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ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

Female Labor Force Participation in Turkiye: Revisiting the 1988-2008 Period

Türkiye'de Kadınların İşgücüne Katılımı: 1988-2008 Dönemine Yeniden Bakış

Serkan DEĞİRMENCİ[1] ⓘ

ÖZ

Bu çalışma, 1980 sonrası piyasa liberalleşme döneminde Türkiye işgücü piyasasına işgücüne katılımın yapısal belirleyicilerindeki değişiklikleri kır-kent yerleşimi, cinsiyet, yaş ve eğitime göre ayrıştırarak incelemeyi amaçlamaktadır. İncelenen dönemin bir özelliği olarak, ekonomik krizlerin, evli kadınlar gibi bu etkilere karşı özellikle savunmasız gruplar üzerinde cesareti kırılmış bir işçi etkisine karşı ek bir işçi etkisi yaratma üzerindeki etkilerini de inceler. Bu makale, 1988 ve 2007 dönemlerine ait Hanehalkı İşgücü Anketinden elde edilen mikro verileri, tüm örneklemler için ve cinsiyete göre ayrıştırılmış gruplar için ayrı ayrı bir logit regresyon analizi aracılığıyla Türkiye işgücü piyasasındaki uzun vadeli işgücü arzı davranışını analiz etmek için kullanmaktadır. Ayrıca, 2000-2001 ve 2007-2008 yılları için Hanehalkı İşgücü Anketi mikro veri setlerini, ekonomik kriz yıllarında kocası işsiz olan evli kadınlar üzerinde artan ve cesareti kırılan işçi etkilerinin varlığını ve baskınlığını test etmek için kullanır. Sonuç olarak, bu araştırma, evli olmanın ve hanede küçük çocuk sahibi olmanın, kadınların işgücüne katılımını erkeklerden farklı olarak azalttığını ortaya koymaktadır. Ancak, ekonomik krizler, kocalarının işsizliği ile karşı karşıya kalan evli kadınların işgücü piyasasına katılma olasılığını artırmaktadır.

Anahtar Kelimeler: Ek çalışan etkisi, Cesareti kırılmış çalışan etkisi, Ekonomik krizler, Kadınların işgücü arzı, Kadınların işgücüne katılımı
Jel Sınıflaması: D13, J21, J22

ABSTRACT

This study aims to investigate the changes in the structural determinants of labor force participation in the Turkish labor market for the post-1980 market liberalization period disaggregated by rural-urban location, gender, age, and education. As a characteristic of the period under investigation, it also examines the effects of the economic crises on producing an added worker effect versus a discouraged worker effect on particularly vulnerable groups to these effects, such as married women. This paper employs the microdata from the Household Labor Force Survey for the two periods 1988 and 2007 to analyze the long-term labor

supply behavior in the Turkish labor market through a logit regression analysis for the whole samples and separately for groups disaggregated by gender. Additionally, it uses the Household Labor Force Survey microdata sets for 2000-2001 and 2007-2008 to test the existence and dominance of added versus discouraged worker effects on married women whose husbands were unemployed in the years of economic crises. As a result, this study finds that being married and having small children in the household decreases women's labor force participation, unlike men. However, economic crises increase the possibility of labor market participation for married women facing husbands' unemployment.

1. Introduction

Turkey has undertaken market liberalization measures in the past four decades. This period of export-oriented market policies has been marked by an accelerated growth rate that has been highly volatile. The reflections of the export-oriented growth process on the Turkish labor market have entailed a mixed record (Çağatay & Berik, 1990; Çağatay & Özler, 1995; Özler, 2000; Başlevent & Onaran, 2004). On the positive side, employment has shifted from low-productivity, subsistence-dominated agriculture to industry and services.[1] On the other hand, economic growth was highly volatile, as evidenced by the three different economic crises in 16 years (1994-2009). This volatility has increased unemployment rates despite declining labor force participation rates. Coupling one of the highest unemployment rates with one of the lowest labor force participation rates among OECD countries may be the most crucial challenge facing the Turkish labor market (Dayıoğlu & Kırdar, 2010).[2] One of the main reasons behind Turkey's low aggregate labor force participation rate is the low and declining female labor force participation in this period. Therefore, the first aim of this paper is to revisit the 1988-2008 period and to investigate the changes in determinants of female labor force participation.

Economic crises have been known to produce two distinct effects on labor force participation behavior, namely the added worker effect (AWE) and the discouraged worker effect (DWE), both of which are the results of shocks to unemployment rates and affect aggregate labor force participation in opposite directions.[3] Therefore, this paper aims to explore the 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 was used for the 2000-2001 and 2007-2008 periods to test for the existence and dominance of added versus discouraged worker effects for married women. An overview of the aggregate data shows 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 supply behavior to explore the distinct effects hypothesized to vary substantially by the level of age, education, and marital status, as well as rural-urban location.

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[1] The share of agriculture in total employment is 46 percent in 1988. This share is 25 percent for 2009 (TurkStat, 2021).

[2] As a characteristic of Turkish labor market, the position of females is noteworthy at that point. A 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 Organization for Economic Co-Operation and Development (OECD) and European Union (EU)-19 countries averaged 62 percent and 64 percent, respectively in 2007 (WB, 2009).

[3] For various definitions of AWE and DWE, see McConnell et al. (2006), Borjas (2002), Cahuc & Zyleberberg (2004).

This study constitutes the following components: Section 2 presents a historical overview of the Turkish economy and labor market for both pre-and post-1980 eras. Section 3 summarizes the empirical literature's main findings and explains this paper's contributions to the relevant literature. Section 4 provides a background of the main trends observed in the Turkish labor market in the post-1980 period. Section 5 presents the data and methodology. Section 6 reveals the empirical findings concerning changes in determinants of labor force participation, while Section 7 focuses on the effects of economic crises in producing added versus discouraged worker effects. The paper ends with conclusions, discussions, and policy recommendations.

2. An Overview of the Turkish Economy and Labor Market

This section aims to provide a historical overview of the Turkish labor market for the periods before and after 1980. The breakpoint, 1980, is, of course, not an arbitrary year. Much the same in other analyses of the Turkish economy, "1980" symbolizes a transition into a new set of policy frameworks, namely neoliberal policies. These policies have induced qualitative and quantitative changes in the participants and institutions of the Turkish labor market. Therefore, for this study, it seems more appropriate to analyze the history of the Turkish labor market shortly by dividing it into periods before and after 1980. Although the developments of the pre-1980 period are significant, especially in providing a benchmark for that review, the primary motivation of that study stems from the developments from 1980 onwards. Therefore, the period under empirical investigation focused on the post-1980 period in other sections.

