Marmara Üniversitesi İngilizce İktisat Bölümü



# Marmara University Department of Economics

# Turkish Labor Market in the Post-1980 Period: A Supply-Side Analysis

Serkan DEĞİRMENCİ

2010

Independent Research Paper No: IRP201002

Suggested Citation: Değirmenci, S., 2010, "Turkish Labor Market in the Post-1980 Period: A Supply-Side Analysis?" Marmara University, Department of Economics, Göztepe Campus, Istanbul, Independent Research Paper No: IRP201002

© Serkan DEĞİRMENCİ, 2010

Serkan DEĞİRMENCİ\*

## June 2010

## Working Paper No: 201004

#### ABSTRACT

Turkey has undergone a thorough market liberalization process in the past three decades since the adoption of the neoliberal economic policy agenda in 1980. This period of export-oriented market policies has been marked by an accelerated yet highly volatile growth rate. As such the reflections of the export-oriented growth process on the Turkish labor market has entailed a mixed record. On the positive side, employment has undergone a structural transformation away from low-productivity, subsistence dominated agriculture towards industry and services. Simultaneously, however the highly volatile nature of economic growth marked by three different economic crises in a 16-year period (1994-2010), has also brought on increasing unemployment rates despite declining labor force participation rates. The coupling of the lowest labor force participation rate amongst the OECD countries together with one of the higher unemployment rates may be the most important economic challenge that Turkey faces today.

This paper aims to explore the changes in the structural determinants of labor force participation, in the labor market in Turkey for the post-1980 market liberalization period disaggregated by rural-urban location, gender, age and education. As a characteristic of the period under study, it also explores the effects of the economic crisis years in producing an added worker effect versus a discouraged worker effect on groups particularly vulnerable to these effects, such as married women.

This study uses Household Labor Force Survey (HLFS) data for the years 1988 and 2007 in analyzing the long-run labor supply behavior in the Turkish labor market through a logit regression analysis for the whole sample as well as separately for groups disaggregated by gender. In addition, it uses the 2000-2001 and 2007-2008 HLFS data sets to test for the existence and/or dominance of added versus discouraged worker effects in the economic crises years for married women whose husband are unemployed. As a result, this study supplements the observations about marginally attached workers with microeconomic estimations of female labor force participation behavior to explore the distinct effects which are hypothesized to vary substantially by the level of age, education and marital status as well as rural-urban location.

JEL Code: J22, D13.

Keywords: Labor Force Participation, Added Worker Effect, Discouraged Worker Effect.

\*) Marmara University, Department of Economics.

## **1. Introduction**

Turkey has undergone a thorough market liberalization process in the past three decades since the adoption of the neoliberal economic policy agenda in 1980. This period of export-oriented market policies has been marked by an accelerated yet highly volatile growth rate. As such the reflections of the export-oriented growth process on the Turkish labor market has entailed a mixed record. On the positive side, employment has undergone a structural transformation away from low-productivity, subsistence dominated agriculture towards industry and services.<sup>1</sup> Simultaneously, however the highly volatile nature of economic growth marked by three different economic crises in a 16-year period (1994-2009), has also brought on increasing unemployment rates despite declining labor force participation rates.<sup>2</sup> The coupling of the lowest labor force participation rate amongst OECD countries together with one of the higher unemployment rates may be the most important economic challenge that Turkey faces today.<sup>3</sup>

Economic crises have been known to produce two distinct effects on labor force participation behavior: namely, the added worker effect (henceforth AWE) and the discouraged worker effect (henceforth DWE), both a result of shocks to unemployment rates yet affecting labor force participation in opposite directions.<sup>4</sup> This paper aims to explore such possible effects of the economic crisis years in Turkey on the labor force participation behavior of married women who are particularly vulnerable to these effects. To this end, Household Labor Force Survey (HLFS) data is used for the years 2000-2001 and 2007-2008

<sup>&</sup>lt;sup>1</sup> The share of agriculture in total employment is 46 percent in 1988. This share is 25 percent for 2009 (TURKSTAT, 2010).

 $<sup>^2</sup>$  See Table 1.1 on page 13.

<sup>&</sup>lt;sup>3</sup> As a characteristic of Turkish labor market, the position of females is noteworthy at that point. A recent report of World Bank (WB) (2009) calls attention to low female labor force participation (FLP) rates. According to that report, as of January 2009, female FLP in Turkey was 23.5 percent. As a benchmark, female LFP among Organisation for Economic Co-Operation and Development (OECD) and European Union (EU)-19 countries averaged 62 percent and 64 percent, respectively in 2007 (WB, 2009, p. ix).

<sup>&</sup>lt;sup>4</sup> For various textbook definitions of AWE and DWE, see McConnell et al. (2006, p.75-76), Borjas (2002, p.76-78), Cahuc and Zyleberberg (2004, p. 18-19).

to test for the existence and/or dominance of added versus discouraged worker effects for married women. An overview of the aggregate data shows that there are some distinct trends in the transitions of married women in and out of the labor market depending on their husbands' labor market status. The paper supplements these observations with microeconomic estimations of female labor force participation behavior to explore the distinct effects which are hypothesized to vary substantially by the level of age, education and marital status as well as rural-urban location.

This study constitutes the following components: Section 2 presents a historical overview of Turkish labor market for both pre-and post-1980 eras. Section 3 provides a background of main trends observed in the Turkish labor market in the post-1980 period. Section 4 presents the data and methodology. Section 5 reveals the findings with respect to changes in determinants of labor force participation, while Section 6 focuses on the effects economic crises in producing added versus discouraged worker effects. The paper ends with conclusions.

## 2. An Overview of the Turkish Labor Market

This section aims to provide a historical overview of Turkish labor market both for the periods before and after 1980. The break point year, 1980, is of course not an arbitrary year. Much the same in other analyses of Turkish economy, "1980" symbolizes a transition into a new set of policy framework, namely neoliberal policies. These policies have induced both qualitative and quantitative changes for both the participants and institutions of the Turkish labor market. Therefore, for the purposes of this study, it seems more appropriate to analyze the history of Turkish labor market shortly by dividing it in 1980. Although the developments of pre-1980 period is so important, especially in providing a benchmark for that review,

principal motivation of that study is stemmed from the developments as of 1980 onwards. So, the period under empirical investigation focused on the post-1980 period in further sections.

## 2.1 In the Pre-1980 Period

Despite the year of the foundation of the Turkish Republic, 1923, was an important political revolution, it was not a pure cornerstone in terms of economic policies regarding the labor market. Although Turkey had initially followed liberal economic policies due to binding conditions of Lausanne Treaty on its customs, there was a strong support in favor of an approach that suggests creating a class of national bourgeoisie by the hand of state.<sup>5</sup> Since the total population in 1923 was around 12 million and 80 percent of that population was villager and working in the agricultural sector, this endeavor was not so successful to encourage private capitalization and industrialization except creating a class of rich people close to bureaucracy.<sup>6</sup> Then, with the onset of Great Depression in 1929, Turkey closed its doors to the world economy and introduced its first self-national-protectionist industrialization act through heavy public intervention and entrepreneurship.<sup>7</sup> In this etatist period, between the years 1930 and 1939, annual average growth rate of industrial sector at constant prices reached to a record level, 10.3 percent.<sup>8</sup> This progress in the industrialization induced a little bit shift of agricultural worker to the industry and so the share of industrial employment in total increased leastwise from 6.2 percent in 1929 to 8.0 percent in 1939.<sup>9</sup> Nevertheless, in retrospect, this term can be assessed as a structural transformation toward industrialization

<sup>&</sup>lt;sup>5</sup> For various mechanisms to realize this endeavor, see (Boratav, 2009, p.40-42). According to the data of State Statistics Institute (now TURKSTAT), total population was 13.5 million in 1927 and around 76 percent of that population was living in rural areas (Isikli, 1995, p.1827).

