Why Do Turkish Women Become Discouraged: Evidence from HLFS

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Türkiye'de Ümidi Kırık Kadın İşgücü: HİA'dan Bulgular

Abstract

This study investigates the factors contributing to women's discouragement in the Turkish labour market using cross-sectional data from the Household Labour Force Survey (HLFS) for 2004-2023. The results show that lower educational attainment, marriage, living in an underdeveloped region, and household factors like having preschool-aged children or elderly/disabled dependents all increase the likelihood of discouragement. The reduction in the probability of discouragement for the 25-34 age group is -0.721 for women with low education, compared with -0.180 for highly educated women in 2023, emphasising the protective effect of higher education against discouragement. Policies that address structural, cultural, and economic barriers are necessary.

Keywords : Discouraged Women, Female Labour Force Participation, Unemployment, Türkiye.

JEL Classification Codes : J01, J16, J21, J64.

Öz

Çalışma, Hanehalkı İşgücü Anketi'nin (HİA) 2004-2023 yılları arasındaki kesitsel verilerini kullanarak, Türk işgücü piyasasında kadınların işgücüne katılımını engelleyen faktörleri incelemektedir. Düşük eğitim seviyesi, evlilik, kalkınmamış bir bölgede yaşama, hanede çocuk, yaşlı, veya engelli gibi bakıma muhtaç bireylerin bulunması kadınların gücenmiş işgücüne dahil olma olasılığını artırmaktadır. 2023 yılı için, 25-34 yaş grubunda, gücenmiş işgücüne dahil olma olasılığının 15-24 yaş grubuna göre düşük eğitimli kadınlar için %72.1, yüksek eğitimli kadınlar içinse %18 daha düşük olduğu bulunmuştur. Bu durum yüksek eğitimin gücenmiş işgücüne dahil olma olasılığını engelleyici bir etki sağladığını ortaya koymaktadır. Yapısal, kültürel ve ekonomik engelleri ele alan politikalara ihtiyaç vardır.

Anahtar Sözcükler : Gücenmiş Kadın İşgücü, Kadın İşgücüne Katılım, İşsizlik, Türkiye.

1. Introduction

Discouraged workers are individuals who, under ideal conditions, would be willing and eager to work; however, they are not actively seeking employment at present due to a lack of suitable job opportunities or a history of unsuccessful attempts to secure desirable work. According to the International Labour Organisation (ILO, 2015), unemployed individuals are those who are without work and are either actively seeking employment or waiting to be recalled after being laid off. Because discouraged workers do not actively search for work, they are not classified as unemployed and are therefore excluded from the labour force. As a result, discouraged workers are excluded from the calculation of a country's unemployment rate.

The initial idea of the 'discouraged worker effect' suggests a group of secondary workers whose labour market participation varies with economic cycles. These individuals seek work when opportunities are plentiful, but cease searching during prolonged recessions. As a result, during economic downturns, when the expected return to work falls below the reservation wage, discouraged workers tend to cease active job hunting, anticipating poor labour market conditions.

Discouraged workers are generally excluded from the labour force participation rate, as they are not classified as active job seekers. However, they may still be considered part of the broader category of underemployed or unemployed individuals, despite not being officially recognised as unemployed. Consequently, they can be regarded as part of the hidden unemployment population. While the unemployment rate is the most widely used indicator, it offers only a limited view of the jobless population, as it includes only those who are not employed, readily available for work, and actively seeking employment. Individuals who are not actively seeking employment are categorised as inactive. This subset of inactivity comprises passive job seekers, or individuals marginally attached to the labour force, including discouraged workers.

The empirical literature that distinguishes between the inactive and unemployed first notes that the transition probabilities to employment differ between these two groups and, second, examines the extent to which passive job seekers resemble the unemployed. While the results are mixed, the general finding is that marginally attached workers fall somewhere between the unemployed and the inactive. In other words, their chances of transitioning to employment are higher than those of other inactive individuals but lower than those of the unemployed. Therefore, the issue of discouraged workers is significant. One reason is that during periods of economic expansion, discouraged workers constitute a hidden source of labour, as they are more likely to re-enter the workforce when the likelihood of obtaining a suitable job increases. Conversely, during economic recessions, potential workers withdraw from the labour market, thereby reducing the observed unemployment.

Traditionally, the discouraged worker effect has been associated with economic recessions within the business cycle, particularly affecting women or secondary earners in

households. (Ehrenberg & Smith, 1988; Benati, 2001). Women living in regions with high unemployment rates are less likely to enter the labour market or actively seek employment compared to those in areas with lower unemployment rates. (Bičáková, 2016; Dagsvik et al., 2013; Martín-Román et al., 2020; Martín-Román et al., 2023). Analysing the response of female labour supply to both idiosyncratic and aggregate shocks thus has important implications for gender equality in the labour market. The female labour force participation rate, as an indicator of improved rights and better economic conditions for women, can play a key role in achieving these broader development goals. (Klasen, 2002; Mourao, 2013).

Although the concept of the discouraged worker has long existed, the literature primarily examines how individuals move from unemployment and discouragement into employment, primarily in developed countries. Economic theory indicates that changes in the unemployment rate can affect the labour force participation rate in two main ways. During economic slowdowns, when unemployment rises, the decline in labour force participation is linked to the discouraged worker effect (DWE). On the other hand, the rise in labour force participation is connected to the added worker effect (AWE). Additionally, most research examines factors that influence labour force participation rates, particularly the existence and comparison of the AWE and DWE (e.g., Edwards & Roberts, 1994; Borjas, 1996; Ehrenberg & Smith, 2000; Cerruti, 2000; Lim, 2000; Maridueña-Larrea & Martín-Román, 2024a). Surprisingly, there is a scarcity of microdata-based studies that examine who becomes discouraged and why, particularly in developing countries.

Limiting the 'discouraged worker effect' solely to economic cycles is inadequate, as research has not found consistent evidence of a significant pro- or counter-cyclical pattern in labour force participation. Beyond economic cycles, numerous factors influence the job search process, including personal and household characteristics, lack of job opportunities in their field, search costs, expected wage offers, discriminatory practices in the labour market (e.g., skills mismatch, age, or gender discrimination), social norms, the chance of receiving alternative job offers, unemployment benefits, safety concerns in both public spaces and workplaces, or a high local level of underemployment.

Discouragement varies among different demographic groups, including age, race, gender, and marital status. Gender disparities in discouragement are evident in the self-selection process into the labour force. Studies show that women's labour force participation is considerably lower than men's, with women being less likely to seek employment actively. Although female labour force participation has risen markedly in recent decades, many households remain traditional, with women still shouldering the majority of household and childcare responsibilities. The presence of older women to assist with domestic duties, family income, and the process of urbanisation are also key factors affecting a woman's decision to enter the labour market. Additional limitations include lower pay for comparable work and the predominance of men in organisational hierarchies, exemplified by the "glass ceiling". The radical perspective argues that men, as a social group, dominate women, describing this system of dominance and subordination as "patriarchy". These constraints often lead women to prefer part-time employment, as it enables them to balance domestic

duties with paid work. Women are also more constrained by spatial factors than men. Research indicates that men and women differ in their tolerance for commuting, resulting in different job-search areas: men are generally willing to endure longer commuting times than women. (Madden, 1981; Gordon et al., 1989; Johnston-Anumonwo, 1992; Martín-Román et al., 2020; Maridueña-Larrea & Martín-Román, 2024b). Women with children, in particular, are especially averse to long commutes. Compared with men, women are more likely to face significant daily spatial and temporal constraints due to domestic responsibilities.

Although discouraged workers are likely to be present in any economy, their prevalence tends to be higher in developing countries with slack labour markets. In such economies, where employment agencies play a limited role and informal employment is widespread, job search intensity is often more subjective. Many job seekers rely on traditional, non-institutional methods, such as word of mouth and social networks consisting of family and friends. For discouraged workers in particular, it isn't easy to assess the intensity and methods of their job search, making it challenging to determine how actively they are seeking employment. As a result, compared to labour markets in more developed economies, the distinction between an unemployed individual and a discouraged worker becomes less clear.

