

STRIKING FINDINGS REGARDING THE TURKISH LABOR MARKET: PERSISTENT YOUTH FEMALE UNEMPLOYMENT

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Executive Summary

This research brief studies the gender gap in unemployment rates in the period of 2005-2017 using the data of HLS from Turkstat. During this period, sizable increases in female labor force participation ratios are observed in the data. Even though female labor force participation rates increase drastically at lower education levels, i.e. for women without a college degree, the gender gap in unemployment rates stay stagnant. Yet, the state of affairs at the high education level is different. The gender gap in unemployment at this level widened, particularly in the age group of 20-29. It goes without saying that difficulties and obstacles that young women face in finding jobs despite their qualifications remains an issue to be further investigated.

Introduction

In this research brief, we study the gender gap in unemployment rates. It is well-known that female unemployment rate remains considerably higher than the male rate in Turkey. Existing studies on this issue in the Turkish labor economic literature include Gürsel and Uysal (2018) where the authors scrutinize the evolution of seasonally adjusted female and male labor force as well employment according to education levels, age groups and duration of unemployment in their article¹. This study focuses on the period of February 2014-November 2017 to demonstrate a noticeable widening in the already existing unemployment gender gap, particularly from March 2016 to November 2017. Authors underline that this widening is possibly caused by the increasing shares of educated women (with at least a high school degree) in the female labor force. They note that, in order to design policies to address this problem, further research is needed to understand both the supply and the demand side of the Turkish labor market. In another study Filiztekin (2018)² draws attention to the fact that, along with the increase of the number of universities in recent years, not only unemployment at higher education levels increases, but also the gap between high school and university unemployment rates shrank. In the same article, the author points out that, in the age group of 25-29, the unemployment rate among university graduates exceeds that of the high school graduates.

In order to dig further into the findings of these studies, in this research brief we analyze the widening of the gender gap in unemployment rates by education levels and age groups. We use the micro data

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¹ Gürsel, S., & Uysal, G. (2018). *Türkiye Ekonomisinde Kalkınma ve Dönüşüm Taner Berksoy'a Armağan*. İstanbul: Imge

² Filiztekin, A. (2018). *Türkiye Ekonomisinde Kalkınma ve Dönüşüm Taner Berksoy'a Armağan*. İstanbul: Imge

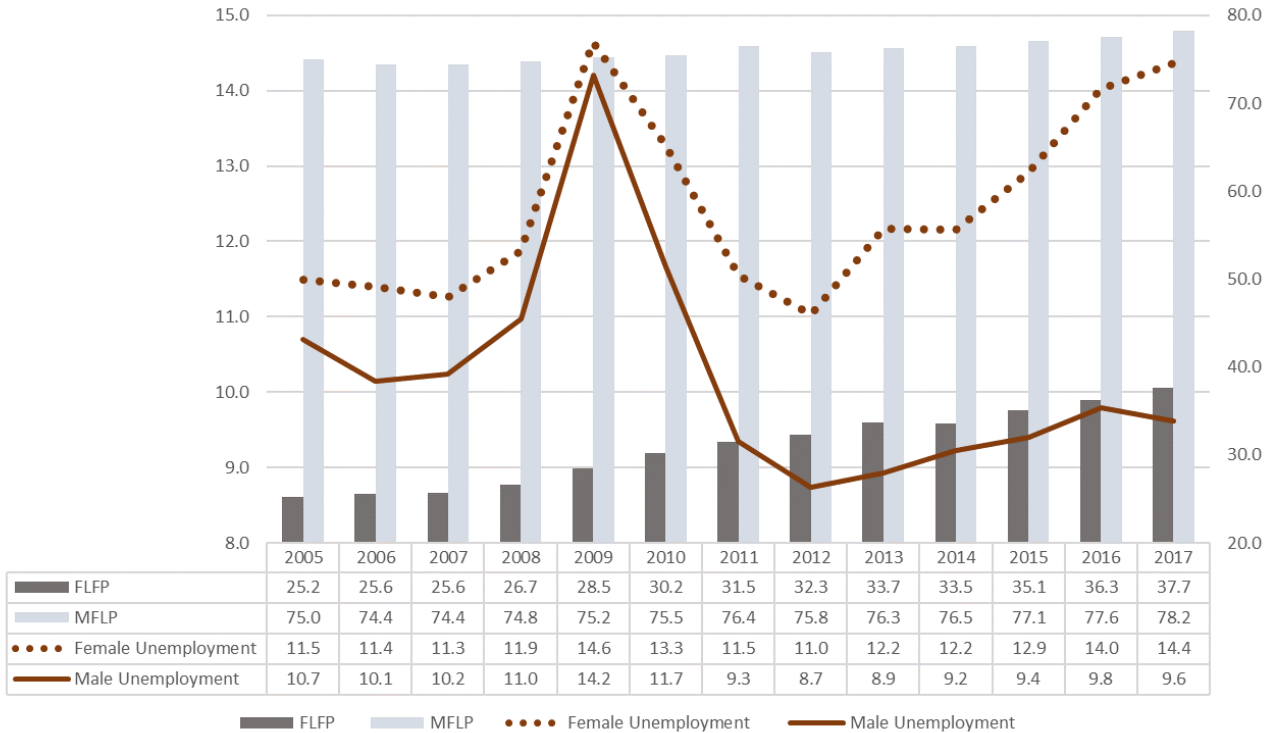
of Household Labor Force Survey (HLFS) waves of 2005 to 2017. Note that TurkStat changed in its survey methodology in 2014, causing a break in the series. We use the new series for the period of 2014-2017 and non-revised series for the period of 2005-2013. Due to the break in 2014, we recommend focusing on the rates rather than the levels.