<sup>&</sup>lt;sup>6</sup> Total population is estimated as 12,582,000 for the year 1923 in Turkey. For the same year, total labor force participation rate is estimated as 73.5 percent for the working-age population over 15 years-old see Bulutay (1995, p.256). Besides the contrary case also did not realized at that term due to belief that the paternal state will look out for all the social classes' created an approach regarding unionization unnecessary and prejudicial.

<sup>&</sup>lt;sup>7</sup> Other many underdeveloped countries had also shifted to a closed economic structure and initiated industrialization in these Great Depression years.

<sup>&</sup>lt;sup>8</sup> Indeed, this decade should be analyzed under three sub-periods which are namely protectionist term (1930-31), transition year (1932), and etatism (1933-1939).

<sup>&</sup>lt;sup>9</sup> For the sectoral distribution of employment in Turkey between the years 1924-2003, see Biçerli (2004).

(Boratav, 2009, p.71).<sup>10</sup> But then, the Second World War years (1940-45) suspended this industrial development process. Moreover, all other sectors of the Turkish economy experienced sharp reductions in growth rates during these years.<sup>11</sup> The recruitment of healthy and working aged males by army also reduced the supply of labor in that term. After the War, Turkey has experienced a turning point in both economic and political spheres. In 1946, the first high devaluation of Turkish economy was imposed with a liberalization package simultaneously and the multi-party system in the political sphere has been initiated. A few years later the political power passed into hands of a new government formed by a new party following liberal policies, namely Democrat Party. Foreign trade and international relations gained acceleration at this term and Turkey has joined to IMF and WB as a member. In that post-war period, agricultural sector regained its locomotive characteristic in the economy and the growth rates increased via the help of several favorable internal and external factors.<sup>12</sup> Although mechanization in agriculture gained acceleration at that term, demand for labor in the agriculture continued to rise from 6,824,980 to 7,818,877 between the years 1946 and 1953 (Bulutay, 1995, p. 216-217). But then, this high growth conjecture dramatically reversed and the single-party government of the term engaged to more inward-oriented protectionist policies encouraging domestic private sector with significant state investments by the midst of this decade. However, that policy shift was not a deliberate choice, it was a must due to anxieties in the balance of payments. At the end of 1950s, these policies had come to an end with devaluation and deflationary stabilization program proposed by IMF had been implemented for the next three years. One of the main important developments of that term was both qualitative and quantitative changes in the labor force. These changes were heavily

<sup>&</sup>lt;sup>10</sup> Boratav (2009:71) states that the share of industry in GDP increased from 11 % to 18 % at constant prices of 1938.

<sup>&</sup>lt;sup>11</sup> According to the calculation based on annual values, industrial, agricultural and national outputs decreased by 5.5 %, 7.1 %, and 6.0 % in average, respectively, in the 1940-1945 period (Boratav, 2009, p.86).

<sup>&</sup>lt;sup>12</sup> Average growth rate of agricultural sector (13.2 %) exceeded the growth rate of industrial sector (9.2 %) between the years 1946-1953. Besides, the share of agricultural sector in GDP increased from 42 % (average of 1946-47) to 45.2 % (average of 1952-53), while the share of industrial sector in GDP decreased from 15.2 % to 13.5 % for the same years (Boratav, 2009, p. 101).

sourced from demographic movements such as rapid population boom and urbanization in the post-war period.<sup>13</sup> These two factors leaded to an increase in the number of people seeking paid work, especially in metropolitans. They shifted the share of service sector in total labor force from 12.3 to 14.5 percent, but the share of agriculture in the labor force was still dominant by 77.7 percent in 1960 (Kepenek and Yenturk, 2005, p.128). Another significant development of that term was the establishments of some formal institutions and memberships to international institutions to regulate and control the labor market, namely Ministry of Labor (22 June 1945), General Directorate of Turkish Employment Organization, Internatioal Labour Organization (ILO).<sup>14</sup> Also, the Trade Unions Law (the law no. 5018) was passed in 1947 and the number of workers who are members of unions increased swiftly.<sup>15</sup>

After these periods with mixed growth records, economic policies were based on an institutional planning context by the establishment of State Planning Organization (SPO) in 1961. In the five-year development plans envisaged by SPO, the import substituting industrialization (ISI) strategy was explicitly aimed and high growth rates were achieved during this developmental period until 1980. Furthermore, the share of industrial employment in total employment substantially increased from 11.5 percent in 1960 to 20.0 percent in 1980 (Biçerli, 2004). In this new era, actually, the protectionist, inward-oriented, import substituting policies of 1930s and mid-1950s continued to be dominant but with a structural difference depending on a planned basis. Additionally, the scope of industrialization, distribution of investments, and sectoral priorities had completely changed depending on the sociopolitical structure and distributional relationships of that term. Although ISI strategy initially was expected to decrease the dependency to foreign resources, on the contrary, it had further increased the dependency of the Turkish economy on imports. The only reason behind

<sup>&</sup>lt;sup>13</sup> The share of population living in urban increased from 18 percent in 1945 to 25 percent in 1960. The rate of urbanization was around 5 percent (Kepenek and Yenturk, 2005, p. 126-27).

<sup>&</sup>lt;sup>14</sup> Also, the base for a social security system was laid again at that term.

<sup>&</sup>lt;sup>15</sup> However, as per article 5, this law restricted unions to be active in politics.

that dependency was frequently linked to the rapid growth of durable consumer goods sector which highly needs to direct and indirect imports. But some researchers have argued that this dependency was sourced from high investment performance always brought heavy importation bills because of capital goods sector felt behind the intermediate goods sector (Boratav, 2009, p. 120). In the meanwhile, low oil prices were influential at this dependency. Exportation could not compensate the lack of positive import substitution, contrary it had stagnated, even worsened, at this term. Fortunately, financial inflows and remittances have helped to close the trade deficit in the first half of 1970s. The dominance of international Keynesianism in the world economy at those years was influential in finding cheap credits with mild conditions. However, in the second half of 1970s, the share of trade deficit in GDP severely increased and the ways of finding credit channels tightened.

Under import-substitution regime, wages were not only considered as production costs for capitalists, but also were seen as sources of demand that spurring the reproduction process. So, wages were not repressed, moreover, widespread unionization and collective bargaining system including the right of strike assured increasing real wages over time. Higher wage demand of labor was met by the state economic enterprises. These populist policies in the public sector had also reflected into private sector since the labor market was not disintegrated in that term. Therefore, policies suggesting high wage influenced both public and private sectors. Another reflection of populist policies in this term was an advanced social security system which had brought secured conditions and non-wage incomes for working class.

By 1970s, world economy entered into a new recession period by OPEC crises. Hence, Turkey's terms of trade deteriorated following the first oil shock in the 1973-1974 periods (CBRT, 2002, p.5). However, Turkey postponed this crisis exploiting all the shortterm debt channels by three years. But in 1977, all credit channels were blocked and the crisis of import-substitution strategy erupted by 1979. Following three years after 1976 was a subperiod in where the class conflicts between labor and capital around distribution had clearly revealed. In manufacturing sector, real wages calculated by consumer prices increased by 45 percent between 1976 and 1979. The extent of high bargaining power of labor class in those years could be predicted by just looking to quite high inflation rates. In the second half 1970s, the profit-wage relation was not in favor of capitalists. Rate of capacity utilization decreased due to contraction in industrial raw material and energy supply. However, employment could not been decreased at the same rate due to institutional, economic and politic constraints, so labor productivity could not been increased. In these circumstances, trade unions had high bargaining power in the wage setting processes. Therefore, both in public and private sectors, the share of wages in the value-added increased along this term. Naturally, industrial bourgeoisies were not pleasant with that distribution.<sup>16</sup> Furthermore, capitalists had started to complain about labor militancy which they argue that frequent strikes and shutouts raised further problems for management and control in workplaces.<sup>17</sup>

To sum up, the inward oriented import substituting industrialization (ISI) model with its standard policy tools (such as high trade barriers, negative interest rates and overvalued exchange rate) combined with high degree of bargaining power of labor led to rising real wages in Turkey during most of the 1960-1980 period (Şenses, 1994, 1996). Indeed, between 1963-1976 average real wages rose by around 50 % (Köse and Öncü, 2000). Actually, rising real wages were also consistent with the domestic demand led ISI model (Demir and Erdem, 2010, p.5). However, traditional mechanisms of surplus distribution had lost their importance in the conjecture with the growth in production stopped and the inflation rate accelerated. In these circumstances, the unique way to raise the surplus ratio for capitalist class is to change the direction of control of the distribution from working class to them. The relative weight of

<sup>&</sup>lt;sup>16</sup> Indeed, this displeasure of capitalists with the distribution is a result of economic crisis experience in 1970s. This has altered the attitudes of capitalist class against the social state. Neo-conservatives and neo-liberals have aimed to remove the social state and to weaken the trade union movement as a step of lowering labor costs.