In 2023, Türkiye's female labour force participation (LFP) rate was 40.7%, while the average LFP rate for OECD countries was 66.6%. Between 2000 and 2012, LFP rates for urban women remained relatively stable, whereas rates for rural women declined. This decline in rural women's LFP may be linked to an ageing population, as younger individuals migrated to cities while older people remained in rural areas. However, because the mass migration from rural to urban areas in Türkiye did not reduce LFP rates among men with similar education and experience, the traditional role of women as primary caregivers may be a key factor in explaining the lower labour force participation among women. Nonetheless, data shows a consistent rise in women's labour force participation from 33.6% in 2014 to 40.9% in 2023. The female labour force participation rate is generally low across all regions due to cultural norms, religious tensions, and high fertility rates. While Southeastern Anatolia has the lowest female LFP rate—due to cultural differences and social status of women—the Black Sea region has the highest, despite both areas predominantly engaging in agriculture (Karaoglan & Okten, 2015).

Most industries in Türkiye are concentrated in the western part of the country. The eastern region, on the other hand, lacks a well-developed transportation infrastructure and faces security challenges, particularly due to terrorism in recent years. As a result, the western region provides more job opportunities. Due to regional, cultural, and geographical differences, notable disparities exist across the country. Additionally, the overall education level of the Turkish workforce remains relatively low. (Özden, 2017) Approximately 27 million women aged 15-64 in Türkiye have completed an average of 8 years of formal education, a significant factor affecting labour force participation. This educational deficit also contributes to a considerable number of individuals becoming discouraged.

Discouragement appears to be a significant issue in Türkiye. Over the past decade, alongside persistently high unemployment rates, the number of discouraged workers has remained elevated, indicating a structural problem in the labour market. The prevalence of discouraged workers in Türkiye is among the highest within OECD countries. Additionally, the ratio of women to men among discouraged workers is particularly high compared to other OECD nations, where discouragement is often linked to gender-related factors. However, in Türkiye, discouragement has remained consistently high over the last ten years, signalling a structural feature of the labour market beyond cyclical and gender factors. According to the Household Labour Force Surveys (HLFS) from the Turkish Statistical Institute (TURKSTAT), the proportion of discouraged women in 2023 is 60% of the working-age population. Another notable aspect of discouragement in Türkiye is the significant regional disparities. These disparities become even more pronounced when examining transitions from unemployment to discouragement. It is especially striking that regions with low rates of transition from unemployment to employment tend to experience higher rates of transition from unemployment to discouragement. (Akarçay-Gürbüz et al., 2014).

A concerning aspect of Türkiye's female labour market is the persistently low and stagnant labour force participation rate among women. Despite increased educational enrolment of women, research on this issue has identified a range of complex and interconnected factors, including rising household incomes, domestic constraints, sociocultural norms, and limited job opportunities, as potential explanations for this ongoing trend. (e.g., Karaoglan, 2009; Ilkkaracan, 2012; Akarçay-Gürbüz et al., 2014; Karaoglan & Okten, 2015). Although unemployment has become a more prominent issue, discouragement remains marginalised in policymakers' agendas. Research in Turkish literature, similar to studies conducted in developed countries, mainly focuses on the relative importance of the AWE and DWE, for example, responses to cyclical employment fluctuations. However, factors that discourage women from joining the labour force have not been extensively examined in this literature. This study aims to address this gap by investigating how individual and household characteristics specifically contribute to women's discouragement in Türkiye.

This study aims to empirically examine the factors that contribute to women's discouragement in the Turkish labour market, focusing on both individual and household characteristics. This issue has become increasingly important amid the country's persistently high unemployment rate. To the best of our knowledge, this is the first study to explore the impact of individual-specific factors, such as education level, age, and marital status, as well as household-specific factors, including the number of employed household members, preschool-age children, elderly individuals, and disabled persons, on the likelihood of Turkish women becoming discouraged from participating in the labour force. This phenomenon has not been previously studied in Türkiye. The most similar study to ours is Akarçay-Gürbüz et al. (2014), which investigates how individual, household, and local labour market indicators influence worker discouragement, using cross-sectional microdata from the Household Labour Force Survey (HLFS). However, their primary focus is on how

these factors affect the transition to discouragement. Unlike their study, which covers only six years, our analysis is based on a 20-year sample. Additionally, our regressions are exclusively estimated for females, whereas their study uses a pooled sample to examine the determinants of discouragement.

This study makes several contributions to the current understanding of female labour in Türkiye. Firstly, it examines the characteristics of discouraged women in the Turkish labour market. Secondly, it provides empirical evidence on the influence of socioeconomic and household-specific factors on the likelihood that women experience discouragement in their labour force participation. Türkiye provides an insightful context for this analysis, given that traditional values often cast women primarily as providers of domestic labour, relegating them to secondary roles in income generation. In the absence of reliable survey data on discouraged women in Türkiye, our findings provide valuable insights. These insights are expected to have important policy implications for the country, which faces significant challenges related to high unemployment and low labour force participation.

HLFS is Türkiye's most comprehensive source of individual-level labour market data, providing valuable insights into employment trends. Importantly, it is the only dataset that includes information on discouraged workers. Using detailed microdata for cross-sectional analysis allows for a thorough understanding of individual responses to changes in labour market conditions. To investigate how personal and household characteristics influence discouragement in the labour market, a simple linear probit model is employed, with discouragement as the dependent variable. The explanatory variables include age group, educational attainment, marital status, the number of elderly individuals, disabled persons, preschool-aged children, and employed household members. The analysis utilises twenty years of cross-sectional data (2004-2023) for women aged 15 to 64. To enhance the study, probit regression is first performed on the pooled sample, and then separately for the three education categories: low, medium, and high.

The study's findings reveal that women with lower levels of education, particularly those in younger and older age groups, are more prone to discouragement. While education provides some protection against discouragement, highly educated women still face obstacles, including mismatches in skills and limited job opportunities in specialised fields. Factors such as marital status, caregiving responsibilities, the number of employed individuals in the household, and region also influence the likelihood of discouragement. Temporal trends indicate gradual improvements in discouragement rates across educational and age groups, reflecting socioeconomic progress and policy efforts. The persistent gaps highlight the need for comprehensive strategies that address the complex nature of discouragement. Expanding educational access, especially for disadvantaged women, is critical to closing the skills gap and increasing workforce participation. At the same time, providing targeted support for working mothers—such as affordable childcare and flexible work arrangements—can alleviate caregiving responsibilities and encourage greater labour market participation. Reducing regional disparities through infrastructure development and job creation in underdeveloped areas can also help lower discouragement, particularly in

rural regions. Additionally, efforts to address skill mismatches and promote gender equality in the workplace are essential.

The rest of the paper is organised as follows. Section 2 reviews the literature. Section 3 describes the data, Section 4 outlines the methodology, and Section 5 presents the empirical results of the analysis. Finally, Section 6 discusses the implications and offers some final remarks.

