.7	14.9	17.5	40.4	43.5	78.8	17.8
1990	6.9	8.9	13.3	16.1	40.3	47.4	78.3	17.0
1991	5.3	7.6	11.4	17.4	37.0	45.4	79.6	15.6
1992	6.7	9.8	12.1	14.3	38.8	49.5	80.6	17.0
1993	4.9	6.8	11.5	11.4	35.9	45.5	76.9	15.7
1994	6.5	9.0	13.1	14.0	33.4	39.9	78.9	17.4
1995	6.8	6.8	11.4	12.0	32.7	45.1	73.2	16.8
1996	5.9	7.0	10.2	11.1	30.8	41.7	72.7	16.0
1997	5.2	6.0	10.4	13.2	30.5	46.7	72.5	16.9
1998	5.4	6.3	9.7	12.6	30.8	44.4	75.1	16.8
1999	5.5	8.4	11.8	13.7	29.3	40.3	71.4	17.8
2000	5.1	7.9	10.4	12.6	27.5	39.9	69.6	17.2
2001	5.4	7.8	11.5	12.0	26.1	38.9	70.2	17.4
2002	5.8	7.8	12.7	14.2	27.9	38.0	70.7	19.1
2003	5.5	8.5	11.8	14.6	24.6	36.0	69.2	18.5
2004	5.7	8.7	12.1	13.9	25.9	38.9	71.1	18.3
2005	6.4	9.6	12.8	15.1	26.6	36.3	69.9	19.2
2006	5.7	10.1	13.3	15.3	27.6	35.6	69.8	19.9

Source: HLFS data base, TUIK.

Note: Covers individuals aged 15 and above.

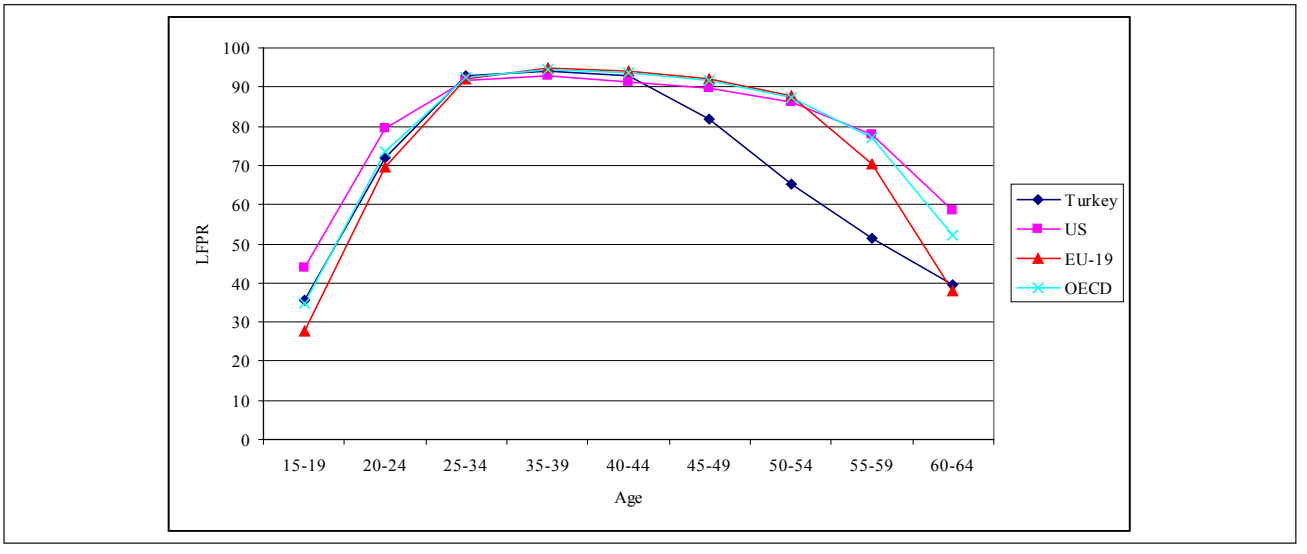
APPENDIX B

Figure B1: Age-Participation Profiles of Women in Turkey, US, EU and OECD



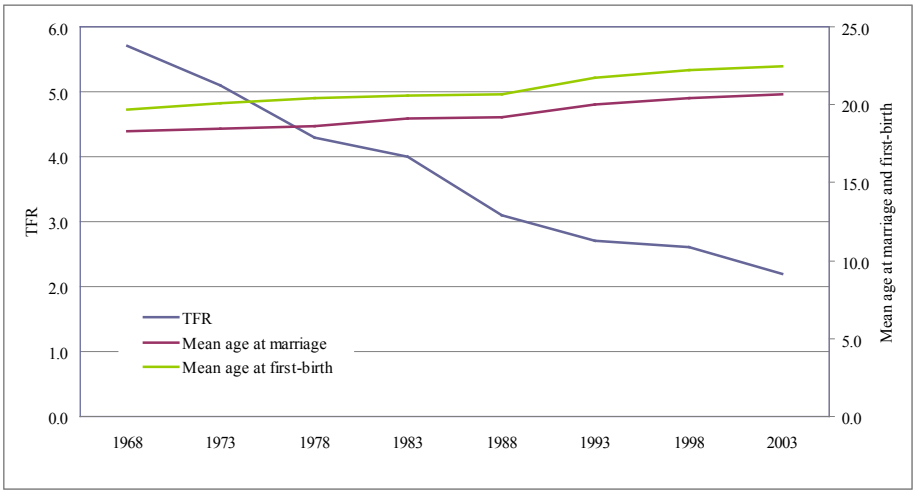
Source: OECD Stat Extracts.