<sup>&</sup>lt;sup>17</sup> 1980 is said to be a peak year of strikes in Turkish labor market history. It is argued that 84.5 thousand workers were on strike until the 12 September.

missing working days increased two and a half times from the years1973-1976 to 1977-1980 periods (Boratav, 2009, p.146). Therefore, capitalist class started to explicitly demand some measures for trade unions and emphasized the importance of a secured working environment to get high shares from value-added. Aftermath, they took greatly what they want within the years of 1980s. Then, the working class has never again get the bargaining power against the employers as it was in the period between the years 1960 and 1980 in Turkey as well as in the world.

#### 2.2 In the Post-1980 Period

The year 1980 was a turning point in many aspects. At the end of 1970s, the neoliberal ideologies gained a worldwide strength and then captured a dominant position in the mindsets of a lot of governments. Turkey has been one of first countries in which a radical neoliberal transformation has been implemented in the process that first started with "the 24th January 1980 Decisions" and then eased with a military coup in September 12, 1980.<sup>18</sup>

The neoliberal reform agenda was quite comprehensive. "The Washington Consensus" in its original form consisted of ten 'commandments', covering fiscal discipline, reordering of public expenditure priorities, tax reform, liberalization of the financial sector, exchange rate management, trade liberalization, free flow of foreign direct investment, privatization, deregulation, and property rights (Haque, 2004, p. 2). The adoption of Washington consensus and the accompanying liberalization of goods and capital markets led to increasing pressure on both developed and developing countries to deregulate their labor markets (Demir and Erdem, 2010, p. 3). Then, in addition to these policies, deregulation of labor markets and some reforms for social security systems were proposed within the context of "Augmented

<sup>&</sup>lt;sup>18</sup> Although union member workers compensated their monetary loss in between 1989-1994, Turkish working class and the trade union movement have experienced its biggest loss in the history with the 24 January Stabilization Program and 12 September military coup.

Washington Consensus". The increased reliance on freely functioning markets and private incentive and initiative were the core of all these neoliberal policies (Haque, 2004, p. 2).<sup>19</sup>

Given the inward oriented economic structure of most developing countries with an extensive public sector presence both in the production and organization of market activities, the ambitious program of liberalizing goods and capital markets and opening them to global competition was expected to bring about macro stability, enhance business confidence to invest in productive sectors and generate new employment opportunities, and stimulate growth (Demir and Erdem, 2010, p.2). But, in retrospect, these expectations were not fully met, especially those related with labor markets.

Starting from early 1980s developing countries have accelerated their efforts to integrate their goods and financial markets with those of developed countries. Based on the assumption that free flow of goods and capital and the inherent efficiency and self-regulating capacity of free markets inevitably generate the most optimal allocation of resources, economic policies adopted around the world have become standardized, although with considerable costs in many cases.<sup>20</sup> After almost three decades of this liberalization process, the performances of developing countries exhibit some common traits in terms of success achieved in the end that are yet unlike those predicted by their architects (Demir and Erdem, 2010, p. 2)

Following the balance of payments crisis of 1970-ends, Turkey emerged as a test case for the World Bank (WB) and International Monetary Fund (IMF) joint program involving cross conditionality with a stabilization program (of IMF) and a structural adjustment program (of WB) along the Washington consensus. The program designed by these twin institutions and implemented by a World Bank trained economist, Turgut Özal (who later became the prime minister and then the president), aimed at stabilizing and liberalizing the

 $<sup>^{19}</sup>$  These alleged reforms have weakened the social security of workers aftermath the neoliberal policies have been conducted.

<sup>&</sup>lt;sup>20</sup> Loss of real labor income and the persistent unemployment problem are some of these costs.

closed-inward oriented economic structure of Turkey and at shifting it to an outward-oriented path of development based on export-led growth model with a pro-capital distributional emphasis (Demir and Erdem, 2010, p. 5).

The Turkish labor market experienced a significant structural transformation since early 1980s including: declining share of agricultural employment, falling participation rates (especially for women), increasing informalization and subcontracting, decreasing labor's bargaining power, falling real wages and increasing unemployment, increasing labor market flexibility, and the weakening of the link between economic growth and employment (Boratav, 2009; Senses, 1994, 1996; Mütevellioğlu and Işık, 2009: 160), (Demir and Erdem, 2010, p.12).

Therefore, as Çam (2002: 89) suggests that since the outset of the neo-liberal era in Turkey, temporary employment has risen, unionization has declined, employment prospects have deteriorated and employees' earnings have diminished in real terms. Such developments made Turkey a 'better' place for capital, not for labor.<sup>21</sup> Yet they also caused a growing inequality in overall income distribution, and political unrest across the country.

In short, the stabilization and structural adjustment programmes undertaken by a large number of developing countries (like Turkey) had a rather similar orientation as far as workers' positions and situations were concerned. Control of inflation was the principal target even though the evidence across countries and over time showed that, except in very high inflation situations, it had little effect on economic growth. Employment was not a major concern under the structural adjustment programmes either, as they focused essentially on improving (rather narrowly defined) productive efficiency. The rise in unemployment rates following trade liberalization, sale of public enterprises, or general corporate restructuring

<sup>&</sup>lt;sup>21</sup> What the new, post-military coup environment implied for workers and their representatives was succinctly summarized by the president of the Turkish Employers' Union Confederation (TISK) who was quoted as saying that "For years on end the workers laughed and the employers cried, now the time has come for the employers to laugh" (Nichols and Suğur, 2004, p.154).

was seen as regrettable but accepted as a necessary cost for improving efficiency and becoming internationally competitive. In fact, the workers in the formal, organized sectors were considered privileged and fortunate, beneficiaries of an inefficient, protected system, who gained at the expense of the rural and informal sectors. Thus, the rise in unemployment in the formal sector was simply regarded as a necessary consequence of general economic rationalization. Abandonment of trade policy and more or less exclusive reliance on exchange rate adjustments to manage balance of payments difficulties further contributed to the weakening of real wages in a number of developing countries (Haque, 2004, p. 8).

So far, we summarized the cornerstones of Turkish economy and made an overview of Turkish labor market since its foundation along with the other problems of Turkish economy. Overall, Turkey has a mixed record both in its policy experiences and labor market performances. However, especially after multi-party system, economic policies followed were strongly in accordance with the "suggestions" of IMF and WB. Therefore, the management and control of the Turkish economy is so heavily depended on "suggestions" given by institutions of the Anglo-Saxon world. Naturally, the markets in Turkey including the labor market have functioned in line with the demands of capitalist class which more close to this world, especially after the end of 1970s and 1980s onwards.

Next section summarizes the patterns of population which are in the supply side of Turkish labor market for the post-1980 period. It helps to see the big picture before getting into the micro data analysis which needs further tools than descriptive tables and figures.