2. Literature Review

The cyclical patterns of labour force participation have been extensively examined in academic literature. However, empirical results from subsequent studies concerning the prevalence and even the existence of these effects have been inconsistent. Flaim (1973) notes cyclical variations within the unemployed population, supporting the positive link between worker discouragement and unemployment. Borjas (1996) contends that strong empirical evidence backs the dominance of the discouraged worker effect. Blundell et al. (1998) introduce a model that incorporates discouraged workers alongside unemployment, highlighting how business cycle fluctuations influence expected market wages, which in turn affect both unemployment and discouragement rates. Ehrenberg and Smith (2000) observe that the added worker effect has waned recently as more women are either regularly employed or actively participate in the labour force. Additionally, the availability of unemployment insurance benefits has incentivised individuals to remain outside the labour force. Darby et al. (2001) investigate the response of labour force participation to economic cycles in France, Japan, Sweden, and the United States, revealing that the discouraged worker effect is widespread but primarily affects women, especially older women. Benati (2001) provides evidence of the discouraged worker effect in both the overall population and various age-sex subgroups in the United States. Van Ham et al. (2001) studied the process of discouragement in the Netherlands using labour force survey data, emphasising the role of challenging labour market conditions, gender disparities, and individual qualifications in fostering discouragement among workers. Wasmer (2009) analyses the causal links between labour force participation and unemployment across European nations and the U.S. O'Brien (2011) notes that workers who were previously marginally attached are those whose participation is highly sensitive to cyclical fluctuations, making them particularly prone to becoming discouraged workers. DeLoach and Kurt (2013) attribute this to high unemployment during economic downturns, which reduces the chance of securing employment and therefore increases the number of discouraged workers. Tansel and Ozdemir (2018) provide evidence of the added-worker effect among men and the discouraged-worker effect among women in Canada, and further explore potential explanations for this apparent contradiction. Ramos-Veloza et al. (2021) suggest that verifying a long-term relationship between unemployment and labour force participation could enable the investigation of whether fluctuations in unemployment rates trigger an added or discouraged worker effect in Latin American economies. Martín-Román (2022) states that the added worker hypothesis holds when the relationship between the labour force participation rate and the unemployment rate is positive. In contrast, the discouraged worker

hypothesis is supported by a negative relationship. Zemlianukhina and Zemlianukhina (2023) examine the causes and effects of discouragement in Russia, analysing its impact on individuals and society at large.

Studies using data from the United States (Parsons, 1991; Keith & McWilliams, 1999) and the United Kingdom (van Ophem, 1991) provide evidence that women are less likely than men to engage in an active job search. Women are more constrained in terms of geographical mobility than men (Hanson & Pratt, 1988), suggesting that gender disparities in job search behaviour may, in part, be attributed to differences in the discouraged worker effect between the sexes. Research indicates that men and women exhibit differing levels of tolerance for commuting; men are generally willing to endure longer commuting times than women (Johnston-Anumonwo, 1992). Furthermore, women with children are particularly averse to long commutes (Rouwendal, 1999). Compared with men, women are more likely to face significant daily time and space constraints due to domestic responsibilities (Hanson & Pratt, 1991). Bradbury and Katz (2005) investigate the decline in female labour force participation since 2000, identifying a particularly pronounced decrease among highly educated women with young children. Their study also reveals that a husband's earnings play a significant role in determining whether women participate in the labour force. Fallick and Pingle (2006) compare labour force participation rates (LFPRs) for females and males across age groups in the United States, revealing that participation tends to decline after age 50. The concept of the complementary leisure effect (or shared leisure effect, in which individuals may enjoy leisure more in the company of their spouse) discussed in the literature may be relevant in this context (Michaud & Vermeulen, 2011; Pérez et al., 2020). The decomposition by Hotchkiss (2009) shows that low labour force participation rates among women, along with the decline in the proportion of working-age men, contribute to these trends. Dagsvik et al. (2013) develop an empirical model to estimate the labour force participation decisions of married and cohabiting women in Norway from 1988 to 2008, indicating that the discouraged worker effect is substantial. Mondal et al. (2023) demonstrate that, in India, as the number of employed individuals in a household increases, women in that household are more likely to enter the labour force. Deeksha and Sourabh (2021) reveal that the wage gap discourages women from entering the labour market, while the prevalence of underemployment, characterised by overqualification for their occupations, prevents them from seeking better job opportunities by reducing their efforts to search for jobs while employed in urban India.

In Türkiye, earlier research on this topic includes works by Tansel (2002) and Başlevent and Onaran (2003). Using Population Census data from 1980, 1985, and 1990, Tansel (2002) examines how the unemployment rate and gross domestic product (GDP) per capita affect women's overall labour force participation rates. Başlevent and Onaran (2003) utilise data from the HLFS for 1988 and 1994 to analyse the labour market outcomes of married couples, aiming to identify whether the added worker effect or the discouraged worker effect is more dominant in urban Turkish families. Selim (2006) investigates the factors affecting women's labour force participation in both rural and urban areas, using the 1999 HLFS data. She finds that education level and the number of children are the most

significant variables influencing married women's labour market participation. Taşçı and Darıcı (2009) examine gender-based determinants of labour force participation using probit and logit models and find that women are generally less likely than men to participate in the labour force. Karaoglan (2009) examines how socioeconomic factors affect the likelihood that individuals without regular employment become discouraged, identifying key determinants, including gender, age, marital status, education, prior work experience, and residence in urban or rural areas. The research also assesses the dominance of the AWE in Türkiye, concluding that it substantially exceeds that of the DWE. Dayıoğlu and Kırdar (2010) find that, although higher levels of education positively affect both genders, this effect is powerful among women. They further highlight that, while an increase in household children tends to encourage men to join the labour force, it discourages women from entering or remaining in employment. Using panel data from the Survey on Income and Living Conditions (SILC), Tansel and Kan (2012) found that among individuals who were unemployed in 2006, the likelihood of transitioning into inactivity was 23.8%. Arguably, a considerable part of these transitions into inactivity was due to discouraged workers. Akarçay-Gürbüz et al. (2014) aim to explore factors influencing the transition to discouragement by analysing pooled cross-sectional data from 2006 to 2011, considering individual and household characteristics alongside local labour market conditions. Their results show that both low educational attainment and adverse market conditions are significantly associated with higher discouragement rates. Karaoglan and Okten (2015) provide evidence of a statistically significant added-worker effect in Türkiye during 2005–2010, indicating that a husband's involuntary job loss increases the probability that his wife moves from inactivity to activity by approximately four percentage points. Özden (2017) investigates trends and underlying factors of discouraged workers from 1988 to 2014, revealing that discouragement rises markedly once a certain per capita income threshold is exceeded. Additionally, an increase in unemployment correlates with greater discouragement, particularly during economic crisis years, such as 2001, affecting individuals with higher levels of secondary and tertiary education. Yılmaz (2005) notes that many discouraged workers possess insufficient qualifications for employment; in 2000, approximately 4.5% of discouraged workers in Türkiye were either primary school graduates or illiterate. Kaya-Bahçe and Memiş (2014) examine the impact of the 2008-2009 economic crisis on unemployment, reporting that women were more likely than men to be marginally attached throughout the period, with the number of marginally attached women rising at a faster rate during the crisis. Finally, Yenilmez and Kılıç (2018) find that the AWE is particularly marked among highly educated or vocationally trained women using data from January 2014 to July 2017. Conversely, for highly skilled men, no significant long-term relationship is observed between labour force participation and the unemployment rate.

3. Data

Using microdata from the Household Labour Force Survey for 2004-2023, we apply weights to represent the entire national labour force accurately. Our analysis is centred on women aged 15-64. A discouraged worker is defined as someone who stops job searching after several unsuccessful attempts. However, the HLFS data does not include information

on the duration of inactivity or the number of failed search attempts. Therefore, for our analysis, we classify women in this age group who are not participating in the labour force as discouraged. Specifically, women with a labour force status recorded as "3" (not searching for a job) are considered discouraged workers. The survey also lacks direct measures of household size, the number of employed individuals, preschool-age children, or household members with disabilities or chronic illnesses. To address this, we created these variables from other available household-level data. For household size, we count the individuals in the same household each year. To determine the number of children, we count individuals below school age within each household. Similarly, for the number of disabled or ill persons, we use responses to the question 'reason for not searching for a job', counting those who cite illness or disability. For the number of employed individuals, we tally household members with a labour market status coded as "1" (employed). Additionally, we developed grouping variables for education levels and age brackets.