Figure B2: Age-Participation Profiles of Men in Turkey, US, EU and OECD



Source: OECD Stat Extracts.

Figure B3: Total fertility rate (TFR), mean age at marriage and mean age at first-birth



Source: Institute of Population Studies, Hacettepe University

Table B1: Total Fertility Rate and Number of Births per Woman by Education in 2003

Education	Total Fertility Rates of 15-49 Year-old Women	Number of Live Births per Women (Ages 40-49)
No Schooling/No diploma	3.65	4.98
Primary school	2.39	3.21
Secondary school	1.77	2.54
High school or above	1.39	1.96
Total	2.23	3.54

Source: DHS 2003, Table 4.2 Institute of Population Studies, Hacettepe University.

Table B2: Odds Ratios from a Logistic Regression of Labor Force Participation Status by Highest Educational Attainment in Urban Areas (based on 2003 DHS data)

		No Education	Primary	Secondary	Higher
Marital Status (reference = single)					
	Married	0.525	0.262***	0.440***	0.685
		(0.211)	(0.0491)	(0.0874)	(0.195)
	Widowed	0.978	0.574	2.217	0.760
		(0.578)	(0.213)	(1.107)	(0.767)
	Divorced	3.804**	1.514	1.997*	0.855
		(2.567)	(0.572)	(0.814)	(0.491)
	Not living together	1.561	1.344	4.098*	
		(1.289)	(0.655)	(3.424)	
Children (reference = no child)					
	One child	1.072	0.747	0.441***	0.361***
		(0.493)	(0.145)	(0.0888)	(0.114)
	Two children	1.673	0.684**	0.473***	0.383***
		(0.614)	(0.116)	(0.0949)	(0.135)
	Three children	1.745	0.671**	0.431***	0.238**
		(0.627)	(0.127)	(0.118)	(0.135)
	Four or more children	0.947	0.639**	0.272***	0.0677*
		(0.305)	(0.133)	(0.122)	(0.105)
Wealth					
	Second quintile	0.664*	0.632**	0.641	1.919
		(0.158)	(0.117)	(0.215)	(0.890)
	Third quintile	0.608*	0.559***	0.739	1.385
		(0.177)	(0.0977)	(0.236)	(0.569)
	Fourth quintile	0.512**	0.545***	0.569*	1.466
		(0.162)	(0.0987)	(0.178)	(0.542)
	Fifth quintile	0.219**	0.420***	0.341***	1.906*
		(0.132)	(0.0831)	(0.106)	(0.663)
Type of location of residence (reference = town)					
	Large city	0.432**	1.372	1.729**	0.847
		(0.185)	(0.266)	(0.376)	(0.266)
	Small city	0.723	0.979	0.855	0.715
		(0.195)	(0.148)	(0.139)	(0.180)
Region (reference = Istanbul)					
	West Marmara	0.287*	0.789	1.599*	0.426**
		(0.184)	(0.210)	(0.454)	(0.164)
	Aegean	0.861	0.785	0.883	0.564**
		(0.383)	(0.170)	(0.195)	(0.158)
	East Marmara	0.302*	0.938	0.928	0.996
		(0.189)	(0.188)	(0.203)	(0.338)
	West Anatolia	0.586	0.403***	0.644**	0.403***
		(0.354)	(0.0875)	(0.128)	(0.110)
	Mediterranean	0.449**	0.861	0.806	0.754
		(0.183)	(0.152)	(0.157)	(0.247)
	Central Anatolia	0.232**	0.553**	0.660	0.900
		(0.151)	(0.142)	(0.184)	(0.396)
	West Black Sea	0.0628***	0.714	1.337	0.907
		(0.0544)	(0.179)	(0.340)	(0.345)
	East Black Sea	0.175***	0.757	1.064	1.203
		(0.109)	(0.201)	(0.275)	(0.462)
	Northeast Anatolia	0.537	0.407***	0.678	0.751
		(0.263)	(0.111)	(0.189)	(0.304)
	Central East Anatolia	0.143***	0.362***	0.653	0.444*
		(0.0737)	(0.103)	(0.181)	(0.214)
	Southeast Anatolia	0.188***	0.311***	0.599*	0.481
		(0.0867)	(0.0754)	(0.161)	(0.221)
Age (reference = 15-19)					
	20-24	0.538	0.909	5.398***	4.629***
		(0.221)	(0.160)	(0.889)	(1.364)
	25-29	0.665	1.107	7.221***	28.40***
		(0.285)	(0.219)	(1.497)	(10.10)
	30-34	0.605	1.512*	6.434***	43.49***
		(0.273)	(0.331)	(1.520)	(20.80)
	35-39	1.184	1.835***	8.894***	50.11***
		(0.497)	(0.411)	(2.168)	(24.76)
	40-44	1.062	1.692**	6.483***	53.30***
		(0.473)	(0.387)	(1.826)	(27.30)
	45-49	1.120	1.082	7.397***	11.67***
		(0.507)	(0.268)	(2.324)	(5.943)
Constant		2.061	1.481	0.621	0.214***
		(1.105)	(0.440)	(0.242)	(0.111)
Observations		1246	3939	3013	1193
Pseudo R2		0.1077	0.1027	0.1513	0.1693

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

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