## 3. Main Trends of the Turkish Labor Market in the Post-1980 Era

In this section, the main trends of LFP rates are presented via the help of tables and figures drawn from Turkish Statistical Institution (TURKSTAT) based on gender, location of residence, age and education level, derived from the Household Labor Force Survey (HLFS)

data to track the dynamics of labor supply in Turkey for the post-1988 era. Although the main concern of this section is the labor force, it is beneficial to start with the evolution of total population and in particular working-age population which constitutes the basis of active labor supply. Number of non-institutional civilian population increased from around 53 million to 70 million between the years 1988 and 2009. But the number of working-age population (15 years-old and above, henceforth 15+) increased from nearly 33 million to around 50 million in last two decades in Turkey. This huge gap (20 million) between total population and working age population shows that Turkey has still a potential of young population. This potential includes both opportunities and dangers for the future. One the one hand, this is because that young population might constitute a dynamic labor supply and so might lead to more productivity. On the other hand, this may cause to further unemployment and underemployment problems. So this window of opportunity should be benefited.

However, the total labor force participation rate, indicates what proportion of this 15+ population participates into the labor force, steadily decreased from 57.5% in 1988 to 47.9% in 2009 (see Table 1.1 and Figure 1.1).<sup>22</sup> This means that economically active population of Turkey has been never met with the increasing number of adult population. Labor force increased just only around 5 million within the same interval. Therefore, it is crucial to understand the dynamics behind these low LFP rates. To this end, this section focuses on these dynamics and decompose the LFP rates according to gender, age, and location groups.

<sup>&</sup>lt;sup>22</sup> Indeed, total labor force participation rate of Turkey has been continuously declining since 1950s (see Bulutay, 1995). But its rate of fall has been decreased dramatically in the last two decades.

|  | Total  |        |        | Male   |        |        | Female |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Selected Years   | 1988*  | 2000   | 2009   | 1988*  | 2000   | 2009   | 1988*  | 2000   | 2009   |
| Non-institutional civilian population (000)                                    | 53.284 | 66.187 | 70.542 | 26.648 | 33.058 | 35.000 | 26.636 | 33.129 | 35.541 |
| Population 15 years old and over (000)   | 33.746 | 46.211 | 51.686 | 16.661 | 22.916 | 25.369 | 17.085 | 23.295 | 26.317 |
| Labor force (000)  | 19.391 | 23.078 | 24.748 | 13.536 | 16.890 | 17.898 | 5.855  | 6.188  | 6.851  |
| Employed (000)   | 17.755 | 21.581 | 21.277 | 12.520 | 15.780 | 15.406 | 5.235  | 5.801  | 5.871  |
| Unemployed (000)   | 1.638  | 1.497  | 3.471  | 1.017  | 1.111  | 2.491  | 621    | 387    | 979    |
| Labor force participation rate (%)   | 57,5   | 49,9   | 47,9   | 81,2   | 73,7   | 70,5   | 34,3   | 26,6   | 26,0   |
| Employment rate (%)  | 52,6   | 46,7   | 43,2   | 75,1   | 68,9   | 60,7   | 30,6   | 24,9   | 22,3   |
| Unemployment rate (%)  | 8,4    | 6,5    | 14,0   | 7,5    | 6,6    | 13,9   | 10,6   | 6,3    | 14,3   |
| Non-agricultural unemployment rate (%)   | 14,4   | 9,3    | 17,4   | 10,7   | 8,4    | 16,0   | 33,4   | 13,5   | 21,9   |
| Youth unemployment rate <sup>(1)</sup> (%)                                     | 17,5   | 13,1   | 25,3   | 25,3   | 13,7   | 25,4   | 17,9   | 11,9   | 25,0   |
| Not in the labor force (000)   | 14.355 | 23.133 | 26.938 | 3.125  | 6.025  | 7.471  | 11.230 | 17.108 | 19.466 |
| Source: TURKSTAT (2010)  |        |        |        |        |        |        |        |        |        |
| *1988 is from the October round of HLFS. (1) Population within 15-24 age group |        |        |        |        |        |        |        |        |        |

## Table 1.1.a: Main Labor Market Indicators in Turkey (1988-2000-2009)

## Table 1.1.b: Main Labor Market Indicators in Turkey (1988-2000-2009)

|  | Total  |        |        | Urban  |        |        | Rural  |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Selected Years   | 1988*  | 2000   | 2009   | 1988*  | 2000   | 2009   | 1988*  | 2000   | 2009   |
| Non-institutional civilian population (000)                                    | 53.284 | 66.187 | 70.542 | 26.803 | 27.272 | 21.795 | 26.481 | 38.915 | 48.747 |
| Population 15 years old and over (000)   | 33.746 | 46.211 | 51.686 | 16.509 | 18.581 | 15.489 | 17.237 | 27.630 | 36.197 |
| Labor force (000)  | 19.391 | 23.078 | 24.748 | 11.068 | 10.902 | 8.163  | 8.324  | 12.176 | 16.585 |
| Employed (000)   | 17.755 | 21.581 | 21.277 | 10.519 | 10.477 | 7.438  | 7.235  | 11.104 | 13.839 |
| Unemployed (000)   | 1.638  | 1.497  | 3.471  | 549    | 425    | 724    | 1.088  | 1.072  | 2.746  |
| Labor force participation rate (%)   | 57,5   | 49,9   | 47,9   | 67,0   | 58,7   | 52,7   | 48,3   | 44,1   | 45,8   |
| Employment rate (%)  | 52,6   | 46,7   | 43,2   | 63,7   | 56,4   | 48,0   | 42,0   | 40,2   | 38,2   |
| Unemployment rate (%)  | 8,4    | 6,5    | 14,0   | 5,0    | 3,9    | 8,9    | 13,1   | 8,8    | 16,6   |
| Non-agricultural unemployment rate (%)   | 14,4   | 9,3    | 17,4   | 16,1   | 10,2   | 19,1   | 13,7   | 9,0    | 17,0   |
| Youth unemployment rate <sup>(1)</sup> (%)                                     | 17,5   | 13,1   | 25,3   | 11,0   | 8,4    | 18,9   | 27,1   | 17,7   | 28,2   |
| Not in the labor force (000)   | 14.355 | 23.133 | 26.938 | 5.441  | 7.679  | 7.326  | 8.913  | 15.454 | 19.611 |
| Source: TURKSTAT (2010)  |        |        |        |        |        |        |        |        |        |
| *1988 is from the October round of HLFS. (1) Population within 15-24 age group |        |        |        |        |        |        |        |        |        |

|  | Total |      |      | Male  |      |      | Female |      |      |
|--|-------|------|------|-------|------|------|--------|------|------|
| Selected Years                           | 1988* | 2000 | 2008 | 1988* | 2000 | 2008 | 1988*  | 2000 | 2008 |
| Illiterate                               | 41,9  | 31,5 | 18,1 | 70,5  | 56,7 | 36,0 | 32,3   | 25,2 | 14,5 |
| Literate without Diploma                 | 54,9  | 37,5 | 30,2 | 76,3  | 55,8 | 50,7 | 31,7   | 22,2 | 18,5 |
| Primary School (5 Years)                 | 63,9  | 52,8 | 47,8 | 88,9  | 81,1 | 75,1 | 34,3   | 24,5 | 21,1 |
| Secondary School                         | 46,5  | 45,9 | 62,7 | 61,4  | 62,8 | 82,9 | 19,5   | 15,3 | 21,6 |
| High School                              | 63,0  | 50,9 | 49,9 | 75,5  | 67,0 | 66,2 | 45,7   | 28,1 | 29,1 |
| Vocational School                        | 73,2  | 66,2 | 65,0 | 82,8  | 79,0 | 80,3 | 52,5   | 42,4 | 38,3 |
| University                               | 87,5  | 78,2 | 77,6 | 89,5  | 83,2 | 82,7 | 82,5   | 70,1 | 70   |
| Primary School (8 Years)                 | -     | 11,7 | 30,7 | -     | 14,4 | 42,9 | -      | 7,9  | 16,9 |
| Source: TURKSTAT (2010)                  |       |      |      |       |      |      |        |      |      |
| *1988 is from the October round of HLFS. |       |      |      |       |      |      |        |      |      |

 Table 1.2.a: Labor Force Participation Rates by Education Level (%) (1988-2000-2008)