2.1. In the Pre-1980 Period

Despite the year of the foundation of the Turkish Republic, 1923, being a critical political revolution, it was not a pure cornerstone in terms of economic policies regarding the labor market. Since the total population in 1923 was around 12 million and 80 percent of that population was villagers working in the agricultural sector, it was not so successful in encouraging private capitalization and industrialization except for creating a class of wealthy people close to bureaucracy.[4] Then, with the onset of the 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.[5] In this statist period, between 1930 and 1939, the annual average growth rate of the industrial sector at

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[4] 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). Besides the contrary case also did not realize 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.

[5] Other many underdeveloped countries had also shifted to a closed economic structure and initiated industrialization in these Great Depression years.

constant prices reached a record level of 10.3 percent.[6] This progress in industrialization induced a slight shift of agricultural workers to the industry, so the share of industrial employment increased from 6.2 percent in 1929 to 8.0 percent in 1939. Nevertheless, this term can be assessed retrospectively as a structural transformation toward industrialization (Boratav, 2009).[7]

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.[8] The army's recruitment of healthy and working-aged males also reduced the labor supply in that term. After the War, Turkey experienced a turning point in both economic and political spheres. In that post-war period, the agricultural sector regained its locomotive characteristic in the economy, and the growth rates increased with the help of several favorable internal and external factors.[9] Although mechanization in agriculture gained acceleration in that period, demand for labor in agriculture continued to rise from 6,824,980 to 7,818,877 between 1946 and 1953 (Bulutay, 1995). One of that period's main significant developments was qualitative and quantitative changes in the labor force. These changes were heavily sourced from demographic movements such as the rapid population boom and urbanization in the post-war period.[10] These two factors increased the number of people seeking paid work, especially in metropolitans. They shifted the share of the service sector in the total labor force from 12.3 to 14.5 percent, but the share of agriculture in the labor force was still dominant at 77.7 percent in 1960 (Kepenek & Yentürk, 2005). Another significant development of that term was the establishment of some formal institutions and memberships to international institutions to regulate and control the labor market, namely the Ministry of Labor (22 June 1945), the General Directorate of Turkish Employment Organization, International Labour Organization (ILO).[11] In addition, the Trade Unions Law (law no. 5018) was passed in 1947, and the number of workers who were members of unions increased swiftly.[12]

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[6] Indeed, this decade should be analyzed under three sub-periods which are namely protectionist term (1930-31), transition year (1932), and statism (1933-1939).

[7] Boratav (2009) states that the share of industry in GDP increased from 11 % to 18 % at constant prices of 1938.

[8] 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).

[9] 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).

[10] 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 & Yentürk, 2005).

[11] In addition, the base for a social security system was laid again at that term.

[12] However, as per article 5, this law restricted unions to be active in politics.

After these periods with mixed growth records, economic policies were based on an institutional planning context by the establishment of the 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, industrial employment's share in total employment increased from 11.5 percent in 1960 to 20.0 percent in 1980 (Biçerli, 2004).

Under the import-substitution regime, wages were not only considered production costs for capitalists but also were seen as sources of demand that spurred the reproduction process. So, wages were not repressed; moreover, widespread unionization and collective bargaining system, including the right to strike, assured increasing real wages over time. As a result, the state economic enterprises met higher wage demand for labor. These populist policies in the public sector had also reflected in the private sector since the labor market was not disintegrated during that term. Therefore, policies suggesting high wages influenced both the 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 the working class. Therefore, the share of wages in the value-added increased along this term in the public and private sectors. Naturally, the industrial bourgeoisie was not pleased with that distribution.[13] Furthermore, capitalists had started to complain about labor militancy, arguing that frequent strikes and shutouts raised further problems for management and control in workplaces.[14]

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 a 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 & Öncü, 2000). Rising real wages were also consistent with the domestic demand-led ISI model (Demir & Erdem, 2010). However, traditional mechanisms of surplus distribution had lost their importance in the conjecture with the production growth stopped and the inflation rate accelerated. In these circumstances, the unique way to raise the surplus ratio for the capitalist class is to change the direction of control of the distribution from the working class to them. The relative weight of missing working days increased twice from 1973-1976 to 1977-1980 (Boratav,

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[13] 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.

[14] 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.

2009). Therefore, the capitalist class explicitly started to 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 what they wanted within the years of the 1980s. Then, the working class never again had the bargaining power against employers as it was between the years 1960 and 1980 in Turkey and the world.

2.2. In the Post-1980 Period

The year 1980 was a turning point in many aspects. At the end of the 1970s, neoliberal ideologies gained worldwide strength and then captured a dominant position in the mindsets of many governments. Turkey was one of the first countries in which a radical neoliberal transformation was implemented in the process that first started with "the 24 January 1980 Decisions" and then eased with a military coup on 12 September 1980.[15]

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). Adopting the Washington consensus and the accompanying liberalization of goods and capital markets led to increasing pressure on developing countries to deregulate their labor markets (Demir and Erdem, 2010). Then, in addition to these policies, deregulation of labor markets and some reforms for social security systems were proposed within the context of the "Augmented Washington Consensus". The core of these neoliberal policies was the increased reliance on freely functioning markets and private incentives and initiatives (Haque, 2004).[16]

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 & Erdem, 2010). However, in retrospect, these expectations were not fully met, especially those related to labor markets.

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[15] 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.

[16] These alleged reforms have weakened the social security of workers aftermath the neoliberal policies have been conducted.

Since the 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 the 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 worldwide have become standardized, although with considerable costs in many cases.[17] After three decades of the liberalization process, the performances of developing countries exhibit some common traits in terms of success achieved at the end that yet unlike those predicted by their architects (Demir & Erdem, 2010)

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), was aimed at stabilizing and liberalizing the 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 & Erdem, 2010).

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

Therefore, as Çam (2002) suggests, 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.[18] However, they also caused a growing inequality in overall income distribution and political unrest across the country.

In short, the stabilization and structural adjustment programs undertaken by many developing countries (like Turkey) had a similar orientation regarding workers' positions

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[17] Loss of real labor income and the persistent unemployment problem are some of these costs.

[18] 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 & Suğur, 2004).

and situations. Control of inflation was the principal target even though the evidence across countries and over time showed that it had little effect on economic growth except in very high inflation situations. Employment was not a primary concern under the structural adjustment programs, as they focused on improving productive efficiency (instead of narrowly defined). The rise in unemployment rates following trade liberalization, the sale of public enterprises, or general corporate restructuring was seen as regrettable but was accepted as a necessary cost for improving efficiency and becoming internationally competitive. 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 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 the balance of payments difficulties further contributed to the weakening of real wages in several developing countries (Haque, 2004).

