

The Social-Economic Situation of Middle East Youth on the Eve of the Arab Spring

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Education, Household Structure and Joint Labor Supply in Tunisia

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Abstract

This paper examines unemployment and labor force participation in Tunisia from 1984 to 2010. In light of the Arab Spring, it is important to understand what were the underlying economic conditions for young people on the eve of this major political event. We have three main findings. First, while unemployment is primarily a youth phenomenon in Tunisia, all workers with higher education have seen a deterioration of their job prospects. Second, the rise in schooling among Tunisian youth implies that this weakening of the higher-skilled job market has been particularly felt by the youth. Finally, we examine the degree to which marriage and fertility affect women's labor supply. We find that the household structure (number and age of children) is an important determinant of female labor force participation. Likewise, the husband's level of education affects the wife's labor supply. However, we find that the effects of both of these factors depend upon a wife's age and educational level.

I. Introduction

For several decades the most urgent economic issue for governments in the Middle East and North Africa has been how to produce enough jobs for young people (Keller and Nabli, 2002). In Tunisia, the transition of youth from the educational system to the labor market is particularly difficult. While elements of the Tunisian economy have performed well since the 1990s, labor market outcomes for young educated workers have not kept pace. Addressing this problem depends mainly on the correct understanding of the current education and training policies. Furthermore, the uprisings that began in Tunisia in late 2010—sparking the Arab Spring—highlight the underlying inequities of the political and economic systems of statist regimes throughout the Middle East.

Unemployment has been a persistent problem throughout the Arab World since the 1980s (Shaban, Assaad and al-Qudsi, 1995) due to the decline in the regional economy. Pissarides and Végonzonès – Varoudakis (2005) examined this problem from the point of view of labor misallocation and found that human capital was systemically misallocated in the Middle East, helping to lead to high unemployment rates. In general, high reservation wages and employment protection lead to young people preferring to wait for good jobs rather than work for lower wages that are largely found in the private sector.

Unemployment in Tunisia has been of particular interest to economists studying the issues of how labor market policies affect the ability of an economy to produce jobs. Rama (1998) examines the puzzle of persistently high unemployment rates among Tunisians in the face of rising economic prosperity during the 1980s. Despite the paucity of data, he is able to disentangle the impact of new labor market entrants and a peculiarity in the measurement of unemployment in Tunisia on the official unemployment figures. Rama shows that new entrants into the labor force along with the practice of counting some housewives as unemployed are the factors that kept unemployment rates so high.

Tunisia's economy was then highlighted as an IMF inspired success story as its growth rates were high in the 1990s, and unlike Egypt continued to be high into the 2000s (Balioune-Lutz, 2009). The success was largely due to reforms made during the 1990s and the decreased fertility rate that began earlier in Tunisia than in the rest of the region. Despite the evidence of macroeconomic stability, unemployment remained a problem into the 2000s as it was throughout the Middle East and North Africa (MENA). For most Middle East and North African countries, the 1990s were not as

productive as producing jobs for first time entrants as were other periods. Dhillon and Yousef (2009) highlight the process of 'waithood' that takes place throughout the region. Statist regimes the followed World War II produced a social contract that guaranteed those seeking employment a job, especially a job in the public sector. The opportunity to land one of these jobs was usually rationed such that those with the highest level of credentials (in the form of education) were the first ones in line. With the economic bust of the 1980s that was initiated by the fall in oil prices, regimes were no longer able to meet their commitments to their people (Agenor et al., 2007). However, the institutions rigidity still provided an advantage to those who were able to acquire higher levels of schooling. Thus, the incentives to wait for a government job with higher pay, less work and more prestige still existed, despite the paucity of jobs.

A second factor that characterizes Middle Eastern labor markets is relatively low levels of female labor force participation. Given the level of education of women in the region, the level of labor market activity is significantly below what one would predict based upon international comparisons. Some countries, however, are worse than others when it comes to women's participation. Jordan and Egypt have only 15 percent and 21 percent labor force participation for women (Hendy, 2012).