Rise of female labor force and unemployment

The evolution of male and female labor force series during the last 12 years, i.e. from 2005 to 2017, clearly shows that female labor force participation rates rose faster than those of males. While male participation rate increased from 75.0 to 78.2 percent (3.2 percentage points), female participation rate increased from 25.2 to 37.7 percent (12.5 percentage points). On the other hand, female and male unemployment followed similar trends, but the magnitudes of both increases and decreases varied drastically, leading to a widening of the existent gender unemployment gap (Figure 1).

The crisis years of 2008-2009 were marked by peak unemployment rates, but a relatively low gender gap. During the strong recovery period that followed, we witnessed a decrease in unemployment both for men and women, yet that for women was markedly slower. After 2012, unemployment started to increase again. During this period, female unemployment increases were stronger. While female unemployment rate reached 14.4 percent in 2017, a level close to its peak of 14.6 percent in 2009, male unemployment rate remained at 9.6 percent, a level well below the 2009 rate of 14.2 percent. As a result, the gender gap in unemployment of 0.4 points in 2009, rose to 4.8 points in 2017. A deeper examination of this development by disaggregation by age and education might provide some clues as to the possible causes of the sizable unemployment increase observed among women.

Figure 1: Female and male unemployment and labor force participation rates (%) (15-64, 2005-2017)



Source: Betam, HLFS mikro data 2005-2017

Female and male unemployment by education levels

Unemployment rates in 2017 by gender and education (illiterates³, less than high school, high school, professional high school and higher than high school) are provided in Table 1.4 Even though sizable differences in unemployment rates across education levels are observed for women, this is not the case for men. While male unemployment rates vary between 13.7 (illiterates) and 8.7 percent (higher than high school), female rates vary between 4.3 (illiterates) and 21.3 percent (higher than high school). The reason behind the low unemployment among female illiterates is the large share of agricultural employment. Indeed, the share of agriculture in total female employment is 27.2 percent (Annexed table 3). This share reaches 69.7 among female illiterates. Put differently, 70 illiterate women out of 100 are working in agriculture. As for the women having an education level less than high school, 42.9 percent are employed in agriculture. Similarly, the relatively low levels of unemployment among women with lower levels of education can be explained by the high share of employment in agriculture.

Table 1: Overall unemployment and labor force participation rates (%) (Age of 15-64, 2017)

	Illiterates		Less than high school		High school		Vocational high school		College	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
U	4,3	13,7	10,6	9,9	21,3	10,2	20,6	9,0	18,4	8,7
LFPR	23,7	48,3	30,1	75,7	34,9	73,5	43,8	83,2	74,0	89,6

Source: Betam, HIA micro data: 2005-2017

As expected, among women with high school degrees, the share in agriculture decreases to about 7-8 percent, and thus becomes negligible (Annexed table 3). Since our focus in this research brief is the gender dynamics in the Turkish labor market, it would be more relevant to consider the indicators in the non-agricultural sectors. In what follows, “unemployment” signifies “non-farm unemployment”.⁵

Non-farm unemployment rates by educational levels

The key labor market statistics, such as the unemployment and labor force participation rates by education level during the period of 2005-2017 (Annexed table 2), demonstrate the existence of important structural differences, particularly a large gender gap in unemployment rates. Before going through the discussion for different levels of education, we would like to underline two findings. In all levels considered here, female unemployment rate is well above the male rate, except for illiterates. While the highest rates among females are observed at general and vocational high school levels, the highest male rate is at the level of illiterates. On the other hand, the lowest unemployment rates for females and males are observed among illiterates and higher than high school graduates respectively.