So far, we have summarized the cornerstones of the Turkish economy and made an overview of the Turkish labor market since its foundation, along with the other problems of the Turkish economy. Turkey has a mixed record of its policy experiences and labor market performances. However, economic policies were firmly under the "suggestions" of the IMF and WB, especially after the multi-party system. Therefore, the management and control of the Turkish economy are so heavily dependent on "suggestions" given by institutions of the Anglo-Saxon world.

3. Literature Review

The neo-liberal transformation process starting in the late 1970s and early 1980s onwards in the Turkish economy has impacted labor markets as it has in other fields. However, these effects are limited to the economy and have influenced institutional and political structures.

Studies examining those periods of the Turkish labor market have assessed these effects in terms of employment. In addition, the necessity of a flexible labor market and the impact of economic crises on unemployment and employment were the popular subjects mostly debated in that period.

Şenses (1994) evaluated the labor market responses to this structural adjustment process and considered institutional pressures. In his subsequent studies, Şenses (1996 and 1997) examined the validity of flexibility in labor markets and looked for the relationship between structural adjustment policies and employment. Towards the end of the 1990s, Köse and Yeldan (1998) assessed fiscal policies, labor markets, and foreign trade considering the Turkish economy of the 1990s. Onaran (2000) explored labor market flexibility during the

aftermath of the 1980s in Turkey, and she also considered the demand side of the market in the Turkish manufacturing industry under the effects of trade liberalization. Finally, Tunalı (2003) evaluated the whole period and presented a background study on the labor market and employment.

Many studies are also trying to reveal the crucial determinants of female labor force participation in Turkey. Attaining higher educational levels of women and its fertility implications are one of these determinants (Kasnakoğlu & Dayıoğlu, 1996; Tansel, 2001; İnce & Demir, 2006; Gündüz-Hoşgör & Smits, 2008; World Bank, 2009; Dayıoğlu & Kırdar, 2010; İnce, 2010; Kılıç & Öztürk, 2014; Karaoğlan & Ökten, 2015). Other significant factors emphasize the reasons for low female labor force participation in Turkey are variables chosen from a set of social institutions and cultural norms (Eyüboğlu et al., 2000; Gündüz-Hoşgör & Smits, 2008; Uraz et al., 2010; İlkkaracan, 2012; Göksel, 2013; Güner & Uysal, 2014; Dildar, 2015; Atasoy, 2017; Akyol & Ökten, 2019; Aldan & Öztürk, 2020; Gevrek & Gevrek, 2022). Some other studies investigated the relationship between female labor force participation and the level of economic development, which is known as the U-shaped hypothesis of female labor force participation (Çağatay & Özler, 1995; Tansel, 2001; Tunalı et al., 2021).

There are also many empirical studies analyzing the labor supply responses of married women to their husbands' job losses during the economic crisis periods in Turkey (Başlevent & Onaran, 2003; İzdeş, 2012; Değirmenci & İlkkaracan, 2014; Karaoğlan & Ökten, 2015; Ayhan, 2018).

The importance of this study comes from the inadequacy of empirical evidence directly focusing on the structural changes of the determinants of female labor force participation in Turkey for a long-term period covering between 1988 and 2008. Although many studies consider the reflections of the post-1980 era's economic paradigm and policy changes on the Turkish labor market, empirical studies are rare. The shortage of empirical studies may be attributed to the lack of adequate data sources for that term, but the number of empirical studies employing available data sets is still meager.

Although this study only makes a supply-sided analysis of the labor market due to the lack of publicly available microdata for the firms' employment, the evolution of individual and household characteristics is expected to give necessary signals about the economic and social transformation of society under the transformational circumstances of the post-1980 period.

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

In this section, the main trends of LFP rates are presented with the help of aggregate data drawn from the 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 primary concern of this section is the labor force, it is beneficial to start with the evolution of the total population and the particular working-age population, which constitutes the basis of active labor supply. The non-institutional civilian population increased from around 53 million to 70 million between 1988 and 2009. However, the working-age population (15 years old and above, henceforth 15+) increased from nearly 33 million to around 50 million in these two decades in Turkey. This vast gap (20 million) between the total and working-age population shows that Turkey still has the potential for a young population. This potential includes both opportunities and hazards for the future.

On the one hand, this is because the young population might constitute a dynamic labor supply and lead to more productivity. However, on the other hand, this may cause further youth unemployment and underemployment problems. Therefore, this window of opportunity should not be missed and should be benefited.

However, the total labor force participation rate, which indicates what proportion of this 15+ population participates in the labor force, steadily decreased from 57.5% in 1988 to 47.9% in 2009 (see Table 1 and Figure 1).[19] This decrease means that the economically active population of Turkey has never met with the increasing adult population. The 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 decomposes the LFP rates according to gender, age, and location groups.

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[19] Indeed, total labor force participation rate of Turkey has been continuously declining since 1950s (see Bulutay, 1995). However, its rate of fall has decreased dramatically in the last two decades.

Table 1: Main Labor Market Indicators by Gender (1988-2000-2009)

Selected Years	Total			Male			Female		
	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(1) (%)	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 (2021)

1988 is from the October round of HLFS. (1) Population within the 15-24 age group

Table 2: Main Labor Market Indicators by Location (1988-2000-2009)

Selected Years	Total			Urban			Rural		
	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(1)(%)	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 (2021)

1988 is from the October round of HLFS. (1) Population within the 15-24 age group

Table 3: 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	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 (2021)
*1988 is from the October round of HLFS.