For education, women are classified as follows: those who are illiterate, literate without a diploma, or hold primary or secondary school diplomas are categorised as "low educated"; those with high school or vocational high school diplomas are considered "medium educated"; and those with two-year college, university, or advanced degrees are regarded as "high educated"[1].

Table 1 presents the proportion of discouraged women across education categories, age groups, and marital statuses for 2004, 2013, and 2023. Table 2 details the reasons women give for not seeking employment across age groups, while Table 3 presents similar information by education level. The data highlight changing trends among women discouraged from seeking work over the past two decades. The analysis, grouped by education, age, and marital status, identifies persistent barriers to women's workforce participation, although some improvement is evident over time. The South East Anatolia region consistently has the highest proportion of discouraged women across all years, whereas the East Black Sea region has the lowest. The gap between regions has narrowed over the study period. It is worth noting that a negative correlation exists between regional development levels and discouragement ratios. Additionally, Istanbul, West Anatolia, East Anatolia, and the Marmara region experienced the most significant reductions during this period.

Educational attainment significantly influences discouragement trends. Women with limited education consistently exhibit the highest discouragement rates, though the rate

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[1] *For the year 2023, the "low educated" group includes individuals with no diploma, primary, and secondary school graduates, while the "medium educated" group consists of high school and vocational high school graduates. The "high educated" group includes those with two-year college degrees, university graduates, and holders of master's or PhD degrees. A figure (Figure A2) showing the distributions for each group for this year is provided in the appendix. Distribution figures for the other years in the analysis are available upon request. As can be observed, only the "high educated" group exhibits a heterogeneous distribution. However, this is unlikely to cause any econometric issues, as the proportion of individuals with a master's or PhD in this group is relatively small.*

declined from 79.04% in 2004 to 71.92% in 2023, indicating some progress. Women with medium levels of education show a larger decline, from 69.49% to 59.51%, reflecting greater opportunities or changes in employment conditions. However, women with higher education exhibit fluctuating patterns, with a discouragement rate of 29.63% in 2023, slightly higher than in 2013. This inconsistency among highly educated women suggests that barriers, such as skill mismatches or limited job opportunities in specialised fields, may still exist.

Age is a key factor in discouraging employment. Younger women aged 15-24 experienced a decline in disengagement rates, falling from 75.01% in 2004 to 68.73% in 2023, potentially due to improved access to education and early-career opportunities. The 25-34 age group shows the most significant improvement, with discouragement declining from 70.66% to 49.16%, possibly reflecting the benefits of family-support policies or increased awareness of career options. On the other hand, older age groups, especially those aged 55-64, remain highly discouraged, with only slight improvements. This indicates persistent challenges, including age discrimination and limited job flexibility, faced by older workers.

Marital status also influences the varying levels of discouragement among women. Widowed women consistently report the highest rates, with only a slight decrease from 82.76% in 2004 to 79.42% in 2023, possibly due to limited support networks. Divorced women show the most notable progress, with rates falling from 58.01% to 45.16%, whereas married women show moderate improvement. These trends highlight the compounded challenges faced by single and widowed women, who may lack the resources or societal support to re-enter the workforce.

The reasons behind women's reluctance to seek employment in 2023 reveal deep-rooted barriers. At the aggregate level, childcare is the most frequently cited reason for not seeking employment, accounting for 26.24%. Childcare is a universal barrier that affects women across all educational levels. It is followed by beliefs in skill mismatch (18.8%), unsuccessful long-term searches (10.35%), and the belief that there are no jobs in the neighbourhood (8.77%). Skill mismatches are most pronounced among highly educated women (21.19%), indicating possible overqualification or structural issues in the job market. Meanwhile, health-related barriers and housework are more common among less educated women, highlighting socio-economic disparities that influence workforce participation.

Younger women, especially those aged 15-24, cite education as the primary reason, accounting for 35.21%. Childcare becomes a significant challenge for women aged 25-44, with nearly half (47.77%) of those aged 25-34 affected. As women grow older, skill mismatches increase, highlighting a gap between their expertise and available employment opportunities. Health-related issues, such as illness or disability, affect older women more, particularly those aged 45-64, while housework remains a persistent barrier, especially for women with less education and those who are older.

Overall, the data highlight ongoing challenges for women, particularly those with lower levels of education, older age groups, and caregiving responsibilities. While progress is visible, targeted interventions—such as retraining initiatives, flexible work arrangements, and increased caregiving support—are essential to reducing these barriers and boosting female workforce participation.

Table: 1
Ratio of Discouraged Women across Categories, 2004, 2013 and 2023

Categories	Ratio of Discouraged Women		
	2004	2013	2023
Education Level			
Low Educated	79.04	73.50	71.92
Medium	69.49	65.02	59.51
High Educated	28.75	27.14	29.63
Age Group			
15to24	75.01	73.46	68.73
25to34	70.66	59.13	49.16
35to44	72.36	58.50	50.39
45to54	78.89	69.41	60.08
55to64	83.33	81.63	79.10
Marital Status			
Single	66.67	63	54.86
Married	77.79	68.49	62.29
Divorced	58.01	46.60	45.16
Widowed	82.76	81.84	79.42
Region			
İstanbul	79.1	67.51	57.01
West Marmara	65.11	62.60	53.27
Aegean	68.45	57.74	55.02
East Marmara	75.33	64.59	56.22
West Anatolia	78.34	69.88	60.46
Mediterranean	77.62	67.45	62.53
Mid. Anatolia	82.19	68.77	65.05
West Black Sea	64.61	60.55	54.60
East Black Sea	42.75	58.72	50.98
North East Anatolia	64.61	62.75	62.14
Mid. East Anatolia	84.34	68.90	68.46
South East Anatolia	88.08	85.12	75.66
Total	**74.8**	**66.94**	**60.14**

Source: Authors' own work. The ratios are reported for three years: the starting year, 2004; the middle year, 2013; and the final year, 2023. The results for other years are available on request.

Table: 2
Reasons Why Women in Different Age Groups Did Not Seek Jobs in 2023

Reasons For Not Seeking a Job	Age Group					
	15 to 24	25 to 34	35 to 44	45 to 54	55 to 64	Total
In Education	35.21	2.86	0.58	0.10	0	7.86
Seasonal Employee	0.29	0.30	0.51	0.78	0.31	0.44
Searched For So long	13.18	10.15	9.13	10.43	8.12	10.35
Believes Skill Mismatched	14.95	13.85	17.04	26.01	32.13	18.8
Believes No Job in Region	11.15	6.93	8.36	9.07	9.58	8.77
Child Care	8.20	47.77	38.56	8.14	3.29	26.24
Elder Care	0.74	1.02	1.86	3.97	3.86	1.99
Child & Elder Care	0.11	0.79	0.91	0.57	1.25	0.69
Temporarily Ill or Wounded	0.78	1.44	3.04	6.15	5.45	2.96
Ill or Disabled	0.81	1.17	3.72	9.35	12.95	4.34
House Work	4.10	5.65	8.6	14.22	11.64	8.24
Other Family Reasons	3.14	2.96	2.81	3.52	2.64	3.03
Other Personal Reasons	7.16	4.98	4.56	7.43	8.77	6.09
Any Other Reason	0.18	0.13	0.33	0.26	0	0.20
Total	100	100	100	100	100	100

Source: Authors' own work. Results for other years are available on request.

Table: 3

Reasons Why Women Do Not Seek Employment By Education Level, 2023

Reasons For Not Seeking a Job	Education Level			
	Low Educated	Medium	Highly Educated	Total
In Education	4.47	14.54	7.25	7.86
Seasonal Employee	0.65	0.23	0.19	0.44
Searched For So long	8.63	10.72	14.51	10.35
Believes Skill Mismatched	18.53	17.69	21.19	18.8
Believes No Job in Region	10.26	7.23	6.94	8.77
Child Care	25.92	26.43	26.83	26.24
Elder Care	2.29	1.71	1.56	1.99
Child & Elder Care	0.61	0.92	0.55	0.69
Temporarily Ill or Wounded	3.73	2.51	1.51	2.96
Ill or Disabled	6.44	2.60	1.16	4.34
House Work	10.62	6.16	4.80	8.24
Other Family Reasons	3.29	2.69	2.82	3.03
Other Personal Reasons	4.41	6.31	10.39	6.09
Any Other Reason	0.13	0.27	0.30	0.20
Total	100	100	100	100

Source: Authors' own work. Results for the other years are available on request.