Table 2: Female and male unemployment rates according to educational levels (%) (15-64, 2017)

	Illiterates		Less than high school		High school		Vocational high school		College	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
2017	12,8	20,3	17,2	12,1	22,8	10,9	21,8	9,6	18,6	8,9

³ Relatively high number of illiterates’ workers, in particular among women, should be noted. While the share of female illiterates was 12.8 percent in 2000s, it decreased slightly to 7.2 percent in 2017 (Annexed table 4).

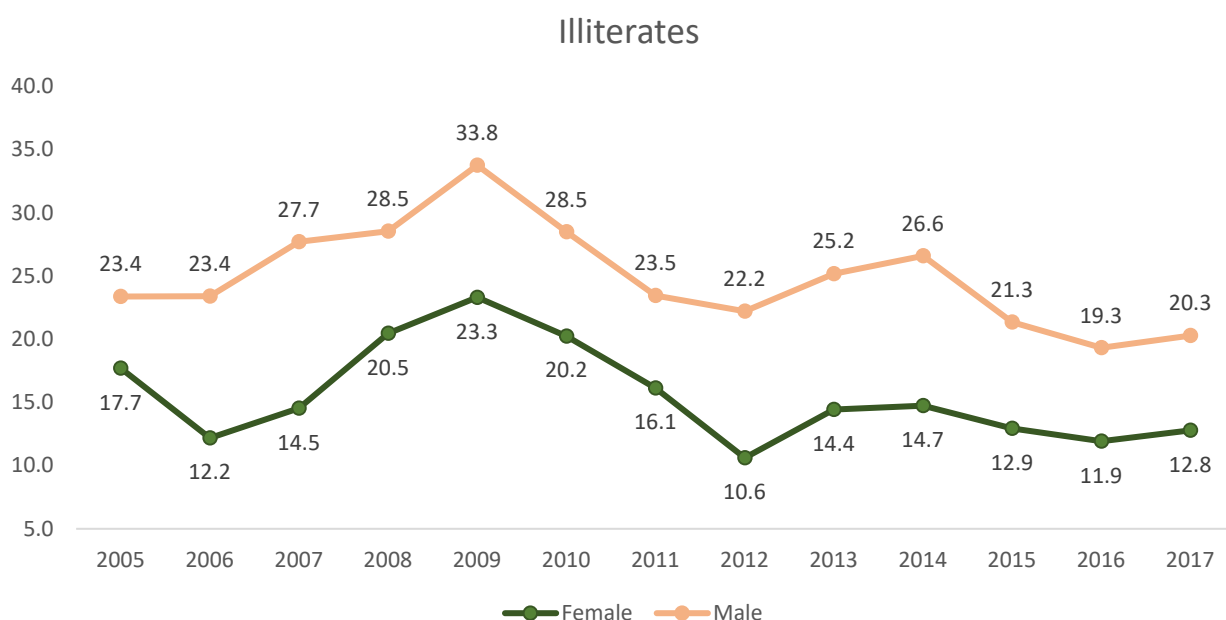
⁴ The statistical serials are available in Annex.

⁵ Since unemployment is almost negligible in Turkish agriculture given its overwhelming family structure, non-farming indicators are computed assuming equality between labor force and employment (inexistence of unemployment)

The exceptional case of illiterate workers

Illiterates constitute a very small sub-group in the Turkish labor market. As of 2017 the number of males and females are respectively 138 and 185 thousand. Furthermore, these numbers erode at full speed. Therefore, they do not constitute a topic of discussion in the general context here. However, instead of ignoring it completely, let us point out some characteristics of this sub-group. The illiterate workers belong to the oldest tranche of the population. Men in this group are largely employed in temporary jobs, thus face really high unemployment rates. As for women, we surprisingly observe that 72 percent of them are wage earners and daily laborers. A closer look reveals that more than half of them (55 percent) are employed in the “health sector” and 58 percent of these workers list their subsector as “employees providing personal care services”. We think that these women are taking care of their disabled relatives, and are paid a social transfer by the government that amounts to the minimum wage. They also help explain why the female unemployment is the lowest among the illiterates.⁶

Figure 2: Non-farm unemployment and labor force participation rates of illiterates (%) (15-64, 2017)



LFPR	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Female	19,5	18,7	18,2	18,6	19,2	21,7	22,7	22,4	24,0	22,5	22,9	22,2	23,7
Male	55,8	53,5	50,3	50,3	52,3	52,2	52,6	48,0	46,8	48,5	46,5	46,4	48,3