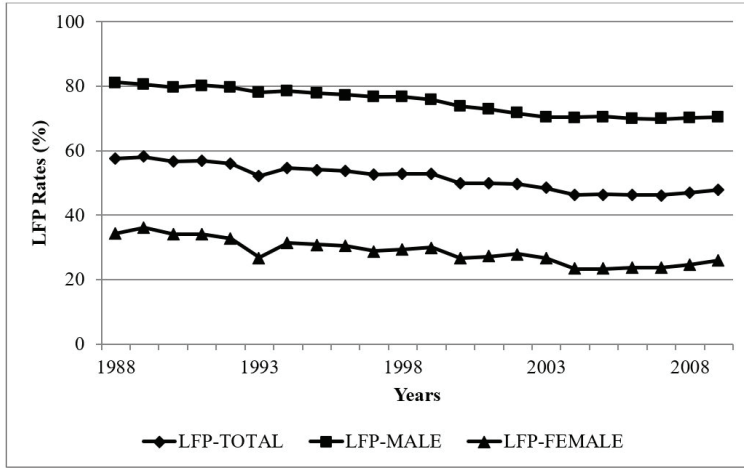**Table 4: Labor Force Participation Rates by Education Level (%) (1988-2000-2008)**

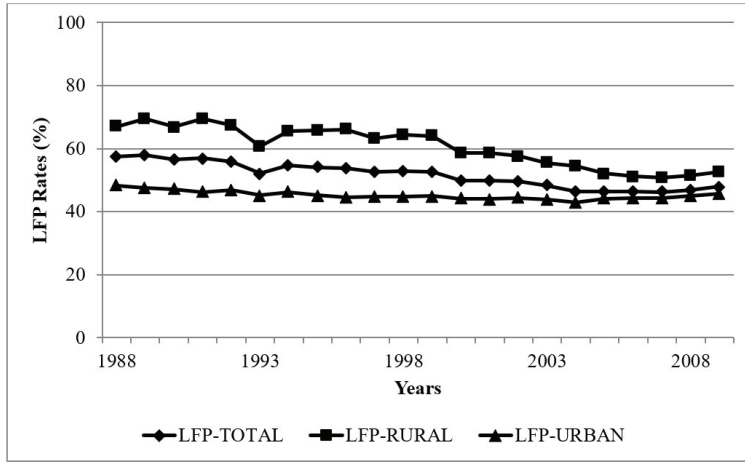|	Total			Rural			Urban		
Selected Years	**1988***	**2000**	**2008**	**1988***	**2000**	**2008**	**1988***	**2000**	**2008**
Illiterate	41,9	31,5	18,1	54,2	43,5	26,8	20,9	11,8	9,7
Literate without Diploma	54,9	37,5	30,2	67,6	51,7	39,8	38,5	22,7	23,4
Primary School (5 Years)	63,9	52,8	47,8	74,9	64,2	59,3	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 (2021)
*1988 is from the October round of HLFS.

The fundamental implication of this total low participation rate is a growing population that is not in the labor force. According to the results of the October round of 1988 HLFS, the population not in the labor force is around 14 million. It is less than half of the working-age population. However, according to the annual results of TurkStat for 2009, this population is around 27 million, which is higher than half of the working-age population (see Table 1). It was one of the well-known characteristics of the Turkish labor market. Another essential characteristic of the Turkish labor market is the difference in female and male labor force participation rates. This difference is so striking and persistent (see Figure 1). It is worse that both groups' total LFP has decreased since 1988. Nevertheless, the decrease in male LFP slowed with the beginning of the new millennium, and female LFP rates are expected to increase in the upcoming years.

**Figure 1. Labor Force Participation Rates by Gender (1988-2009)**

The third important characteristic of the Turkish labor market is the higher rural labor force participation rates than urban ones (see Figure 2). One of the fundamental reasons behind those patterns is the different economic activities and working conditions of rural and urban areas. The dominance of agricultural activities in rural areas has provided the opportunity to participate for whom does not have education or skills. Besides, married women and children have also participated easily in the rural labor force. On the contrary, with urbanization, members of urban households are mostly obliged to make a trade-off between market and non-market works (World Bank, 2009; Verick, 2018). As a result, urban labor markets are challenging for less educated men, especially women. According to the traditional Turkish family structure, males are generally seen as moneymakers, whereas females are seen as homemakers (Dayıoğlu & Başlevent, 2006). However, economic problems altered this distribution of labor supply within households. As a result, women have started working at home or outside the home if possible (Çınar, 1994; Moghadam, 1998, 2005). Most of the time, the reservation wage of women has exceeded the expected market wage. It is primarily because of the high expense of needed care for little children or elder ones in the market (Leibowitz & Klerman, 1995).

Figure 2. Labor Force Participation Rates by Rural/Urban Location (1988-2009)

Although these previous decompositions give a simple 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 in Figure 3 below. It is a 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 evident in rural and urban areas. Moreover, high rural male participation rates continue to converge with urban male LFP rates in the last decade. Another noteworthy point in that figure is the rapidly declining rural female LFP rates. Female LFP rates in urban areas have been slowly increasing in the last decade.