4. Methodology

As educational attainment increases, the demand for domestic equality is expected to grow. Educated individuals are more likely to adopt an egalitarian approach when dividing household tasks. Additionally, educated women are more inclined to seek professional services in areas such as childcare, elder care, and patient care. This, in turn, affects labour force participation decisions and the likelihood of discouragement. Following several other studies in the literature, we employ a probit model to estimate the impact of various factors on the probability of being discouraged (e.g., Mincer, 1974; Blau & Kahn, 2000; Frey & Stutzer, 2002; Rabe-Hesketh & Skrondal, 2008; Akarçay-Gürbüz, 2014). We apply a probit model to both the pooled sample and to three educational groups to examine intergroup differences in the significance and influence of factors affecting the likelihood that women aged 15-64 are outside the labour force. The explanatory variables include an age group dummy, with the 15-24 category as the reference group; a marital status dummy, with the single category as the reference; educational level dummies; a region dummy, stratified into 12 'NUTS 1' classifications with South East Anatolia as the base category; and household characteristics. The household variables include household size (HHSize), the number of employed individuals (NumEmp), the number of preschool-aged children (NumKids), the number of individuals with disabilities (NumDis), and the number of elderly persons aged 60 and older who are not working (NumElder). Therefore, the probit model we estimate is:

$$P(Discouraged)_i =$$
$$\alpha_0 + \alpha_1 HHSize_i + \alpha_2 NumEmp_i + \alpha_3 NumKids_i + \alpha_4 NumDis_i + \alpha_5 NumElder_i +$$
$$D_1 Education_i + D_2 MaritalStatus_i + D_3 AgeGroup_i + D_4 Region_i + \varepsilon_i \qquad (1)$$

Household size has two opposing effects on the likelihood of discouragement. On one hand, a larger household size often indicates lower socioeconomic status and educational attainment, increasing discouragement due to limited human capital. On the other hand, in households with limited income, larger family sizes may compel women to enter the labour force, thereby reducing the likelihood of discouragement.

The presence of preschool-aged children, disabled individuals, or elderly dependents requiring care is expected to be positively related to the likelihood of discouragement, especially in financially constrained families. In traditional family units, caregiving duties are mainly assigned to women, which often leads to their withdrawal from the labour market and increases the likelihood of discouragement. Conversely, middle-class families with higher educational levels and sufficient financial resources tend to utilise external childcare or eldercare services, reducing these effects. As a result, the direction and strength of these relationships are likely to vary across different analyses, particularly when divided by educational attainment. Additionally, regardless of education level, the impact of these factors may differ across age groups. For example, for younger women, having children or elderly dependents may have little to no effect on the likelihood of discouragement.

Educational attainment is a vital factor in reducing the likelihood of discouragement. Generally, higher educational attainment is associated with a reduced likelihood of feeling discouraged. The categories used for education in the questionnaire have evolved over the years. Consequently, we assign different baseline categories to groups with low and high levels of education in the regressions. In the low-education group, the baseline was illiterate individuals in 2004; from 2013 onwards, it was defined as individuals who are literate but do not hold a diploma. For the medium-educated group, the baseline has always been high school diploma holders across all years. Lastly, for the highly educated group, "university and higher education" served as the baseline until 2023. However, in 2023, the baseline was changed to a "2-year college diploma".

We first conduct the regression for the pooled group and then perform it separately for the three different education categories: "low educated", "medium educated", and "high educated". "Low educated" includes those who are illiterate, literate without a diploma, or hold primary or secondary school diplomas; "medium educated" comprises individuals with high school or vocational high school diplomas; and "high educated" refers to those with university or higher degrees for 2004. For 2013, "low educated" remains the same; "medium educated" includes individuals with high school or vocational diplomas; and "high educated" consists of individuals with a college, university, or master's/PhD degree. For 2023, "low educated" are those who are literate without a diploma or hold primary or secondary education; "medium educated" includes those with high school or vocational diplomas; and "high educated" refers to individuals with 2-year college diplomas, university degrees, or master's/PhD qualifications. The purpose of this subgrouping is to examine whether the impact of explanatory variables varies across women with different levels of human capital, as human capital is the most apparent determinant of discouragement.

Marital status also plays a significant role. Across all education groups, being single is used as the reference category. Marriage is expected to positively correlate with discouragement, as it often reduces women's participation in the labour force. In contrast, divorce is anticipated to have a negative correlation; after a divorce, women may be compelled to re-enter the labour market, decreasing the likelihood of discouragement. Widowhood, however, is expected to increase discouragement for two reasons. First,

widows are typically older, and the probability of re-entering the labour market declines with age. Second, widows may receive pensions, which lessen the need for active job searching.

Age group effects are expected to differ significantly. The coefficients for age groups are likely to fluctuate due to the interaction of underlying factors such as education, work experience, marital status, and childcare responsibilities linked to different life stages.

Finally, because of the inverse relationship between development level and discouragement ratio, we expect a negative correlation in the more developed regions of the western part of the country.

Although the R² values are relatively high for a probit model, unobserved factors may influence the likelihood of discouragement among women, potentially introducing endogeneity. These unobserved factors could include ethnicity, race, total previous work experience, number of rejected job applications, and physical or mental health conditions. However, because these variables are not available in the HLFS data, this represents a limitation of the study's methodological approach.

5. Results

Regression for the Pooled Sample

Table 4 presents the probit regression results for the pooled sample from 2004, 2013, and 2023. These results provide a detailed analysis of the factors that affect the likelihood of discouragement among women. The coefficients indicate the marginal effects of the explanatory variables, computed while holding all other covariates constant at their means. Consequently, the interpretation of these coefficients should consider this context. For example, the coefficients for different age groups indicate their effects on the probability of discouragement relative to a reference category, holding all other factors constant. In this analysis, the reference age group is 15-24, and the baseline for marital status is being single.

Age Group Effects

The most notable discovery is the U-shaped connection between discouragement probability and age groups. Specifically, the youngest (reference category) and oldest age groups have higher probabilities of discouragement than other age groups. This trend becomes even more evident over the years analysed.

Marital Status Effects

Regarding marital status, results show that only divorced women have a lower likelihood of feeling discouraged compared to their single counterparts. This effect is most evident in 2013 but diminishes in later years. Nonetheless, this finding suggests that women are more likely to re-enter the labour force following divorce, consistent with theoretical expectations.

Household Characteristics Effects

Among household characteristics, a larger household size increases the likelihood of discouragement among women. Conversely, the number of income earners, children, the elderly, and disabled individuals in the household generally decreases the risk of discouragement. The only exception is the coefficient for the number of disabled individuals in 2023, which is positive. As shown in Table 5, this trend is particularly evident among individuals with lower levels of education. The regression analysis subtly suggests that women from economically disadvantaged backgrounds do not leave the labour market mainly due to caregiving responsibilities for children, elderly family members, or individuals with disabilities within the household. Instead, the financial burden of caregiving drives women from lower socioeconomic backgrounds to remain in the workforce. Additionally, these families are likely dependent on extended kin networks for support. For example, grandmothers presumably play a vital role in raising their grandchildren within such households. Ultimately, if the effect observed in the low-education group is sufficiently large, the overall impact in the pooled sample closely resembles the pattern observed in this demographic segment. Moreover, although the coefficients for the number of children and disabled individuals are small, they remain statistically significant. Finally, it is essential to note that, apart from the presence of disabled individuals, there is a notable convergence in the effects of household characteristics on the likelihood of discouragement.