This paper will examine the employment, unemployment and inactivity trends for Tunisian youth from the 1980s to 2010 in order to depict the conditions that led to revolution of 2010-2011. First, we will introduce the major trends in youth unemployment by sex and compared with the overall unemployment. These trends will be examined using data from 1984 until 2008. Second, we will use microdata from the 2010 labor force survey to describe the scenario for youth just before the Arab Spring. This descriptive analysis will provide a multivariate approach to understanding the correlates with unemployment and labor force activity. Third, we will estimate models of female labor force participation that includes husband's characteristics. This will allow us to examine the idea that husbands were primarily responsible for women's low activity level despite decreases in fertility and increases in education among Arab women.

II. Youth Population and Employment Profile, 1984-2008

Population Profile

In the early '60s, the political economic and social development of Tunisia has supported the idea that population pressure is a constraint that must be controlled to meet the essential needs of the

population in the education, training, health and employment. As seen in Table 1, this emphasis on population control led to a decline in fertility and smaller birth cohorts beginning in the 1980s.

Thus, Tunisia has initiated an early family planning program whose objective is the reduction in fertility. This program has yielded significant results since the rate of population growth declined from 3.0% in 1966 to 0.94% in 2004. It will continue its downward trend to reach 0.81% in 2011.

As the population has surpassed the ten million by 2005 and the number of people remain below 12 million until 2030. As a result of the process of controlling the population, age structure has already undergone significant changes. Indeed, the age group below 15 years, which represented nearly half the population in the early 60s, has experienced a continuous decline to just over a quarter of the population (27% in 2004).

On the other hand, the proportion of the age group 15-59 years, is the age group concerned with the labor market, still continues to increase, and now exceeds 68% as of 2010. The pressure on the labor market was not attenuated by the demographic transition and this pressure *will be still maintained for the next 10 years*. The proportion of the population who are working age will start to drop significantly only after 2020.

Trends in the youth labor force and youth employment

As in all countries, the population of working age (15-59 years old) is not fully active in the labor market. A proportion of this population is not working and not looking to work for academic reasons, due to age or disability or because they have focused on household labor. The activity rate is reported in Table 2 below describes the proportion of the age group that is either working or actively seeking a job.

In 2008, the activity rate observed by the general census of the population is 46.9%, down from its level in 1994 (48.4%). This decrease has been evident since the mid-1980s in response to increased enrolment in secondary and especially higher education, implying that labor market entry is becoming later and later. Associated with this later entry into the job market, the workforce is characterized by becoming increasingly educated. In 1966, only 8.6% of this population had completed secondary schooling. In 2008, more than half of the population (53.3%) had completed

secondary or higher education. Both trends are clearly related: the enrolment of more young people in later years of education is causing a later entry in the job market.

The female participation rate is still significantly lower than the rate of male activity. However, this difference varies greatly according to age groups and grade level. Overall, the male activity rate is around 69% while that of women is still 25%. Thus, in 2008, three out of four adult men are working or seeking work, while only one in four women are working or looking for work. However, the female participation rate has been steadily increasing: in 2008 nearly 25% of women were active in the labour market compared to only 5.6% in 1966.

In addition, more detailed examination of developments between 1994 and 2008 rates by age groups shows four other trends. First for men, there is a decrease in the participation rate up to age 34, confirming increased school enrolment and later entry into the job market. Second, there is a decrease in activity after the age of 55, revealing an early exit from the labor market probably corresponding to early retirement due to corporate restructuring (Halleb and Sedrine, 2006). Third, for women, there is the same decrease for age groups below 24 years corresponding to longer schooling. Fourth, women between the ages of 25 and 34 have increased their participation rate by nearly 10 percentage points over this time.

Employment and Unemployment

The employed population aged 15 and over reached 3,155,400 in 2008 rising from 2,552,700 in 2000, an increase of 2.6% per year. The accumulation of net new jobs recorded during the period (2001-2007) has reached 532,400 which equal an average of 76,000 jobs per year. The net creation of jobs for young people who have benefited from higher education reached 179,200 during the period 2001-2007, an average of 26,000 jobs per year.