Figure 3. Labor Force Participation Rates by Gender and Location (1988-2009)
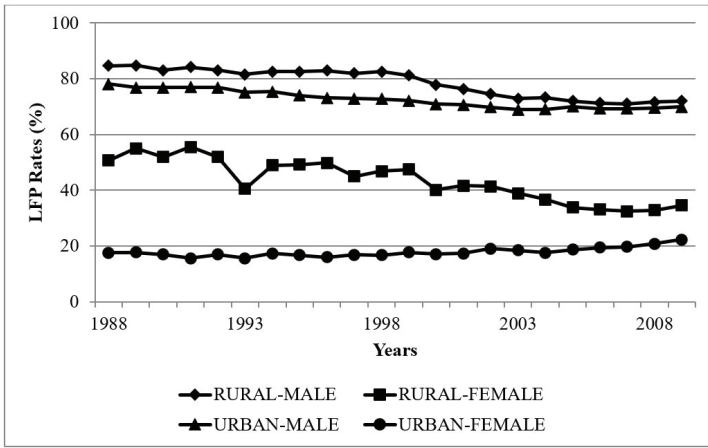
Figure 4. Age-Participation Profiles by Gender (Male-Total) (1988-2000-2008)
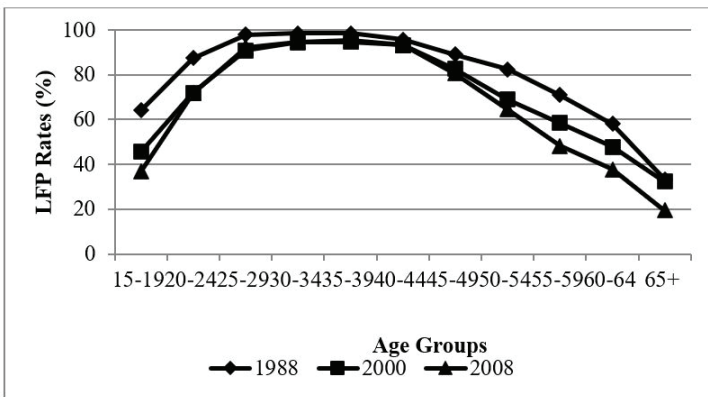
Figure 5. Age-Participation Profiles by Gender (Male-Urban) (1988-2000-2008)
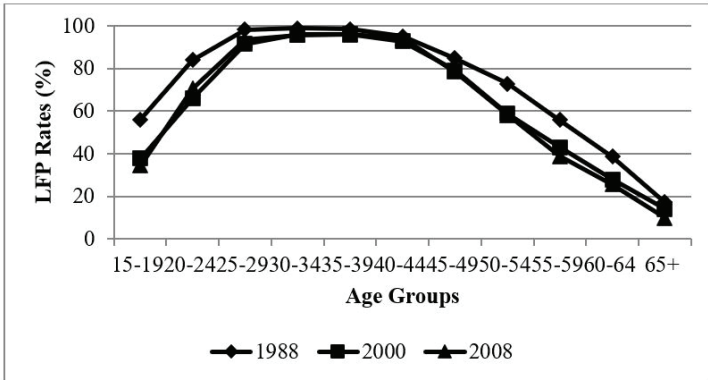
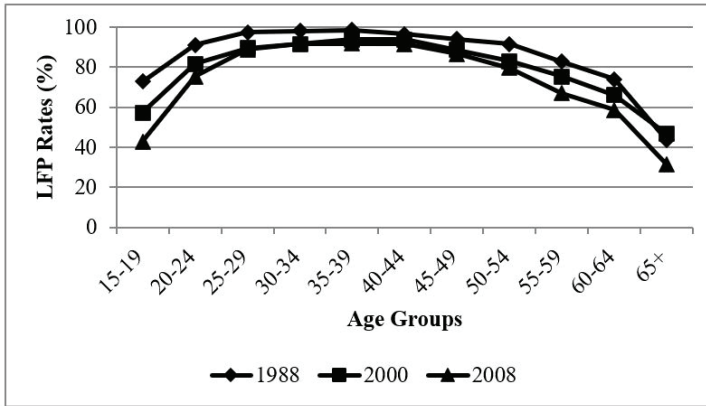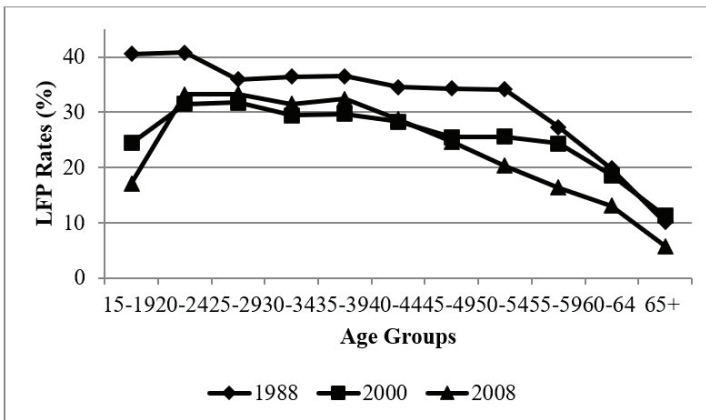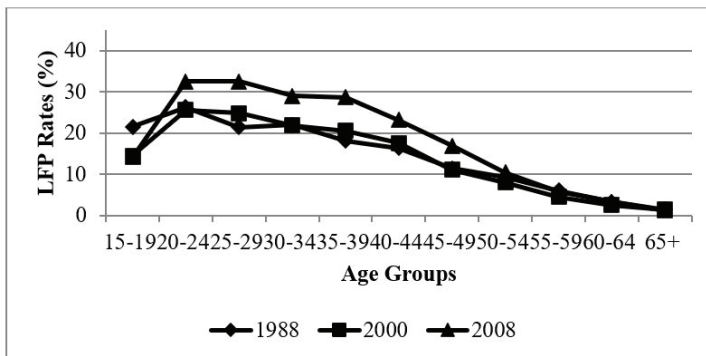**Figure 6. Age-Participation Profiles by Gender (Male-Rural) (1988-2000-2008)**

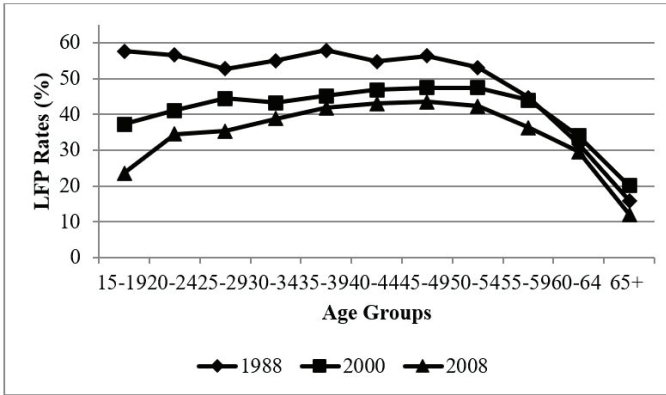**Figure 7. Age-Participation Profiles by Gender (Female-Total) (1988-2000-2008)**

Figure 8. Age-Participation Profiles by Gender (Female-Urban) (1988-2000-2008)

Figure 9. Age-Participation Profiles by Gender (Female-Rural) (1988-2000-2008)

The last but not the least characteristic of the Turkish labor market is the age-participation profile. These profiles also substantially differ for different demographic groups, especially gender. These profiles, in other terms, "life cycles" give us an idea about the participation behavior of individuals at different periods (or age intervals) in their lives. The figures above (Figures 4-9) depict the life cycle of males and females in Turkey for selected years (1988, 2000, and 2008) and different locations. First, in total, and also in urban and rural areas, the life cycles of males are approximately the same. Rural males seem to stay in the labor force longer than urban males. These patterns of males do not differ over time. There is just an overall decrease in the participation rates. Second, it is clear that the age-participation profiles of females differ from males.

Moreover, females' profiles have many difference on the location basis. Although females are living and participating in the labor force in rural areas are staying in the labor force longer than their urban counterparts. It is related to the dominance of agricultural activities in rural. Most of them are participating labor force as unpaid family workers.