Education Effects

For educational attainment, the lowest education level is used as the reference category for each year, consistent with the survey design. The results show that higher levels of education, including high school, are associated with lower probabilities of discouragement. Conversely, lower educational qualifications, such as primary and secondary school diplomas, increase the likelihood of discouragement. The most potent effects are observed for university degrees and higher academic levels. Lastly, it is crucial to emphasise that the impact of education level on discouragement becomes more pronounced over time throughout the analysed period.

Regional Comparisons

Southeastern Anatolia, which serves as the reference category, is the least developed region, characterised by limited labour market access for women, a high reliance on agriculture for employment, and a lack of diverse job opportunities. As a result, the coefficients for all other regions are negative throughout the entire analysed period. Moreover, regional disparities appear to diminish over time, indicating convergence in discouragement probabilities across areas.

Table: 4
Probit Results, Pooled Sample

Prob (Discouraged)	Pooled		
Variables	2004	2013	2023
Age Group			
15-24	Base	Base	Base
25-34	-.557***	-.627***	-.633***
35-44	-.601***	-.731***	-.825***
45-54	-.073***	-.212***	-.416***
55-64	.099***	.159***	.034***
Marital Status			
Single	Base	Base	Base
Married	.693***	.43***	.367***
Divorced	-.275***	-.47***	-.335***
Widowed	.418***	.295***	.218***
HH Character			
HH Size	.267***	.278***	.245***
NumEmp	-.984***	-1.018***	-.876***
NumKids	-.09***	-.011***	-.008***
NumElder	-.187***	-.158***	-.1***
NumDis	-.091***	-.075***	.135***
Education Level			
Illiterate	Base	-----	-----
Lit.NoDiploma	.109***	Base	Base
PrimarySch	.132***	-.024***	-.08***
SecondarySch	.395***	.214***	.024***
HighSch	-.083***	-.162***	-.3***
Voc.HighSch	-.461***	-.35***	-.471***
2YearsColl	-----	-----	-.794***
University	-----	-----	-.977***
Uni&Higher	-1.157***	-1.05***	-----
MasterOrPhD	-----	-----	-1.371***
Region			
SouthEast An.	Base	Base	Base
İstanbul	-.099***	-.067***	.073***
West Marmara	-.421***	-.229***	-.131***
Aegean	-.43***	-.389***	-.108***
East Marmara	-.244***	-.157***	-.09***
West Anatolia	-.191***	-.015***	.054***
Mediterranean	-.265***	-.269***	-.066***
Mid. Anatolia	-.165***	-.17***	.044***
WestBlack Sea	-.457***	-.308***	-.182***
EastBlack Sea	-.81***	-.406***	-.238***
NorthEast An.	-.462***	-.297***	-.103***
Mid.EastAn.	-.188***	-.204***	-.127***
Observations	157,485	169,426	202,042
Pseudo R²	0.401	0.272	0.339

Source: Authors' own work. The regression results are reported for the pooled data. *** p<,01, ** p<,05, * p<,1.

Table 5 presents the probit regression results for three educational groups (low, medium, and high) in 2004, 2013, and 2023.

Table: 5
Probit Results for Different Educational Categories: 2004, 2013, and 2023

Prob (Discouraged)	2004			2013			2023		
Variables	LowEd.	MediumEd	HighlyEd.	LowEd.	MediumEd	HighlyEd	LowEd.	MediumEd	HighlyEd.
Age Group									
15-24	Base	Base	Base	Base	Base	Base	Base	Base	Base
25-34	-.543***	-.642***	-.211***	-.673***	-.688***	-.437***	-.721***	-.668***	-.18***
35-44	-.559***	-.691***	-.421***	-.779***	-.73***	-.719***	-.9***	-.859***	-.488***
45-54	-.071***	.008*	.456***	-.275***	-.057***	-.19***	-.525***	-.367***	-.176***
55-64	.069***	.923***	1.439***	0.003	.832***	.926***	-.202***	.424***	.866***
Marital Status									
Single	Base	Base	Base	Base	Base	Base	Base	Base	Base
Married	.471***	.899***	1.245***	.156***	.582***	.961***	-.02***	.488***	.699***
Divorced	-.492***	-.301***	.311***	-.716***	-.516***	.04***	-.656***	-.371***	-.094***
Widowed	.232***	.258***	.682***	.078***	.278***	.615***	-.086***	.107***	.416***
HH Character									
HH Size	.27***	.247***	.32***	.271***	.288***	.338***	.221***	.245***	.362***
NumEmp	-1.002***	-.858***	-1.296***	-1.007***	-1.011***	-1.258***	-.829***	-.851***	-1.201***
NumKids	-.116***	.07***	.057***	-.049***	.132***	.049***	-.079***	.051***	.067***
NumElder	-.173***	-.24***	-.154***	-.112***	-.3***	-.21***	-.046***	-.164***	-.193***
NumDis	-.089***	-.271***	-.101***	-.088***	-.136***	-.033***	.222***	.099***	-.065***
Education Level									
Illiterate	Base								
Lit.NoDiploma	.066***			Base			Base		
PrimarySch	.095***			-.029***			-.117***		
SecondarySch	.258***			.032***			-.178***		
HighSch		Base			Base			Base	
Voc.HighSch		-.442***			-.215***			-.178***	
2YearsColl									Base
University									-.191***
Uni&Higher			Base			Base			
MasterOrPhD									-.591***
Region									
SouthEast An.	Base	Base	Base	Base	Base	Base	Base	Base	Base
İstanbul	.024***	-.467***	.147***	0.003	-.129***	.107***	.164***	-.085***	.11***
West Marmara	-.449***	-.391***	.116***	-.277***	-.093***	.23***	-.161***	-.215***	.06***
Aegean	-.409***	-.535***	-.051***	-.434***	-.255***	-.022***	-.099***	-.235***	.018***
East Marmara	-.212***	-.387***	.055***	-.164***	-.128***	.154***	-.064***	-.196***	-.016***
West Anatolia	-.038***	-.533***	-.154***	.029***	.05***	.126***	.175***	-.06***	.006*
Mediterranean	-.239***	-.387***	-.098***	-.303***	-.172***	.056***	-.025***	-.173***	-.044***
Mid. Anatolia	-.137***	-.198***	.017	-.215***	.047***	.15***	.035***	.079***	.111***
WestBlack Sea	-.452***	-.411***	-.118***	-.388***	.024***	.17***	-.206***	-.249***	.048***
EastBlack Sea	-.869***	-.577***	-.121***	-.594***	.164***	.54***	-.325***	-.186***	.013***
NorthEast An.	-.5***	-.2***	.163***	-.403***	.178***	.37***	-.202***	.102***	.196***
Mid.EastAn.	-.128***	-.532***	-.176***	-.291***	.098***	.417***	-.223***	-.043***	.221***
Cons	1.388***	1.124***	-.721***	1.635***	.861***	-.451***	1.694***	.854***	-.24***
Observations	127142	22544	7799	124642	26757	18027	120619	42221	39202
Pseudo R²	0.401	0.272	0.393	0.361	0.302	0.352	0.287	0.264	0.348

Source: Authors' own work. The regression results are reported for three years: the start year of the analysis (2004), the middle year (2013), and the final year (2023). The results for the other years are available upon request. *** p<,01, ** p<,05, * p<,1.

Age Group Effects

The coefficients for age groups (25-34 and 35-44) consistently display negative values across all educational levels and years. For example, in 2004, the discouragement probability for low-educated women in the 25-34 age group decreased by 0.543 relative to the 15-24 age group. This effect becomes more pronounced in later years, with coefficients of -0.673 in 2013 and -0.721 in 2023 for the same group. Similar trends are observed in the 35-44 age group, with the probability of discouragement declining further over time.