 Table 1.2.b: Labor Force Participation Rates by Education Level (%) (1988-2000-2008)

|  |       | Total |      |       | Male |      |       | Female |      |
|--|-------|-------|------|-------|------|------|-------|--------|------|
| Selected Years                           | 1988* | 2000  | 2008 | 1988* | 2000 | 2008 | 1988* | 2000   | 2008 |
| Illiterate                               | 41,9  | 31,5  | 18,1 | 54,2  | 43,5 | 26,8 | 20,9  | 11,8   | 9,7  |
| Literate without Diploma                 | 54,9  | 37,5  | 30,2 | 67,6  | 51,7 | 39,8 | 38,5  | 22,7   | 23,4 |
| Primary School (5 Years)                 | 63,9  | 52,8  | 47,8 | 74,9  | 64,2 | 59,3 | 53,1  | 43,1   | 41,9 |
| Secondary School                         | 46,5  | 45,9  | 62,7 | 54,6  | 52,4 | 74,5 | 42,7  | 43,4   | 59,3 |
| High School                              | 63,0  | 50,9  | 49,9 | 68,8  | 62,1 | 56,8 | 60,8  | 48,3   | 48,6 |
| Vocational School                        | 73,2  | 66,2  | 65,0 | 80,3  | 76,6 | 72,2 | 70,5  | 63,4   | 63,4 |
| University                               | 87,5  | 78,2  | 77,6 | 94,5  | 86   | 81,1 | 85,4  | 77,1   | 77,1 |
| Primary School (8 Years)                 | -     | 11,7  | 30,7 | -     | 33,5 | 38,5 | -     | 5,1    | 27,4 |
| Source: TURKSTAT (2010)                  |       |       |      |       |      |      |       |        |      |
| *1988 is from the October round of HLFS. |       |       |      |       |      |      |       |        |      |

Fundamental implication of this total low participation rate is a growing population that are not in the labor force. According to the results of October round of 1988 HLFS, the number of population not in the labor force is around 14 million. This is less than half of the number of working age population. However, according to the annual results of TURKSTAT for 2009, this population is around 27 million and it is higher than half of the working age population (see Table 1.1). This was one of well-known characteristics of the Turkish labor market. Another important characteristic of the Turkish labor market is the difference of female and male labor force participation rates. This difference is so striking and persistence (see Figure 1.1). It makes matters worse that both groups' total LFP is decreasing since 1988. Nevertheless it seems that the decrease in the male LFP slowed with the beginning of new millennium, and the female LFP rates are expected to increase in the upcoming years.



Figure 1.1: Labor Force Participation Rates by Gender (1988-2009)

Third important characteristic of the Turkish labor market is the high rural labor force participation rates than urban ones (see Figure 1.2). One of the basic reasons behind those patterns is different working conditions of rural and urban areas. Dominance of agricultural activities in rural areas has provided opportunity to participate for whom does not have education or skills. Besides, married women and children have also participated easily into the rural labor force. On the contrary, members of urban households mostly obliged to make a trade-off between market and non-market works. Urban labor markets are challenging for uneducated men and especially women. According to conventional Turkish family structure, males generally have been seen as money-makers whereas females have been seen as home-makers. But economic problems altered this distribution of labor within households. Women have started to work at home or workplace outside the home if possible. Most of the time, the reservation wage of women has exceeded the expected wage. This is mostly because of the expensiveness of needed care for little children or elder ones in the market.



Figure 1.2: Labor Force Participation Rates by Rural/Urban Location (1988-2009)

Although these previous decompositions give an idea about the main characteristics of the Turkish labor market, the decomposition of total labor force participation rates disaggregated by rural/urban location along with gender seems to be more illustrative at that point. The main trends at this level of decomposition can be easily seen from the Figure 1.3 below. It is apparently fact that gender differentiation in LFP is higher in urban than in rural. According to this figure, although male LFP rates are always higher than female LFP rates, the declining patterns are obvious in both the rural and urban areas. Moreover, high rural male participation rates are continuing to converge to the urban male LFP rates in the last decade. Another noteworthy point in that figure is that the rapidly declining rural female LFP rates. Female LFP rates in the urban areas are increasing in the last decade but slowly.



Figure 1.3: Labor Force Participation Rates by Gender and Location (1988-2009)



Figure 1.4.a: Age-Participation Profiles by Gender (Male-Total) (1988-2000-2008)

Figure 1.4.b: Age-Participation Profiles by Gender (Male-Urban) (1988-2000-2008)



Figure 1.4.c: Age-Participation Profiles by Gender (Male-Rural) (1988-2000-2008)







Figure 1.5.b: Age-Participation Profiles by Gender (Female-Urban) (1988-2000-2008)



Figure 1.5.c: Age-Participation Profiles by Gender (Female-Rural) (1988-2000-2008)



The last but not the least characteristics of the Turkish labor market is about the ageparticipation profiles. These profiles also substantially differ for different demographic groups, especially in terms of gender. These profiles, in another terms "life-cycles" give us idea about the participation behavior of individuals at different periods (or age intervals) in their lifes. The figures above (Figure 1.4 and Figure 1.5) depicts the life-cycle of males and females in Turkey for selected years (1988, 2000, and 2008) and for different locations. First, in total, and also in urban and rural areas, life-cycles of males are approximately same. Just the rural males seems to be staying in the labor force more longer than urban males. And these patterns of male do not differ over time, there is just an overall decrease in the participation rates. Second, it is so clear that age-participation profiles of females are different than males. Moreover, females' profiles so much differ at the location basis. Although females living and participating into labor force in rural areas are staying in the labor force longer than their urban counterparts. This is obviously related with the dominance of agricultural activities in the rural. Most of them are participating as an unpaid family worker.



Figure 1.6: Labor Force Participation Rates by Gender and Year (2000-2009)

These patterns mentioned so far are some pictures of long-run characteristics of the Turkish labor market. However, overall the Turkish economy and its markets are so sensitive, especially to short-run macroeconomic instabilities. In the last decade, Turkish economy has experienced two recent crises, namely 2001 and 2008. Both of these crises affected the real and financial markets of Turkey. Although, the characteristics of these two crises are so much different, the common result of both of them is a high unemployment rate for all demographic groups of the country. Following the relevant literature, this study argues that these crises have affected the labor force participation behaviors of individuals, especially vulnerable groups, namely women and youth. Accordingly, it is expected that two kinds of effects, added (AWE) and discouraged worker effects (DWE) are existed in both of these crises. However, which of these effects dominated the total labor force participation rate is the question mark that should be investigated with an empirical study. That is why this study aims to consider these effects empirically in a distinct section. But first, the changes in the long-run determinants of LFP are considered in Section 5. Next section presents the data, samples, variables, and the methodology used for the remainder of this study.

## 4. Data and Methodology

This section introduces the data sets, draws the boundaries of the samples, defines the variables and justifies the methodology used along the forward two empirical sections.

### **4.1 Data**

In this research study 1988, 2000, 2001, 2007 and 2008 Household Labor Force Surveys' micro data, executed by TURKSTAT, are used. 1988 (October round) HLFS is the initial nationwide labor force survey in ILO standards which was conducted with 102 062 individuals living in 22 320 households. Although, the contexts of some survey questions

have altered over time, this survey still provides a suitable comparison source with the recent surveys. 2000 HLFS is used as the middle year for the long-run empirical analysis. This year is chosen to see how the labor force participation trends changes from 1980s to 1990s and to 2000s. Since data for the years in 1990s is not available, the best alternative is to use 2000 HLFS data. By using 2000 data after 1988 data, some properties of the period of high growth from 1980s to 2000s (with financial liberalization) are expected to be observed. The other reason behind the choice of 2000 HLFS data is its comparability with 2007 and 2008 HLFS data sets. 2000 HLFS was conducted with 288 735 individuals living in 74 368 households. 2007 and 2008 HLFS data sets are used since they are the most recent survey available when this study started and 2008 data is also used as the terminal years of the long-run analyses. Another reason of using 2007 and 2008 data is to see the effects of recent economic crisis resulting with high rates of unemployment which continues to persist. These surveys were conducted with 481 605 and 481 154 individuals living in 128 036 and 129 166 households, respectively.