Figure 10. Labor Force Participation Rates by Gender and Year (2000-2009)
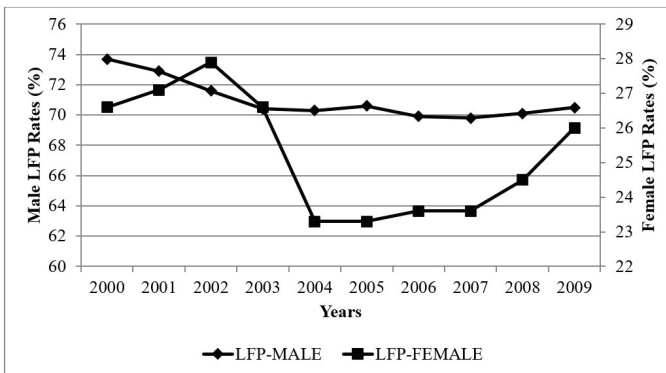
These patterns mentioned so far are some pictures of the salient long-run characteristics of the Turkish labor market. However, the Turkish economy and its markets are sensitive, especially to short-run macroeconomic instabilities. For example, in the 2000s, the Turkish economy experienced two crises, 2001 and 2008. Both of these crises affected the real and financial markets of Turkey. Although the characteristics of these two crises are very different, the typical result of both 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), existed in both of these crises. However, which of these effects dominated the aggregate labor force participation rate is the question mark that should be investigated with an empirical study. Therefore, this study aims to consider these effects in a distinct section empirically. First, the changes in the long-run determinants of LFP are considered in Section 6. The following section presents the data, samples, variables, and methodology used for the remainder of this study.

5. 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 two forward empirical sections.

5.1. Data

In this research study, 1988, 2000, 2001, 2007, and 2008 Household Labor Force Surveys' microdata, 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 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 changed from the 1980s to the 1990s and 2000s. Since data for the years in the 1990s is not available by TurkStat, the best alternative was to use 2000 HLFS data. Some properties of the period of high growth from the 1980s to the 2000s (with financial liberalization) are expected to be observed. The other reason behind the choice of 2000 HLFS data was its comparability with 2007 and 2008 HLFS data sets. 2000 HLFS was conducted with 288,735 individuals living in 74,368 households. Therefore, 2007 and 2008 HLFS data sets were used since they were 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 for using 2007 and 2008 data is to see the effects of the recent economic crisis resulting in high rates of unemployment, which continue

to persist. These surveys were conducted with 481,605 and 481,154 individuals living in 128,036 and 129,166 households.

The operational sample for the empirical analyses is limited to males and females aged between 20 and 54 living in urban areas of Turkey. The significance of the age interval is related to the emphasis given directly to the labor force. Since the ages between 20 and 54 are prime working ages, the probability of participation or participation desire in the labor force of that population aged in this interval is thought to be high in Turkey. It is in line with the purpose of that study, which is to clarify the changes in determinants of LFP for the post-1980 period and to find the dominance of AWE vs. DWE in economic crisis years. The limitation of the sample, which is about the location, is also directly related to one of the most persistent characteristics of the Turkish labor market. Since the rural population frequently worked in the agricultural sector, the probability of being hidden unemployed is so high in rural areas. That is already the reason behind high rural LFP rates. Therefore, the sample used in the analyses includes 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 consisted of 43,046 individuals who are aged between 20 and 54. Nearly 35 percent of that population lives in rural. So the remaining 65 percent, 27,868 individuals, live in urban areas. Furthermore, 55 percent of that population aged between 20 and 54 live in the urban, participating labor force. Besides, 13,482 of this sample are male, and the remaining 14,386 are female. Therefore, 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 in 1988; the same situation holds for the other surveys. 138,586 individuals are aged between 20 and 54 in 2000 HLFS, and most of that population (78.22 percent) resides in urban places. However, labor force participants among the urban population aged between 20 and 54 are not so much, only 53 percent of total adults. The distribution of males and females seems balanced (47.93 percent males vs. 52.07 percent females. The extent of 2001 HLFS is similar to 2000 HLFS; 144,204 individuals live between the ages of 20 and 54.

Again, most 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 the 2007 and 2008 HLFS. Sample drawn from 2007 HLFS data comprises 165,312 individuals in the prime age interval frequently abovementioned and reside in the urban parts of the country. Again, the distribution of participants and gender are so similar to 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 as 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 include marital status, being or not the household head, and the presence of children aged under 15), and lastly, regional characteristics (which include rural vs. urban segregation). The independent variable in all the empirical analyses is 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).

Some extra dependent and independent variables are used in the analyses of AWE vs. DWE. They are namely and shortly like that: *plfp* (presence of participant wife in the household=1, otherwise=0) and *pmu* (presence of the 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.

Table 5: Definitions of Variables

Explanations	Variables	Values
Dependent Variable: Participation/Non-Participation	*lfp*	1/0
Independent Variables: *Individual Characteristics*		
Sex Dummy (Male/Female)	*sex*	1/0
	Age groups	
	age 20-24	1/0
	age 25-29	1/0
	age 30-34	1/0
Age Dummies	*age 35-39*	1/0
	age 40-45	1/0
	age 46-49	1/0
	age 50-54	1/0
	Last graduated educational level	
	Illiterate *(illiterate)*	1/0
	Literate but No Diploma *(literatewithoutdiploma)*	1/0
Education Level Dummies	Primary School *(primarysch)*	1/0
	Secondary School *(secondarysch)*	1/0
	High School *(highsch)*	1/0
	Occupational School *(occuphighsch)*	1/0
	University and above *(univ)*	1/0

Independent Variables: *Household Characteristics*		
Household Head Dummy	*hhhead*	1/0
Marital Status (Married or not)	*married*	1/0
Participant Wife in the Household	*plfp*	1/0
Unemployed Husband in the Household	*pmu*	1/0
Presence of Children (0-14) Dummy	*phhchildren0_14*	1/0
Independent Variables: *Regional Characteristics*		
Region Dummy (Rural/Urban)	*rural*	1/0

5.2 Methodology

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

In logit analysis, it is hypothesized that the following function determines the probability of the occurrence of an event

$$p_i = F(Z_i) = 1/(1 + e^{-Z_i}) \tag{1}$$

where $Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots + \beta_i X_i$. As tends to infinity, e^{-Z} tends to 0, and has a limiting upper bound of 1. As it tends to minus infinity, e^{-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 Z on the probability, which will be denoted *f(Z)*, is given by the derivative of this function with respect to Z:

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

The model is fitted by maximum likelihood estimation, using 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:

$$Pr(y = 1) + e^{-Z} Pr(y = 1) = 1 \tag{3}$$

$$e^{-Z} Pr(y = 1) = 1 - Pr(y = 1) \tag{4}$$

$$e^{-Z} = (1 - Pr(y = 1)) / (Pr(y = 1)) \tag{5}$$

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

$$-Z = log \, [(1 - Pr(y = 1)) / (Pr(y = 1))] \tag{7}$$

$$-Z = log \, (1 - Pr(y = 1)) - log \, (Pr(y = 1)) \tag{8}$$

$$Z = log \, (Pr(y = 1)) - log \, (Pr(y = 0)) \tag{9}$$

Therefore;

$$log \, [Pr(y = 1) \, / \, Pr(y = 0)] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots + \beta_i X_i \tag{10}$$

After these manipulations, we get a relation similar to linear models. However, each change in explanatory variables corresponds to a change not in the directly dependent variable but in log odds. Here, the odds are equal to $Pr(y = 1)/Pr(y = 0)$. 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. However, they can be interpreted as a one-point increase (decrease) in explanatory variable increases (decreases) of the event's occurrence 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 a non-participant and 1 when a person is a participant. The estimates of *lfp*, which are determined by estimating all explanatory variables within a model, take values ranging from 0 to 1.