The national unemployment rate (calculated among workers aged 15 and over) showed a net decline from 16% in 1999 to 14.2% in 2008 (see Table 3). The evolution of the unemployment rate by gender shows that it has declined among men from 15.6% in 1999 to 12.6% in 2008, while it increased among women from 17.2 % in 1999 to 18.6% in 2008.

The unemployment rate also varies by region. In 2004, the East Central saw the lowest average unemployment (10%). This region is denoted as a diversified region in terms of economic activity and has witnessed dynamic growth in recent years. Areas of high unemployment include the

northwest (18%) (an agricultural region) and southwest (18%) (a mining area). Thus, the unemployment rate is strongly correlated with area of residence. Mobility and inter-regional migration has not ameliorated this differential rate of unemployment. However, the effect of internal migration to the region of Tunis is significant since the rate of unemployment in this region is quite high (13.3%) despite the dynamism of its economy. With the exception of the region of Tunis, the job market remains regional in nature. The economic development of Tunis and its surrounding cities causes a large influx of job seekers, including graduates to flock to the capital city.

Over the past two decades, the educational characteristics of the unemployed have changed dramatically (see Table 4). The most important phenomenon reported in 2008 is the high unemployment rate for those who have more than a primary education. Unemployment has become particularly endemic for those with higher education, which is a change from earlier years. The unemployment rate for an individual with higher education has risen from 3.8 % in 1994 to 21.6% in 2008. This is the opposite of the trend for those with less education. Those with either a primary only education or who are illiterate have seen their unemployment rates drop in the past 15 years. However, this may largely be an artifact of the increase in education among youth. Since the illiterate and primary educated are predominately older workers, the inverse correlation between education and age may make the positive relationship between schooling and unemployment look more severe than it truly is. This topic will be explored further when we examine data from 2010 below.

Unemployment among graduates of higher education according to Abdelaziz Ben Sedrine, Halleb & Said (2006) is explained by the following factors. First, the university system has continued to train implicitly for the sector of employment in the public sector, which rewards the school level even if accumulated degrees do not improve productivity. Second, job seekers continue to be attracted by the benefits of non-wage public sector such as job security and holidays. These applicants are willing to wait long for their turn to become an official, or leave their jobs in the private sector to apply for employment in the public sector. Finally, these job seekers have job expectations too optimistic, while their actual qualifications do not correspond to the demands of the private sector.

In Tunisia, unemployment is essentially a youth issue (see Table 5). In 2008, the unemployment rate for the age groups below 30 years was nearly 30% that is twice the overall unemployment rate. This situation is typical of countries where the school system and training is not related to the

economic environment. Keep in mind that unemployment is largely an issue of search frictions. It is not a lack of jobs, but rather a mismatch between labor market entrant expectations and firm needs that cause persistent unemployment. Due to the factors cited above, graduates expect wage and benefit packages that are not in consort with the realities of the jobs being created by the private sector. This lack of being able to find 'suitable' employment leads to long unemployment spells upon labour market entry. Note that unemployment rates among 25-29 year olds has increased from 12.6 % in 1984 to 25.2% in 2008. During this time all other groups have seen relatively flat or falling unemployment rates.

III. Youth Unemployment in 2010

The following section uses microdata from the 2010 Labor Force Survey to estimate the conditions of the Tunisian labor market leading up the protests of late 2010. The Tunisian labor force survey collected data on education, employment and other demographic factors. According to these figures, the labor market for young, educated Tunisians had continued to deteriorate from the situation at the end of 2008.

Table 6 shows the youth and adult unemployment rates by education level. As seen in earlier tables, youth having higher unemployment rates than adults. Using the definition of youth preferred by the World Bank (15-24), Table 6 shows that young people have unemployment rates that are between two and four times the unemployment rate for adults. For example, illiterate young men have an unemployment rate (19.2%) that is 4.27 times that of adult men (4.5%). Only groups that experience high unemployment at all ages (such as women with a higher education) have a smaller ratio of youth to adult unemployment. Young women with a higher education have an unemployment rate of 64.5%, which is still more than twice that of women that are over 25 (30.7%) Comparing this statistics with the overall trends presented earlier, it is clear that although the youth are more than proportionately affected by unemployment, that unemployment for more educated worker is occurring for both youth and adults. The unemployment rate for adult men with a higher education is four times higher than the average unemployment rate for those with higher education back in the 1980s (see tables 4 and 6). Thus, while the youth have experienced the highest levels of unemployment, it is clear that the demand for college graduates is simply not keeping pace with the increased supply of educated workers in the past decade.