Results suggest that the youngest women (15-24) and the oldest women (55-64) are the most likely to be discouraged across all educational groups. It is also noteworthy that the

coefficient becomes positive only for the oldest women (55-64) across all education groups and all years, except for the low-educated group in 2023. Therefore, the relationship between age groups and discouragement is U-shaped. This pattern may reflect greater career confidence or greater opportunities for middle-aged women, who may have gained more experience and stability in balancing work and personal life.

Marital Status Effects

Being married increases the likelihood of discouragement across all years and groups, except for the low-educated group in 2023, where the effect is minimal. This suggests that, as expected, marriage leads women to exit the labour force. Interestingly, the effect is more pronounced for the highly educated group. Furthermore, the sign for divorce is generally negative, except for the highly educated group in 2004 and 2013. This indicates that, typically, divorced women reenter the labour market. Finally, there is convergence in the impact of marital status on discouragement across education levels during the analysed period.

Household Characteristics Effects

The regression results also emphasise the significant impact of household characteristics on the likelihood of discouragement. Variables such as household size, the number of employed household members, the number of preschool-aged children, and the presence of disabled or elderly family members are expected to influence discouragement probabilities across all educational groups. Larger household sizes are associated with higher probabilities of discouragement in all years and across all education groups, likely due to increased domestic responsibilities or resource constraints.

The presence of preschool-aged children is expected to reduce the likelihood that women in the low-education group feel discouraged, whereas we observe a positive trend among women with medium and high education levels. One plausible explanation is that educated women may prefer to care for their children themselves. Although educated women may be able to earn high wages, the opportunity costs of working may be too high. For some women, the financial burden of employment—considering childcare costs, commuting expenses, and the stress of balancing work and family life—may not justify the benefits. This may lead them to withdraw from the workforce and assume the primary caregiving role, especially if they perceive their income as insufficient to cover the costs and demands of working while raising children. (Harkness & Waldfogel, 2003; Goldin, 2006).

Households with more employed members tend to have lower probabilities of discouragement in all years and across all education levels, as additional financial support can reduce the need for women to remain out of the labour force. These findings emphasise the critical link between household dynamics and labour force participation, underscoring the need for supportive policies to address family-related barriers, such as affordable childcare, eldercare services, and flexible working arrangements.

Education Effects and Educational Group Comparisons

Although we classify the sample by education level, we also include education as an explanatory dummy variable to analyse its impact within each group. As coefficients represent marginal effects, in 2004, within the low-educated group, holding a primary school diploma—ceteris paribus—increased the likelihood of being discouraged by 25.8% compared to illiterate individuals in the same group. For individuals with a medium level of education, holding a vocational high school diploma reduced the probability of discouragement by 44.2% in 2004. However, this effect diminished over the years, with the gap narrowing to just 17.8% by 2023. This trend suggests a declining influence of vocational education on women's labour force participation.

A key finding is the variation in discouragement probabilities across educational groups. For women with low education, the likelihood of discouragement is consistently higher than for those with medium or high education across all years. For example, in 2023, the reduction in discouragement probability for the 25-34 age group is 0.721 for women with low education, compared with 0.668 for women with medium education and -0.18 for women with high education. This emphasises the protective role of higher education against discouragement.

Over time, the gap in discouragement probabilities among educational groups seems to widen. In 2004, the difference in discouragement reduction between low- and highly educated women aged 25-34 was approximately 0.332 (-0.543 vs. -0.211), but this increased to 0.541 in 2023 (-0.721 vs. -0.18). This divergence highlights the growing significance of education in reducing discouragement, possibly due to an increasing premium on skills and qualifications in the labour market.

Regional Comparisons

Southeast Anatolia, the least developed region with high population density, an agriculture-based economy, and the largest average household size, is selected as the reference category for the regional dummy variable. As development levels increase, job market opportunities and access to education are expected to improve, reducing the likelihood of discouragement. This effect is evident across both low- and middle-educated groups in all years. It is particularly pronounced in these groups throughout the period. However, the coefficient for the highly educated group is usually positive, likely due to issues such as overqualification and skill mismatch. Therefore, we expect negative coefficients for all regions. The results confirm this expectation, as most regional coefficients are both negative and statistically significant.

Temporal Trends

The results show a general decrease in the probability of discouragement among women across all educational levels and age groups over the 20 years. This may be due to advances in education and urbanisation, as urbanisation—alongside migration from rural to

urban areas—can encourage women to seek employment in cities. Specifically, in recent years, the added worker effect might have become stronger. In many households, both men and women now need to work to meet basic living costs. This trend could be especially noticeable in the final year of the study. Among women with low education, discouragement for the 35-44 age group drops from -0.559 in 2004 to -0.90 in 2023. This steady downward trend indicates broader socioeconomic shifts, such as improved employment prospects, stronger social support networks, or targeted policies designed to reduce barriers to workforce participation.

Interestingly, the improvements are most noticeable among women with low and medium levels of education, suggesting that initiatives to combat labour force discouragement may have been particularly successful for these groups. Women with higher levels of education, although already experiencing lower probabilities of discouragement, show more modest improvements over time. For example, in the 25-34 age group, the reduction in discouragement among highly educated women improves from -0.211 in 2004 to -0.180 in 2023, a relatively small change compared with the shifts observed in other educational groups.

Sensitivity and Robustness Analysis

A thorough approach to sensitivity analysis involves comparing regression results across different model specifications or sample groups. Based on this, we compare the Probit regression results for the pooled sample (Table 4) with those for the grouped subsample (Table 5).

A comparison of the pooled sample and the grouped regression results shows that most coefficients for the explanatory variables in the "low educated" group closely match those in the pooled sample. For some other explanatory variables, the average coefficient across the "low educated" and "medium educated" groups more closely aligns with that of the pooled sample. For example, the coefficients for age groups and household characteristics in the pooled regression resemble those observed in the "low educated" subgroup more, whereas the coefficients for marital status in the pooled sample are closer to the averages for the "low educated" and "medium educated" subgroups. These findings are pretty intuitive, as most discouraged women belong to either the "low educated" or "medium educated" groups. In other words, because observations from these two subgroups dominate the pooled sample, the pooled regression results naturally tend to resemble those of the "low educated" and/or "medium educated" subgroups.

Using alternative models is a standard method for conducting robustness analysis. Therefore, we estimate a Logit model for the same subgroups to check if the coefficient patterns match those from the Probit model. As shown in Table A1 in the appendix, the signs of the Logit model coefficients are consistent with those of the Probit model. Additionally, a standard robustness criterion requires that the ratio of Logit to Probit model coefficients

should be approximately 1.65 (Wooldridge, 2009). Our results confirm that this ratio is maintained, further supporting the robustness of our findings.

Policy Implications

The findings have several implications for policymakers aiming to reduce labour force discouragement among women. First, targeted efforts to address discouragement in younger women (15-24) could yield significant benefits, particularly for low- and medium-educated groups. Strategies might include mentorship programmes, career counselling, or skills-building initiatives tailored to this demographic.

Second, the protective effect of higher education against discouragement emphasises the need to improve access to educational opportunities for women, especially those from disadvantaged backgrounds. Scholarships, subsidies, or flexible learning pathways could help bridge the academic gap and lessen long-term disparities in labour force participation.

Finally, the ongoing disparities across educational groups highlight the importance of developing inclusive labour market policies that address the specific challenges faced by women with low and medium levels of education. For instance, expanding childcare services, encouraging flexible working arrangements, or incentivising employers to hire from underrepresented groups could help reduce discouragement and promote greater workforce inclusivity.

In summary, the probit model results highlight significant differences between groups and improvements over time in the likelihood of discouragement among women across educational levels. While older women and those with higher levels of education experience lower probabilities of discouragement, younger and less educated women remain more vulnerable. These findings emphasise the need for targeted interventions to address these disparities and promote equitable labour force participation for all women.