The operational sample for the empirical analyses is limited with males and females aged between 20 and 54 and living in urban areas of Turkey. The significance of the age interval is related with emphasize given directly to the labor force. Since the ages between 20 and 54 are prime working ages and the probability of participation or the probability of participation desire to the labor force of that population who are aged in this interval is thought to be high in Turkey. So, this is in line with the purposes of that study which aims to clarify the changes in the determinants of LFP for the post-1980 period and aims to find the dominance of AWE vs. DWE in the economic crises years. The limitation of the sample which is about the location is also directly related with one of the most persistent characteristics of Turkish labor market. Since the rural population is frequently worked in the agricultural sector in the rural, the probability of being hidden unemployed is so probable.

That is already the reason behind high rural LFP rates. So, the sample used in the analyses is planned to include only urban areas of Turkey.

Given the limitations of the sample, it is time to pass into the details of the samples used within each data set. 1988 HLFS consists 43 046 individuals who are aged between 20 and 54. Nearly 35 percent of that population lives in the rural. So the remaining 65 percent, that is 27 868 individuals live in urban areas. Furthermore, 55 percent of that population age between 20 and 54 living in urban, participates labor force. Besides 13 482 of this sample is male and the remaining 14 386 is female. So the sample seems quite balanced. Since the sample of 2000 HLFS data includes even more individuals and households, the subsample drawn from it also will be larger than 1988, same situation holds for the other surveys. 138 586 individuals are aged between 20 and 54 in 2000 HLFS and the majority of that population (78.22 percent) resides in the urban places. However, labor force participants among that urban population aged between 20 and 54 are not so much, only 53 percent of total adults. The distribution of males and females again seems to be balanced (47.93 percent male vs. 52.07 percent females. The extent of 2001 HLFS is similar with 2000 HLFS, 144 204 individuals live between the ages 20 and 54. Again the majority of that population lives in the urban (77.59 percent) and labor force participants within that population are slightly more than non-participants (52.51 percent vs. 47.49 percent). Gender balance again holds. The other data sets used in the analyses are more updated. These are 2007 and 2008 HLFS. Sample drawn from 2007 HLFS data comprises 165 312 individuals who are in the prime age interval frequently abovementioned and reside in the urban parts of the country. Distribution of participants and gender are so similar with the 2000 and 2001 HLFS. The last sample is from the 2008 HLFS data set. This sample is the largest ever with 167 151 adult population living in the urban and the other demographic distributions are the same with 2007 HLFS.

The explanatory variables which are put into the regressions are composed of three groups of characteristics. These are namely individual characteristics (which include sex, age, and education level), household characteristics (which includes marital status, being or not household head, and the presence of children aged under 15), and lastly regional characteristics (which includes rural vs. urban segregation). Independent variable in all the empirical analyses is the labor force participation, shortly lfp. The abbreviations used and written in the regression outputs of all these variables are like that: sex (male=1, female=0); age20\_24, age25\_29, age30\_34, age35\_39, age40\_45, age46\_49, age50\_54 (relevant age group=1, otherwise=0); illiterate, literatewithoutdiploma , primarysch, secondarysch, highsch, occuphighsch, univ (relevant education level=1, otherwise=0); married (married=1, otherwise=0); hhhead (household head=1, otherwise=0); phhchildren0\_14 (presence of children aged under 15=1, otherwise=0); and rural (rural=1, urban=0).

In addition to those variables, there are also some extra dependent and independent variables used in the analyses of AWE vs. DWE. These are namely and shortly like that: plfp (presence of participant wife in the household=1, otherwise=0) and pmu (presence of unemployed husband in the household=1, otherwise=0). After we have defined all the data sets, samples, and variables, it is the turn of methodology.

## 4.2 Methodology

Throughout all the empirical analyses done in succeeding two sections, the methodology adopted is the logistic regression model. In the logistic regression analysis, the dependent variable is the occurrence probability of an event, so it must be between 0 and 1. But the independent variables (or predictors) can be binary, categorical and continuous or some combinations of these.

In logit analysis it is hypothesized that the probability of the occurrence of an event is determined by the following function

[1] 
$$p_i = F(Z_i) = 1/(1 + e^{-Z_i})$$

where  $\mathbf{Z} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 \mathbf{X}_1 + \boldsymbol{\beta}_2 \mathbf{X}_2 + \boldsymbol{\beta}_3 \mathbf{X}_3 + \dots + \boldsymbol{\beta}_i \mathbf{X}_i$ . As **Z** tends to infinity,  $\mathbf{e}^{-\mathbf{Z}}$  tends to 0 and **p** has a limiting upper bound of 1. As tends to minus infinity,  $\mathbf{e}^{-\mathbf{Z}}$  tends to infinity and **p** has a limiting lower bound of 0. Hence there is no possibility of getting predictions of the probability being greater than 1 or less than 0.

The marginal effect of  $\mathbf{Z}$  on the probability, which will be denoted  $\mathbf{f}(\mathbf{Z})$ , is given by the derivative of this function with respect to  $\mathbf{Z}$ :

[2] 
$$f(Z) = dp / dZ = e^{-Z} / (1 + e^{-Z})^2$$

The model is fitted by maximum likelihood estimation and this uses an iterative process to estimate the parameters.

The logistic equation can be inverted into a linear relation by manipulating the probability into a log odds or logit:

[3] 
$$Pr(y = 1) + e^{-Z} Pr(y = 1) = 1$$

[4] 
$$e^{-Z} Pr(y=1) = 1 - Pr(y=1)$$

[5] 
$$e^{-Z} = (1 - Pr(y = 1)) / (Pr(y = 1))$$

[6] 
$$\log e^{-Z} = \log [(1 - \Pr(y = 1)) / (\Pr(y = 1))]$$

$$[7] - Z = log[(1 - Pr(y = 1)) / (Pr(y = 1))]$$

$$[8] - Z = log (1 - Pr(y = 1)) - log (Pr(y = 1))$$

[9] 
$$Z = \log(Pr(y = 1)) - \log(Pr(y = 0))$$

Therefore;

$$[10] \quad \log \left[ Pr(y=1) / Pr(y=0) \right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_i X_i$$

After these manipulations, we get a relation that is similar to linear models. But here, each change in explanatory variables corresponds to a change not in the directly dependent variable

but in log odds. Here, odds are equal to  $\Pr(\mathbf{y} = \mathbf{1})/\Pr(\mathbf{y} = \mathbf{0})$ . Interpretation of the estimated coefficients is also different from linear models. These coefficients' numerical values cannot be interpreted as any increase or decrease in the binary dependent variable, but can be interpreted as one-point increase (decrease) in a explanatory variable increases (decreases) the of the occurrence of the event depending on the sign of this variable. Besides we need to calculate marginal effects to calculate the probabilities of each explanatory variable and to detect their self marginal contributions to the occurrence probability of the event holding all other variables at their mean values.

In the models estimated in this study, the dependent variable lfp takes 0 when a person is non-participant and 1 when a person is participant. The estimates of lfp which are determined by the estimation of all explanatory variables within a model, take values ranging from 0 to  $1.^{23}$ 

## 5. Changes in the Determinants of Labor Force Participation

Following the data and methodology, the first part of empirical analysis is composed from econometric models conducted by 1988 and 2007 HLFS data sets for the overall sample. The analytic investigation of the LFP determinants takes important place within these models. These determinants are introduced and defined in the previous section, but the model estimated in that section is shortly as following:

#### [11] LFP

= f(rural, sex, age, education level, hhhead, region, marital status, child)

The estimations in our logistic regression analyses using the following samples are:

<sup>&</sup>lt;sup>23</sup> 10<sup>th</sup> version of the STATA is used to run the logit regressions of this study. STATA is the appropriate and widely used software especially in studies employing cross-sectional data by estimating logit and probit regressions.