IV. Determinants of Labor Force Participation

In order to develop a more complete understanding of female labor force participation, this section will first describe overall patterns in labor force participation by different demographic variables. Table 7 reports labor force participation rates by gender, rural/urban status and age group. Rural men tend to enter the labor force more quickly than urban men due to ending their studies sooner to enter the labor force. By the age of 25-29 years old, 90.5% of rural men have entered the labor force while 86.1% of urban 25 to 29 year olds are in the labor force. By the time both urban and rural men have reached their 30s, 95 % of these men are in the labor force, a number which stays steady until the 50s. At that point urban men begin dropping out of the labor force, with only 66.7% of 55-59 year old urban men still in the labor force compared to the 82.1 % of similarly aged rural men being in the labor force.

For women living in a rural location has an even more dramatic effect on labor force participation. Urban women are less likely to enter the labor force at an earlier age, with them more likely to stay in school and less likely to work. However, by age 25-29 over 50% of urban women are in the labor force, either holding a job or looking for one, while only 33% of rural women are in the labor force. This gap between urban and rural labor supply stays in place until women reach their 40s. At that point approximately a quarter of both rural and urban women are in the labor force. Like their male counterparts urban women begin dropping out of the labor force before rural women. Thus, while urban women have a pronounced life cycle pattern to their labor force participation, while rural women that likely to work at approximately the same rate throughout their lifetimes.

One distinction in the pattern of urban men and urban women is that urban men have their greatest labor market attachment at an older age than urban women. While urban men do not reach 95% labor force participation until their 30s, urban women reach their peak at age 25-29. This is largely due to women dropping out of the labor force when they get married while marriage is a predictor of greater labor force attachment for men. Another factor distinguishing the urban/rural differences in labor force participation is that education for women has a more important role for urban women, but not for rural women. While the most educated women in both urban and rural areas have 60% labor force participation rates, more education leads to higher levels of participation for urban women. While 16-17% of all illiterate, primary, and secondary school achieving rural women work, only 5% of illiterate urban women work while the figure is 16% for those with primary education and 23 % for those with secondary education.

This low level of female participation is striking. In fact, in addition to the high level of youth unemployment, the second most important labor market characteristic which is found throughout the Arab world is the relatively low level of female labor force participation. Labor force participation for women averages over 50 percent for the rest of the world, but for the Middle East and North Africa, women's labor force participation is generally less than 20% (Fargues, 2012). In Tunisia both the increased use of birth control earlier in the post-colonial regime of Habib Bourguiba and the rapid rise of female schooling has led to lower levels of fertility and higher levels of labor force participation. Because of these factors, the labor force participation rate for Tunisian women in 2010 was 25.4%, one of the highest in the region.

Despite the relatively high level of participation compared to other countries, it is still lower than what one might predict given international averages. The reasons for these low participation levels range from explanations about rentier economies and high levels of non-wage income to those that depend upon cultural explanations. According to cultural explanations, Islam plays a role in stifling women's ability to work outside the home, especially in a work environments that are not sex segregated.

This paper will try to explore a slightly different interpretation. Because of the sharp decrease in labor force participation immediately following marriage, Fargues (2012) argues that "...society allows women to work in the public space, but husbands do not." We will attempt to test this idea versus a competing hypothesis, which is simply that women drop out of the workforce when they become married due to time constraints. Specifically, it is a matter of specialization within the household and that husbands focus on income earning outside of the home and women focus on household production. The key variables here will be the relative impact of husband's education and the structure of the household on female labor force participation.