6. Changes in the Determinants of Labor Force Participation

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

$$LFP = f(rural, sex, age, education \, level, hhhead, region, marital \, status, child) \tag{11}$$

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

1. Prime working age population (20-54) living in urban in 1988 and 2007 HLFS

2. Urban males aged between 20 and 54 in 1988 HLFS

3. Urban females aged between 20 and 54 1988 HLFS

4. Urban males aged between 20 and 54 in 2007 HLFS

5. Urban females aged between 20 and 54 in 2007 HLFS

Given these samples, Table 6 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, their signs 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 increased the possibility of participating in the labor market. For the age variables and education level variables, this positive relation continues (Kasnakoğlu & Dayıoğlu, 1996; Tunalı, 1997; Tansel, 1994; Dayıoğlu, 2000). Indeed, the coefficients in the first two columns have the same signs. The 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.[20] If we split the sample into males and females for each year, we can interpret the determinants considering gender. In both years, all the coefficients of males are signed positively; however, in females, there is a coefficient that is not statistically significant in 1988, but it is statistically significant and negatively signed in 2007. This variable is *literate without diploma*. Another difference seems to be in the *hhhead* variable. It was not statistically significant in 1988 and significant in 2007. This change tells us something about the role of females in participating in 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, the household characteristics of females are approximately similar.

To sum up, there are no radical changes in the determinants of participation of the prime-age working population (20-54) living in urban areas. Still, gender matters for participation, and being male is a dominant factor in participation. Age-participation profiles begin with low participation at youth ages, then increase and decrease. For all the estimations, we may interpret similarly. In line with the previous empirical evidence (Kasnakoğlu & Dayıoğlu, 1997; Tansel, 1994), education also protects its hierarchical structure in affecting participation; graduating from higher education levels increases the possibility of participation than being graduate from lower levels. Maybe the most crucial thing in this table is the persistence of signs for both males and females.

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[20] For similar findings, see Kasnakoğlu & Dayıoğlu, 1997; Gündüz-Hoşgör & Smits, 2008.

Table 6: Logistic Regression Results for Prime Working Age Population (1988-2007)

Variables	(1) lfp-1988-T	(1) lfp-2007-T	(2) lfp-1988-M	(3) lfp-1988-F	(4) lfp-2007-M	(5) lfp-2007-F
sex	3.256***	2.560***	-	-	-	-
	(0.0552)	(0.0184)	-	-	-	-
age20_24	1.608***	1.728***	2.699***	0.777***	2.269***	0.998***
	(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

a) Standard errors in parentheses.; b) *** p<0.01, ** p<0.05, * p<0.1

Table 7 summarizes the marginal effects of the logit models estimated above for the whole samples of 1988 and 2007. These marginal effects of given covariates are obtained when the other independent variables have their values at their means. Accordingly, being a male has a probability of participating labor market that is about 40% higher than being a

female. Similarly, individuals residing in rural areas have a higher probability of participation than urban individuals, but it decreases over time. The inverted U-shaped pattern for the age profiles remains similar in the long run. For an individual with average values of independent variables, attainment of higher education levels and explicitly having a university degree increases the possibility of participation within time. Household characteristics (being married, being a household head, and having children aged below 15) have similar signs, but the possibilities for an average individual differ within two decades. While the negative role of marriage increases, the negative effect of having children aged below 15 weakens. The importance of being a household head in increasing the probability of participation also decreases during this period.

Table 7: Marginal Effects of Logit Models (1988 and 2007)

	1988-mfx	2007-mfx
Pr(lfp)	55.4%	47.9%
sex	0.4252	0.4567
	(0,0053)***	(0,0023)***
rural	0.3770	0.2445
	(0,0044)***	(0,0023)***
age20_24	0.4906	0.5211
	(0,0047)***	(0,0024)***
age25_29	0.4998	0.5568
	(0,0044)***	(0,002)***
age30_34	0.4958	0.5570
	(0,0041)***	(0,0019)***
age35_39	0.4864	0.5527
	(0,004)***	(0,0018)***
age40_44	0.4615	0.5459
	(0,004)***	(0,0019)***
age45_49	0.4368	0.4946
	(0,0045)***	(0,0023)***
literatewithoutdip.	0.1520	0.1957
	(0,0084)***	(0,0043)***
primarysch	0.2583	0.1677
	(0,0054)***	(0,0032)***
secondarysch	0.2912	0.3083
	(0,0072)***	(0,0033)***
highsch	0.3578	0.2499
	(0,0057)***	(0,0038)***
occuphighsch	0.3567	0.3310
	(0,0072)***	(0,0036)***

univ	0.4104	0.4355
	(0,0048)***	(0,0026)***
married	-0.0425	-0.0812
	(0,0075)***	(0,0032)***
hhhead	0.3242	0.1892
	(0,0072)***	(0,0034)***
phhchildren0_14	-0.1120	-0.0402
	(0,0057)***	(0,0026)***

a) Standard errors in parentheses.; b) *** p<0.01, ** p<0.05, * p<0.1

7. Added versus Discouraged Worker Effect in Turkey

This last section for empirical investigation is devoted to the analyses of AWE and DWE. Since the importance of looking at micro evidence from the households in examining the added versus discouraged worker hypotheses were emphasized in the relevant literature (Başlevent & Onaran, 2003), this study also employs the microdata of the years 2000, 2001, 2007, and 2008 HLFS. The model estimated in this section is as follows:

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

$$X = f(age, education\ level, child) \tag{13}$$

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, the prime working age population (20-54) living in urban in 2000-2001 and 2007-2008 HLFS is the sample estimated to reveal the dominance of the effects (AWE vs. DWE) for the periods of crises (2000-2001 and 2007-2008). The results of this estimation are presented in Table 8. Log odds and marginal effects are presented together.