- Prime working age population (20-54) living in urban in 1988 and 2007 HLFS
- Urban males aged between 20 and 54 in 1988 HLFS
- Urban females aged between 20 and 54 1988 HLFS
- Urban males aged between 20 and 54 in 2007 HLFS
- Urban females aged between 20 and 54 in 2007 HLFS

Given these samples, Table 2.1 summarizes all the estimation outputs. This table shows us the changes in determinants of labor force participation in the last two decades. Although numerical values of coefficients do not have any meaning, signs of them tell us about the direction of effects. For instance, looking at the sex variable we can say that in both 1988 and 2007 being male increases the possibility of being a participant. For the age variables and education level variables, this positive relation continues. Indeed, the coefficients in the first two columns have the same signs. Presence of children in the household under age 15 seems to decrease the possibility of participation, or being married is like that for the whole sample. If we decompose the sample into males and females for each year, we can interpret about the determinants considering the gender. In both years, all the coefficients of males' are signed positively, however, in females, there is a coefficient which is not statistically significant in 1988, but it is statistically significant and negatively signed in 2007. This variable is literarewithoutdiploma. Another difference seems in hhhead variable. It is not statistically significant in 1988 and significant in 2007. Actually, this change tells us something about the role of females in participating to the labor market when they control or manage a household. Given the economic constraints, the participation of females is becoming inevitable. In addition to that, household characteristics of females are approximately similar.

To sum up, there are no radical changes for the determinants of participation of prime age working population (20-54) living in urban areas. Still gender matters for participation, and being is still a dominant factor to participate. Age-participation profiles do still begin with a low participation at youth ages, then increase and lastly decrease. For all the estimations, we can say similar things. Education does also protect its hierarchical structure in affecting the participation, graduating from higher education levels are more effective in participation than being graduate from lower levels. Maybe the most important thing in this table is that the persistence of signs for both males and females.

|                        | (1)        | (1)        | (2)        | (3)        | (4)        | (5)        |
|------------------------|------------|------------|------------|------------|------------|------------|
| VARIABLES              | lfp-1988-T | lfp-2007-T | lfp-1988-M | lfp-1988-F | lfp-2007-M | lfp-2007-F |
|                        | 1          |            | <b>1</b>   |            | 1          |            |
| sex                    | 3.256***   | 2.560***   | -          | -          | -          | -          |
|                        | (0.0552)   | (0.0184)   | -          | -          | -          | -          |
| age20 24               | 1.608***   | 1.728***   | 2.699***   | 0.777***   | 2.269***   | 0.998***   |
| 0 =                    | (0.0917)   | (0.0331)   | (0.174)    | (0.124)    | (0.0522)   | (0.0476)   |
| age25 29               | 1.950***   | 2.263***   | 3.975***   | 0.938***   | 3.224***   | 1.298***   |
| • _                    | (0.0887)   | (0.0306)   | (0.201)    | (0.124)    | (0.0528)   | (0.0463)   |
| age30_34               | 2.090***   | 2.331***   | 3.784***   | 1.215***   | 3.106***   | 1.491***   |
|                        | (0.0898)   | (0.0310)   | (0.225)    | (0.125)    | (0.0537)   | (0.0473)   |
| age35_39               | 1.904***   | 2.331***   | 3.154***   | 1.029***   | 2.808***   | 1.576***   |
|                        | (0.0906)   | (0.0314)   | (0.196)    | (0.127)    | (0.0530)   | (0.0476)   |
| age40_44               | 1.487***   | 2.102***   | 1.909***   | 0.718***   | 2.439***   | 1.325***   |
|                        | (0.0929)   | (0.0303)   | (0.138)    | (0.132)    | (0.0473)   | (0.0467)   |
| age45_49               | 0.665***   | 1.120***   | 0.701***   | 0.343**    | 1.011***   | 0.613***   |
|                        | (0.0929)   | (0.0293)   | (0.106)    | (0.143)    | (0.0340)   | (0.0496)   |
| literatewithoutdiploma | 0.393***   | 0.413***   | 1.130***   | 0.0175     | 0.972***   | -0.310***  |
|                        | (0.0819)   | (0.0415)   | (0.143)    | (0.102)    | (0.0684)   | (0.0544)   |
| primarysch             | 0.500***   | 0.758***   | 1.355***   | -0.0118    | 1.577***   | -0.000936  |
|                        | (0.0542)   | (0.0250)   | (0.0919)   | (0.0635)   | (0.0380)   | (0.0302)   |
| secondarysch           | 1.052***   | 1.142***   | 1.792***   | 0.578***   | 1.758***   | 0.430***   |
|                        | (0.0824)   | (0.0303)   | (0.161)    | (0.0987)   | (0.0449)   | (0.0399)   |
| highsch                | 1.913***   | 1.300***   | 1.578***   | 1.630***   | 1.554***   | 0.827***   |
|                        | (0.0789)   | (0.0296)   | (0.164)    | (0.0856)   | (0.0442)   | (0.0355)   |
| occuphighsch           | 2.040***   | 1.585***   | 1.295***   | 2.063***   | 1.983***   | 1.070***   |
|                        | (0.109)    | (0.0315)   | (0.176)    | (0.117)    | (0.0489)   | (0.0382)   |
| univ                   | 3.051***   | 2.773***   | 1.480***   | 3.380***   | 2.115***   | 2.629***   |
|                        | (0.111)    | (0.0319)   | (0.159)    | (0.136)    | (0.0470)   | (0.0371)   |
| hhhead                 | 1.496***   | 1.158***   | 1.120***   | 0.176      | 0.460***   | 0.125***   |
|                        | (0.0659)   | (0.0214)   | (0.155)    | (0.109)    | (0.0435)   | (0.0358)   |
| phhchildren0_14        | -0.0711    | -0.243***  | 0.189*     | -0.0949    | 0.292***   | -0.456***  |
|                        | (0.0706)   | (0.0160)   | (0.110)    | (0.0876)   | (0.0258)   | (0.0217)   |
| married                | -0.651***  | -0.499***  | 1.370***   | -1.480***  | 0.998***   | -1.110***  |
|                        | (0.0524)   | (0.0197)   | (0.138)    | (0.0654)   | (0.0450)   | (0.0254)   |
| Constant               | -3.312***  | -3.773***  | -2.651***  | -1.440***  | -2.824***  | -1.839***  |
|                        | (0.112)    | (0.0371)   | (0.198)    | (0.141)    | (0.0573)   | (0.0490)   |
| Observations           | 27,868     | 165,312    | 13,482     | 14,386     | 79,002     | 86,310     |

 Table 2.1: Logistic Regression Results for Prime Working Age Population (1988-2007)

a) Standard errors in parentheses.

b) \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 6. Added versus Discouraged Worker Effect in Turkey

This last section for empirical investigation is devoted to the analyses of AWE and DWE. Main motivation behind this investigation is the deficiency of any analysis regarding the effects born by recent economic crises in the recent literature. Although 1994 crisis was analyzed by Baslevent and Onaran (2003) and concluded with an AWE, according to my knowledge there is no any empirical study looking for the effects of last crises. Since the importance of looking at micro evidence from the households in examining the added versus discouraged worker hypotheses (Baslevent and Onaran, 2003, p.455) was emphasized, this study also employs the micro data of the years 2000, 2001, 2007 and 2008 HLFS. The model estimated along this section is simply as following:

[12]  $PFLFP_{wife} = \alpha_0 + \alpha_1 X + \alpha_2 PMU_{husband}$ 

#### [13] X = f(age, education level, , child)

where pflp is the presence of a participant wife in the household and pmu is the presence of an unemployed husband in the same household. Again prime working age population (20-54) living in urban in 2000-2001 and 2007-2008 HLFS is the sample which estimated to reveal the dominance of the effects (AWE vs. DWE) for the recent crises terms (2000-2001 and 2007-2008). The results of this estimation are presented in Table 2.2.