Table 9 presents regression results from a probit model of female labor force participation for all Tunisian women, segmented by educational levels. In addition to age groups and location, the models attempt to model the effect of household structure and husband's characteristics on wife's labor force participation (only women with husbands as household heads are included in these regression models). Column 1 includes women with a higher education; column 2 contains secondary educated women; column 3 primary and column 4 illiterate.

We find that the effects of children and husband's education differ greatly based upon the wife's level of education. If the wife has attended higher education, then while the number of children under the age of 5 negatively impacts her willingness to participate in the labor force, the number of children aged 6-10 does not. Contrast these effects with those for women with secondary schooling. First, the effect of children under five has almost twice the effect for higher educated women and secondly, the effect of older and younger children is about the same for those with a secondary education. For women with a primary education, younger children have about twice the effect as older children on labor force participation. Oddly, for women without schooling, older children actually increase labor force participation, possibly because they can help take care of some of the household production.

Husband's education also has different effects, depending on wife's schooling. For the most educated women, the more education the husband has, the more likely women are to participate. For those with secondary level of schooling, the trend is generally true, but neither the point estimates on husband's secondary or husband's higher education dummies is significant. Women with a secondary education are much less likely to work if their husband only has a primary level of schooling. This is in sharp contrast to women with only primary schooling. For them, the more educated the husband is, the less likely the wife is to work. This is true comparing primary to illiterate husbands, secondary to primary and higher education to secondary. The impact of husband's schooling on illiterate women's participation is not clear.

V. Conclusion

This paper has presented three main findings. First, young people faced increasingly difficult times finding a job during the first decade of this century. While the overall level of the economy was improving and unemployment rates were decreasing for those over the age of 30, young people saw their unemployment rates increase. Second, the main determinant of this increased unemployment was the increased schooling of young people as educated youth faced unemployment rates in excess of 50 percent. Three, family structure and husband's education are an important determinant of female labor supply. When children are young, women cannot work and contribute the way she is expected to household production. This results changes for the most educated women when their children become older. Additionally, the most educated women who are also married to highly educated men have the highest labor force attachment. In fact, when the husband and wife have

higher education, labor force participation rates for women are 80 percent. This compares to less than 10 percent when the husband is highly educated, but the wife is not.

The transition from education to employment by youth is indeed a complex process, confronts numerous factors for which including training pathways, dynamics, occupational status of the job market. The ease of the transition is confounded by a simple problem. On the one hand, employers being concerned with profitability, lower costs and flexibility, will only hire graduates that will improve their bottom lines. Young people have grown up in an educational and training system that encourages developing credentials over developing skills. Thus, you people face a labor market where there are many others with their same credentials, but only weak job offerings until they can develop skills that will improve companies' profitability. There are two clear pathways forward to solve this problem. Either the macroeconomic environment must improve to such a degree that employers are willing to hire and then train graduates to increase their productivity, without worrying much about their current skills or students need to start developing skills that employers want. Since the former is out of the control of local authorities and depends upon getting many more institutions right, the best path forward is through the educational system.

That being said, the connection between adult unemployment and youth unemployment is clearly demonstrated. An effective unemployment policy must include a set of economic policies that improve GDP growth and overall job creation. Specifically economic policies adopted by Tunisia must remove barriers to job creation, building two complementary approaches:

- Enhancing the investment climate by improving economic governance, reducing transaction costs, improving transparency and predictability of the regulatory framework and strengthening market transparency.
- Upgrading the banking system and encouraging the development of financial markets to diversify the financing of the economic growth.

Furthermore, the educational system should strengthen the match between training and business needs. Higher education and vocational training must help create the skills in graduates that will encourage firms to hire new graduates because these graduates will improve the profitability of the firms. By focusing on credentials rather than skills, the current system has shortchanged graduates and the business community alike by not preparing workers for careers in the private sector. The public sector can no longer be the employer of choice for the numerous Tunisian graduates and only by acquiring needed skills will tomorrow's graduates have a brighter future than today's.