According to the results, there seems to be a significant added worker effect for every year estimated. It is because the coefficients of unemployed husbands 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 a participant for married women increases over time. When we control this transition with other independent variables, which reflect individual and household characteristics, it seems that the participation probability of married women increases at their prime working ages. It probably means they have children and must smooth the household budget deficit when the husband becomes unemployed. When we compare the marginal effects for two distinct periods (2000-2001 & 2007-2008), the marginal effects for the probability of participation are higher in 2007-2008 than in

2000-2001. It implies that the AWE is more robust in the global crisis than in the 2001 crisis in Turkey. This result is not surprising when the labor market effects of the global crisis in Turkey are considered.

Table 8: Log Odds and Marginal Effects for AWE and DWE (2000-2001 & 2007-2008)

VARIABLES	2008 pflfp	2008 mfx	2007 pflfp	2007 mfx	2001 pflfp	2001 mfx	2000 pflfp	2000 mfx
age25_29	0.764***	0.0955***	0.874***	0.102***	0.894***	0.0984***	0.925***	0.100***
	(0.0344)	(0.00515)	(0.0366)	(0.00526)	(0.0503)	(0.00688)	(0.0515)	(0.00696)
age30_34	0.941***	0.120***	1.060***	0.126***	1.067***	0.120***	1.051***	0.114***
	(0.0335)	(0.00519)	(0.0356)	(0.00528)	(0.0492)	(0.00690)	(0.0506)	(0.00690)
age35_39	1.009***	0.130***	1.149***	0.139***	1.124***	0.126***	1.132***	0.124***
	(0.0332)	(0.00519)	(0.0353)	(0.00537)	(0.0484)	(0.00678)	(0.0498)	(0.00681)
age40_44	0.919***	0.116***	1.014***	0.118***	0.984***	0.108***	0.918***	0.0960***
	(0.0320)	(0.00482)	(0.0340)	(0.00484)	(0.0472)	(0.00637)	(0.0488)	(0.00623)
age45_49	0.542***	0.0627***	0.621***	0.0661***	0.485***	0.0469***	0.457***	0.0427***
	(0.0321)	(0.00419)	(0.0343)	(0.00422)	(0.0484)	(0.00529)	(0.0504)	(0.00530)
literatewithoutdiploma	-0.147**	-0.0141***	-0.148**	-0.0127**	0.300***	0.0285***	0.548***	0.0555***
	(0.0573)	(0.00520)	(0.0614)	(0.00496)	(0.0888)	(0.00937)	(0.0886)	(0.0108)
primarysch	0.170***	0.0171***	0.210***	0.0189***	0.465***	0.0389***	0.500***	0.0405***
	(0.0330)	(0.00332)	(0.0348)	(0.00312)	(0.0510)	(0.00419)	(0.0546)	(0.00435)
secondarysch	0.529***	0.0629***	0.570***	0.0619***	0.719***	0.0772***	0.938***	0.106***
	(0.0394)	(0.00542)	(0.0416)	(0.00531)	(0.0600)	(0.00789)	(0.0626)	(0.00903)
highsch	0.902***	0.121***	0.915***	0.111***	1.268***	0.161***	1.481***	0.194***
	(0.0384)	(0.00644)	(0.0406)	(0.00630)	(0.0561)	(0.00960)	(0.0583)	(0.0105)
occuphighsch	1.088***	0.154***	1.024***	0.130***	1.506***	0.213***	1.757***	0.263***
	(0.0384)	(0.00704)	(0.0409)	(0.00675)	(0.0598)	(0.0119)	(0.0636)	(0.0136)
univ	2.038***	0.353***	2.154***	0.357***	2.635***	0.459***	2.806***	0.492***
	(0.0350)	(0.00793)	(0.0368)	(0.00828)	(0.0533)	(0.0120)	(0.0566)	(0.0125)
phhchildren0_14	-0.206***	-0.0213***	-0.242***	-0.0226***	-0.128***	-0.0110***	-0.108***	-0.00902***
	(0.0187)	(0.00199)	(0.0197)	(0.00190)	(0.0259)	(0.00227)	(0.0264)	(0.00224)
pmu	**0.185*** **	**0.0196*** **	**0.204*** **	**0.0195*** **	**0.189*** **	**0.0168*** **	**0.160*** **	**0.0138*** **
	(0.0229)	**(0.00255)**	**(0.0246)**	**(0.00248)**	**(0.0309)**	**(0.00290)**	**(0.0342)**	**(0.00308)**

a) Standard errors in parentheses.; b) *** p<0.01, ** p<0.05, * p<0.1

8. Conclusion

This research study aims to analyze the post-1980 period of the Turkish labor market. Since the neoliberal policies after 1980 dominated both political and economic spheres, determinants of many economic variables have altered in the two decades between 1988 and 2008. Labor markets are not independent of other markets in the economy. It is a 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. The participation behavior of individuals has altered during this period, particularly of educated urban women. Although individual and household characteristics maintain their importance, the highly volatile structure of the Turkish economy in the short run starts to be another significant determinant in the analyses of labor force participation. The boom-and-bust cycles of the Turkish economy have started to profoundly affect the life cycles of individuals in the labor market. Regarding these facts, this study shows that observed behavioral changes reflect on the microdata collected by TurkStat and in the estimations conducted like in that study. Therefore, the main result of that study, the existence and the dominance of added worker effect over the discouraged worker effect, is a clear sign and the conclusion of all these arguments mentioned above.

Similar to other empirical studies, this study has some limitations with the data and the empirical work done. Since the microdata sets of TurkStat are cross-sectional, it is impossible to track the same individuals over the years. While we do not have panel data, recent studies in the literature provide synthetic panels and some methodological solutions. Therefore, for further studies, generating synthetic panel data using TurkStat microdata may provide to get better estimates for the determinants of labor supply. Another suggestion for further studies is to focus on the households as the research unit instead of individuals. Since the decision-making process of married couples in Turkey is strongly related to intrahousehold power relationships, particularly within more extensive family settings, omitting the intrahousehold bargaining dynamics may result in biased estimates.

Along with the other problems, the persistent high gender gap in labor force participation signals hardcore structural problems in the Turkish labor market. Following the recent demographic trends in Turkey, policymakers should consider the rapidly aging population structure and generate more comprehensive long-term elderly care policies integrating the concerns about the sustainability of family-based care. While doing that, changing household/family formations and intergenerational economic relationships should be the main focus of policymakers and resulting policies.

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