According to the results, there seems a significant added worker effect for every year estimated. This is because the coefficients of unemployed husband are all positive and significant in the regression outputs. In other words, this means that the probability of the presence of a participant wife in a household increase with the increasing probability of the presence of an unemployed husband in the household. Shortly, if these husbands are

unemployed due to crises, the probability of being participant for married women increase over time. When we control this situation with other independent variables which reflect individual and household characteristics, it seems that the participation probability of married women increase with their middle ages. This probably means that they have children and they have to fix the household budget when the husband became unemployed. The positive coefficients of presence of children under 15 years old, actually reflects these considerations.

|                        | (1)        | (2)        | (3)        | (4)        |
|------------------------|------------|------------|------------|------------|
| VARIABLES              | pflfp-2000 | pflfp-2001 | pflfp-2007 | pflfp-2008 |
|                        |            |            |            |            |
| age20_24               | -0.244***  | -0.143***  | -0.0599*   | -0.137***  |
|                        | (0.0488)   | (0.0472)   | (0.0351)   | (0.0332)   |
| age25_29               | 0.192***   | 0.173***   | 0.125***   | 0.0471     |
|                        | (0.0465)   | (0.0454)   | (0.0328)   | (0.0309)   |
| age30_34               | 0.494***   | 0.504***   | 0.473***   | 0.367***   |
|                        | (0.0465)   | (0.0453)   | (0.0328)   | (0.0309)   |
| age35_39               | 0.654***   | 0.635***   | 0.663***   | 0.519***   |
|                        | (0.0464)   | (0.0452)   | (0.0331)   | (0.0312)   |
| age40_44               | 0.570***   | 0.626***   | 0.648***   | 0.574***   |
|                        | (0.0466)   | (0.0452)   | (0.0328)   | (0.0310)   |
| age45_49               | 0.265***   | 0.306***   | 0.442***   | 0.368***   |
|                        | (0.0492)   | (0.0475)   | (0.0340)   | (0.0319)   |
| literatewithoutdiploma | 0.329***   | 0.201**    | -0.329***  | -0.347***  |
|                        | (0.0850)   | (0.0842)   | (0.0546)   | (0.0500)   |
| primarysch             | 0.373***   | 0.349***   | 0.0426     | -0.00569   |
|                        | (0.0506)   | (0.0477)   | (0.0293)   | (0.0274)   |
| secondarysch           | 0.662***   | 0.477***   | 0.248***   | 0.187***   |
|                        | (0.0579)   | (0.0555)   | (0.0353)   | (0.0331)   |
| highsch                | 1.057***   | 0.854***   | 0.437***   | 0.422***   |
|                        | (0.0537)   | (0.0517)   | (0.0342)   | (0.0320)   |
| occuphighsch           | 1.389***   | 1.154***   | 0.593***   | 0.641***   |
|                        | (0.0582)   | (0.0550)   | (0.0345)   | (0.0321)   |
| univ                   | 2.250***   | 2.088***   | 1.509***   | 1.396***   |
|                        | (0.0526)   | (0.0499)   | (0.0309)   | (0.0290)   |
| phhchildren0_14        | 0.377***   | 0.366***   | 0.255***   | 0.304***   |
|                        | (0.0221)   | (0.0216)   | (0.0165)   | (0.0156)   |
| pmu                    | 0.428***   | 0.307***   | 0.312***   | 0.293***   |
|                        | (0.0417)   | (0.0362)   | (0.0314)   | (0.0284)   |
| Constant               | -3.410***  | -3.291***  | -2.759***  | -2.550***  |
|                        | (0.0598)   | (0.0568)   | (0.0365)   | (0.0341)   |
|                        |            |            |            |            |
| Observations           | 108,401    | 111,882    | 165,312    | 167,151    |

Table 2.2: Logistic Regression Results for AWE and DWE (2000-2001 & 2007-2008)

a) Standard errors in parentheses.

b) \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 7. Conclusions

This research study is organized to make a qualitative and a quantitative analysis for the post-1980 period of the Turkish labor market. Since the neoliberal policies after 1980 have dominated both the political and economic spheres, the determinants of many economic variables have altered in the last two decades. Labor markets are not independent than other markets. So it is obviously fact that there are some observations in the direction of change in determinants of the labor market indicators. Labor force participation is one of these indicators. Participation behavior of individuals has changed in the last two decades. Although individual and household characteristics maintain its importance, highly volatile structure of the Turkish economy in the short-run recently started to be another determinant in the analyses of labor force participation (LFP). The boom and bust cycles of the Turkish economy have started to be nearly the life-cycles of individuals. Regarding all these facts, this study shows that these observations of real-life reflect into the micro data collected by TURKSTAT and into the estimations done like in that paper. So, the main result of that study, the existence and the dominance of added worker effect (AWE), is an explicit sign and the conclusion of all these arguments mentioned above.

## References

Baslevent, C. and Onaran, O., 2003. "Are Married Women in Turkey More Likely to Become Added or Discouraged Workers?" *Labour*, 17 (3), pp. 439–458

Biçerli, M. K., 2004. *İşsizlikle Mücadelede Aktif İstihdam Politikaları*, T.C. Anadolu Üniversitesi Yayınları, No. 1563, Eskişehir.

Boratav, K., 2009. Türkiye İktisat Tarihi 1908-2007, İmge Kitabevi, 13. Baskı, Ankara.

Borjas, G. J., 2002. Labor Economics, Second Edition, Irwin/McGraw-Hill, Boston.

Bulutay, T., 1995. *Employment, Unemployment and Wages in Turkey*, International Labor Organization.

CBRT, 2002. *The Impact of Globalization on the Turkish Economy*, The Central Bank of Turkish Republic, Ankara.

Çam, S., 2002. "Neo-liberalism and Labour Within the Context of an 'Emerging Market' Economy-Turkey," *Capital&Class*, Issue 77, pp. 89-114.

Demir, F. and Erdem, N., 2010. "Labor Market Performance after Structural Adjustment in Developing Countries," *forthcoming* in L.K. Valencia and B.J. Hahn (Eds.), *Employment and Labor Issues: Unemployment, Youth Employment and Child Labor* (Chapter 1). Nova Science Publishers.

Haque, I., 2004. "Globalization, Neoliberalism and Labour," United Nations Conference on Trade and Development, Discussion Papers.

Işıklı, A, 1995. "Cumhuriyet Döneminde Türk Sendikacılığı," *Yüzyıl Biterken Cumhuriyet Dönemi Türkiye Ansiklopedisi*, Cilt 7, İletişim Yayınları, İstanbul, s. 1826-1838.

Kepenek, Y. ve Yentürk, N., 2005. Türkiye Ekonomisi, Remzi Kitabevi, 18.Basım, İstanbul.

Köse, A.H., & Oncu, A., 2000. "1980 Sonrası dönemde Türkiye imalat sanayi," *Toplum ve Bilim* 86, 72-90.

McConnell, C. R., Brue, S. L. and Macpherson, D. A., 2006. *Contemporary Labor Economics*, Seventh Edition, McGraw-Hill/Irwin, Boston.

Mütevellioğlu, N. ve Işık, S., 2009. "Türkiye Emek Piyasasında Neoliberal Dönüşüm," içinde Mütevellioğlu, N. ve Sönmez, S. (Ed), *Küreselleşme, Kriz ve Türkiye'de Neoliberal Dönüşüm*, İstanbul Bilgi Üniversitesi Yay., İstanbul, s. 159-204.

Nichols, T. and Suğur, N, 2004. *Global Management and Local Labour*, MacMillian-Palgrave.

Pierre, C. and Zylberberg, A., 2004. *Labor Economics*, The MIT Press, Cambridge, Massachusetts.

Şenses, F., 1994. "Labour Market Response to Structural Adjustment and Institutional Pressures", Background Paper to the OECD 1993 Country Survey for Turkey, *METU Studies in Development*, 21(3), 1994, pp. 405-448.

Şenses, F., 1996. "Structural Adjustment Policies and Employment in Turkey", *New Perspectives on Turkey*, Fall 1996 (14).

TURKSTAT, 2010. <<u>www.tuik.gov.tr</u>> (accessed 15 May 2010).

WB, 2009. *Female Labor Force Participation in Turkey: Trends, Determinants and Policy Framework*, Report No. 48508-TR.