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Table 1: Age structure of the population (percentages)

	1966	1975	1984	1994	2004	Projection				
						2009	2014	2019	2024	2029
0-4 years	18.6	16.0	14.6	11.0	8.1	6.9	6.7	6.4	6.0	5.3
5-14 years	27.9	27.8	25.1	23.8	18.6	15.3	13.5	12.8	12.5	12.0
15-59 years	48.0	50.4	53.6	56.9	64.0	68.3	69.0	68.0	66.4	64.9
60+ years	5.5	5.8	6.7	8.3	9.3	9.5	10.8	12.8	15.1	17.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: INS.

Table 2: Labor Force Participation Rate by Age, 2005-2008

	2005	2006	2007	2008
15- 19	21.0	20.6	20.1	18.9
20- 24	45.1	44.0	44.7	44.2
25- 29	62.9	63.6	65.4	66.2
30- 34	64.4	64.7	65.4	64.9
35- 39	61.7	63.6	64.9	66.4
40- 44	60.4	61.0	61.0	61.1
45- 49	57.9	58.9	57.9	59.0
50- 59	47.3	48.4	53.2	47.0
60 +	15.2	16.0	14.2	12.6
Total	46.3	46.6	46.8	46.9

Source; Enquête Nationale sur l'Emploi (2005, 2006, 2007, 2008) INS.

Table 3 : Evolution of the Unemployment Rate, 1984-2008 (percent)

	1984	1994	1999	2004	2005	2006	2007	2008
Men	16.9	15.3	15.6	13.2	13.1	13.2	12.8	12.6
Women	14.8	17.5	17.2	17.1	17.3	17.3	17.8	18.6
Total	16.4	15.8	16.0	14.2	14.2	14.3	14.1	14.2

Source; Recensement Général de la Population et de l'Habitat (1984, 1994, 2004) / Enquête Nationale sur l'Emploi (2005, 2006, 2007, 2008) INS.

Table 4: Unemployment Rate by Level of Education and Year (percent)

	1984	1994	1999	2004	2005	2006	2007	2008
Illiterate	15.2	16.8	11.9	12.7	7.8	8.0	5.9	5.7
Primary	22.4	19.2	18.9	15.7	15.7	15.2	13.5	12.3
Secondary	11.7	13.0	16.4	14.7	14.9	14.3	15.4	15.3
Higher	2.3	3.8	8.6	10.2	14.8	17.5	19.0	21.6
Total	16.4	15.8	16.0	14.2	14.2	14.3	14.1	14.2

Source; Recensement Général de la Population et de l'Habitat (1984, 1994, 2004) / Enquête Nationale sur l'Emploi (2005, 2006, 2007, 2008) INS.

Table 5: Evolution of Unemployment by Age, 1984-2008 (percent)

Age	1984	1994	1999	2004	2005	2006	2007	2008
15- 19	41.6	29.1	37.2	32.4	31.0	32.5	34.1	32.4
20- 24	41.1	25.4	31.2	26.9	30.5	30.5	30.2	30.9
25- 29	12.6	17.4	21.0	20.1	23.4	23.0	23.9	25.2
30- 34	8.0	12.5	12.0	12.5	13.0	12.6	13.3	13.3
35- 39	6.2	10.1	8.5	8.6	7.2	7.7	7.0	6.6
40- 44	6.0	9.0	6.7	7.1	5.5	5.7	4.7	4.2
45- 54	6.7	9.5	5.7	5.8	4.2	4.5	3.3	3.7
55 &+	7.9	10.0	5.2	5.6	2.5	3.4	2.5	2.4
Total	16.4	15.8	16.0	14.2	14.2	14.3	14.1	14.2

Source; Recensement Général de la Population et de l'Habitat (1984, 1994, 2004) / Enquête Nationale sur l'Emploi (2005, 2006, 2007, 2008) INS.