6. Conclusion

The study highlights the crucial issue of discouragement in the labour market among women in Türkiye and its broader implications for gender equality, economic growth, and social development. Discouragement, as a labour market phenomenon, reflects the structural challenges faced by women, including educational disparities, traditional gender roles, caring responsibilities, and limited employment opportunities. These barriers are worsened by regional disparities and socio-cultural norms, which disproportionately affect women in rural areas or those with lower educational attainment.

The analysis shows that discouraged workers constitute a hidden part of the labour force, with substantial potential to contribute to economic development if their difficulties are addressed. Key findings indicate that women with lower levels of education, particularly those in younger and older age groups, are more susceptible to discouragement. Marital status and household dynamics, such as caregiving responsibilities and the number of

employed household members, further affect labour force participation. While education acts as a protective factor against discouragement, highly educated women also encounter issues like skill mismatches and limited job opportunities in specialised fields. Trends over time show slow improvements in discouragement rates across educational and age groups, signalling socio-economic progress and policy efforts. However, these improvements are uneven, with women with low and medium levels of education benefiting more than their highly educated counterparts. Ongoing gaps highlight the need for comprehensive strategies that address the complex factors underlying discouragement.

To address these challenges, policymakers need to adopt a multi-faceted approach. Broadening access to education, particularly for disadvantaged women, is vital to closing the skills gap and increasing workforce participation. At the same time, targeted support for working mothers, such as affordable childcare and flexible working arrangements, can reduce the caregiving burden and encourage greater labour-market participation. Tackling regional disparities through investment in infrastructure and job creation in underdeveloped areas can also help lessen discouragement, particularly in rural regions. Furthermore, initiatives to resolve skill mismatches and advance gender equality in the workplace are essential. These include career guidance, mentorship schemes, and incentives for employers to foster inclusive work environments. Efforts to challenge traditional gender norms and promote shared caregiving duties within households can further support women's participation in the labour force.

In conclusion, reducing discouragement among women in the labour market requires a comprehensive and sustained effort to address structural, cultural, and economic barriers. By fostering an inclusive labour market and enabling women to realise their full potential, Türkiye can make significant progress in gender equality and socioeconomic development.

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Working-Age Population", *Problems of Economic Transition*, 63(44-6), 203-211.

Appendix

Figure: A1
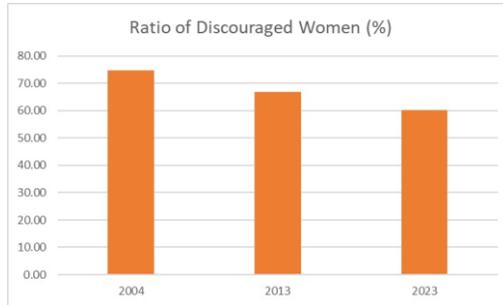**Ratio of Discouraged Women, 2004, 2013, 2023**

Figure: A2
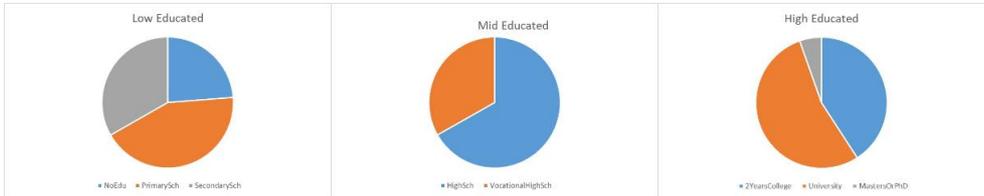**Distribution of Subgroups within Education Categories, 2023**

Table: A1
Logit Results Across Educational Categories: 2004, 2013 and 2023

Logit Discouraged	2004			2013			2023		
Variables	LowEd.	MediumEd	HighlyEd.	LowEd.	MediumEd	HighlyEd.	LowEd.	MediumEd	HighlyEd.
Age Group									
15-24	Base	Base	Base	Base	Base	Base	Base	Base	Base
25-34	-1.084***	-1.153***	-.334***	-1.346***	-1.262***	-.783***	-1.356***	-1.196***	-.342***
35-44	-1.06***	-1.249***	-.654***	-1.496***	-1.351***	-1.226***	-1.651***	-1.503***	-.841***
45-54	-.107***	.02***	.774***	-.529***	-.145***	-.371***	-.947***	-.64***	-.317***
55-64	.122***	1.767***	2.475***	-.054***	1.496***	1.507***	-.389***	.718***	1.433***
Marital Status									
Single	Base	Base	Base	Base	Base	Base	Base	Base	Base
Married	.793***	1.56***	2.46***	.214***	1.041***	1.936***	-.066***	.818***	1.404***
Divorced	-.931***	-.522***	.603***	-1.344***	-.883***	.138***	-1.173***	-.639***	-.125***
Widowed	.326***	.397***	1.274***	.035***	.465***	1.136***	-.205***	.131***	.773***
HHCharacteristics									
HH Size	.553***	.464***	.525***	.543***	.549***	.574***	.437***	.457***	.62***
NumEmp	-1.922***	-1.567***	-2.462***	-1.906***	-1.856***	-2.385***	-1.513***	-1.532***	-2.274***
NumKids	-.252***	.097***	.128***	-.128***	.186***	.102***	-.179***	.084***	.123***
NumElder	-.368***	-.445***	-.284***	-.272***	-.558***	-.379***	-.124***	-.321***	-.359***
NumDis	-.159***	-.477***	-.138***	-.148***	-.252***	-.08***	.483***	.218***	-.066***
Education Level									
Illiterate	Base								
Lit.NoDiploma	.127***			Base			Base		
PrimarySch	.172***			-.058***			-.205***		
SecondarySch	.455***			.041***			-.324***		
HighSch		Base			Base			Base	
Voc.HighSch		-.447***			-.378***			-.302***	
2YearsColl									Base
University									-.326***
Uni&Higher			Base						
MasterOrPhD									-1.019***
Region									
SouthEast An.	Base	Base	Base	Base	Base	Base	Base	Base	Base
İstanbul	.048***	-.812***	.253***	-.009**	-.217***	.142***	.283***	-.143***	.115***
West Marmara	-.805***	-.674***	.156***	-.504***	-.167***	.324***	-.275***	-.352***	-.011
Aegean	-.739***	-.905***	-.177***	-.768***	-.42***	-.126***	-.174***	-.385***	-.073***
East Marmara	-.402***	-.671***	.071***	-.322***	-.227***	.194***	-.121***	-.318***	-.117***
West Anatolia	-.08***	-.905***	-.301***	.022***	.075***	.172***	.298***	-.104***	-.088***
Mediterrenian	-.46***	-.671***	-.195***	-.573***	-.314***	.031***	-.055***	-.286***	-.195***
Mid. Anatolia	-.3***	-.329***	.054***	-.429***	.048***	.185***	.039***	.115***	.062***
WestBlack Sea	-.844***	-.709***	-.247***	-.723***	.027***	.168***	-.369***	-.42***	-.081***
EastBlackSea	-1.537***	-1.014***	-.241***	-1.09***	.289***	.83***	-.581***	-.314***	-.123***
NorthEast An.	-.976***	-.341***	.303***	-.788***	.344***	.555***	-.415***	.194***	.25***
Mid.EastAn.	-.23***	-.928***	-.368***	-.598***	.204***	.589***	-.412***	-.009	.34***
Cons	2.477***	1.918***	-1.104***	3.013***	1.505***	-.582***	2.955***	1.47***	-.16***
Observations	127142	22544	7799	124642	26757	18027	120619	42221	39202
Pseudo R²	.409	.278	.405	.371	.311	.362	.293	.27	.359

Source: Authors' own work. The regression results are reported for three years: the start year of the analysis (2004), the middle year (2013), and the final year (2023). The results for the other years are available upon request. *** p<,01, ** p<,05, * p<,1.