Table 6. Unemployment Rates of Youth and Adults by Education Level, 2010

<i>Panel A</i>		Illiterate	Primary	Secondary	Higher	All
Youth	Men	19.2%	23.4%	28.8%	56.4%	28.4%
15-24	Women	20.2%	24.6%	28.3%	64.5%	33.9%
	All	19.7%	23.7%	28.7%	61.4%	30.0%
Adult	Men	4.5%	6.3%	8.1%	13.8%	7.6%
25+	Women	6.4%	10.6%	12.6%	30.7%	16.1%
	All	5.2%	7.0%	9.1%	21.4%	9.8%

Panel B

Ratio of Youth to Adult

	Men	4.27	3.71	3.56	4.09	3.74
	Women	3.16	2.32	2.25	2.10	2.11
	All	3.79	3.39	3.15	2.87	3.06

Source: Authors' calculations from 2010 Labor Force Survey, INS

Table 7. Labor Force Participation by gender and age group

Age	Rural Men	Urban Men	Rural Women	Urban Men
15-19	32.5%	18.5%	12.4%	7.6%
20-24	71.1%	54.6%	26.3%	28.9%
25-29	90.5%	86.1%	33.2%	50.4%
30-34	94.7%	95.4%	27.0%	42.4%
35-39	95.5%	96.4%	24.2%	35.1%
40-44	95.6%	95.9%	25.1%	27.6%
45-49	94.2%	94.7%	23.6%	21.8%
50-54	91.0%	88.6%	20.4%	16.0%
55-59	82.1%	66.7%	19.8%	10.4%
60-64	62.0%	27.3%	15.6%	2.9%

Table 8. Labor Force Participation by education level, location and gender

	Illiterate	Primary	Secondary	High	All
Urban Men	24.1%	61.7%	59.9%	73.3%	50.0%
Rural Men	42.0%	68.0%	57.8%	82.5%	50.8%
Urban Women	5.5%	14.6%	23.3%	62.2%	18.9%
Rural Women	15.9%	16.9%	17.2%	61.3%	16.0%

Table 9. Probit regressions of the determinants of labor force participation for married women

VARIABLES	(1) lf_part	(2) lf_part	(3) lf_part	(4) lf_part
urban	0.0885 (0.0562)	0.131*** (0.0258)	-0.0671*** (0.0195)	-0.422*** (0.0224)
hus_prim	-0.384*** (0.0867)	-0.156*** (0.0336)	-0.149*** (0.0229)	0.00349 (0.0192)
hus_secnd	-0.149** (0.0636)	-0.0241 (0.0305)	-0.301*** (0.0270)	-0.122*** (0.0348)
hus_high	0.0437 (0.0620)	-0.0620 (0.0378)	-0.527*** (0.0688)	-0.0599 (0.125)
num_ch5	-0.152*** (0.0227)	-0.0809*** (0.0132)	-0.0600*** (0.0128)	-0.0268* (0.0145)
num_ch10	-0.0247 (0.0365)	-0.0905*** (0.0168)	-0.0267* (0.0152)	0.0515*** (0.0161)
25-29 years	0.684 (0.715)	5.636*** (0.122)	5.696*** (0.165)	5.281*** (0.235)
30-34 years	1.201* (0.712)	5.865*** (0.120)	5.871*** (0.160)	5.420*** (0.225)
35-39 years	1.391* (0.712)	5.993*** (0.120)	5.912*** (0.159)	5.559*** (0.223)
40-44 years	1.632** (0.713)	6.120*** (0.120)	5.927*** (0.159)	5.656*** (0.221)
45-49 years	1.592** (0.714)	6.098*** (0.120)	5.863*** (0.159)	5.707*** (0.221)
50-54 years	1.558** (0.715)	6.016*** (0.121)	5.717*** (0.159)	5.677*** (0.221)
55-59 years	1.350* (0.716)	5.888*** (0.123)	5.545*** (0.160)	5.572*** (0.221)
in_school	-0.948*** (0.136)	-0.0292 (0.144)	0.530*** (0.181)	
Constant	-1.322* (0.722)	-6.809*** (0.122)	-6.717*** (0.160)	-6.781*** (0.223)
Observations	7958	24232	35246	30856

*, **, *** Indicate significance at the .10, .05 and .01 level respectively. Also included in this regression, but not reported, are regional dummy variables.