Source: Betam, HIA micro data: 2005-2017

Gender gap in unemployment stagnates for lower education levels

Among the workers with less than a high school degree, the female and male unemployment rates are structurally different. During the period under study the gender gap in unemployment rates fluctuated between 3.8 and 5.9 percentage points and the gap of 4.3 percentage points at the start of the period

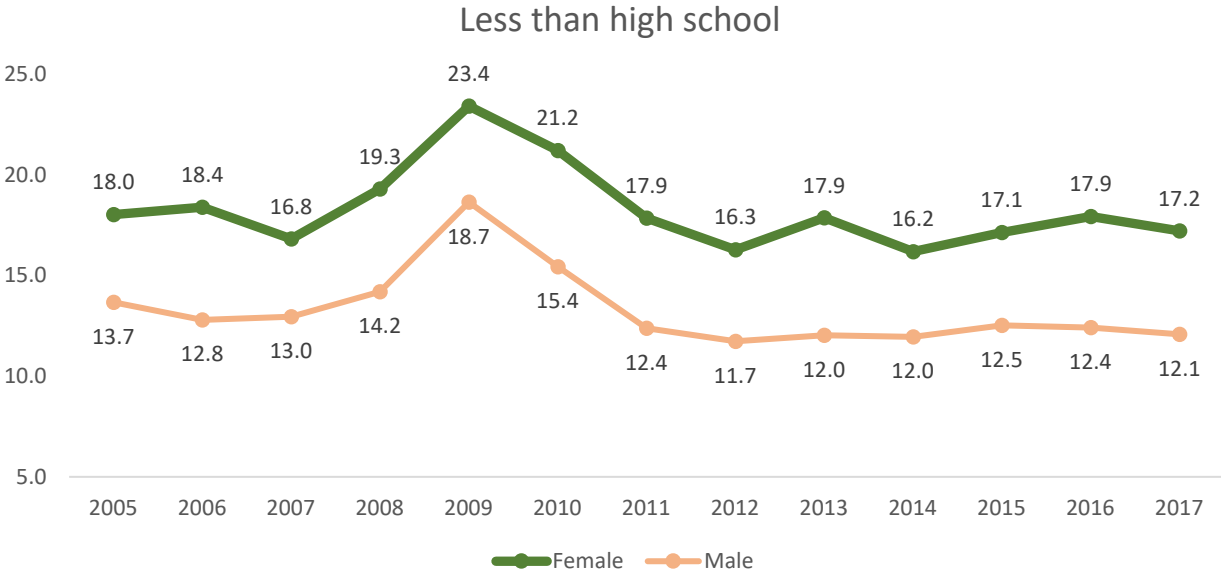
⁶ Betam is working on a research brief on this topic

increased to 5.1 percentage points at the end (Figure 3). During the crisis year of 2009, the peak of unemployment rate among these unqualified workers had attained 23.4 percent for females and 18.7 for males, implying a gender gap of 4.8 percentage points. In the aftermath of the crisis both female and male unemployment decreased down to 16.3 and 11.7 percent respectively, with a gender gap of 4.6 percentage points. Along with the increase of unemployment in the last five years the gender gap has been widened at some extent but remains close to 5.1 percentage points in 2017 (Figure 3).

Given that the female and male unemployment cycles resemble each other, we conclude that the employees with the lowest skill sets in the labor market may fare similarly, both employment losses and opportunities are just as easy or as difficult, i.e. the gender differences are not stark. That said, the explanation of the gender difference in unemployment as a structural inheritance of the past constitutes a different research agenda.

On the other hand, when we look at the labor force participation rates, the striking point is that the increase in female participation is much stronger. While the male participation rate increased slightly from 74.7 to 75.7 percent during the period of 2005-2017, female participation increased strongly by 9.3 percentage points from 20.8 to 30.1 percent. Note that this increase is the highest among the educational levels considered here. No doubt, this appetite for labor market participation observed among unqualified women is an exceptional phenomenon that requires further research. On the other hand, let us underline again that, despite the strong female labor force increase, the existing unemployment gender gap did not widen sizably.

Figure 3: Non-farm unemployment and labor force participation rates (%) (15-64, 2005-2017)



LFPR	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Female	20,8	21,0	20,6	21,2	23,0	25,1	26,5	27,0	27,8	27,4	28,5	29,3	30,1
Male	74,7	73,9	74,0	74,1	73,9	74,1	74,9	74,0	74,1	74,4	74,5	74,9	75,7

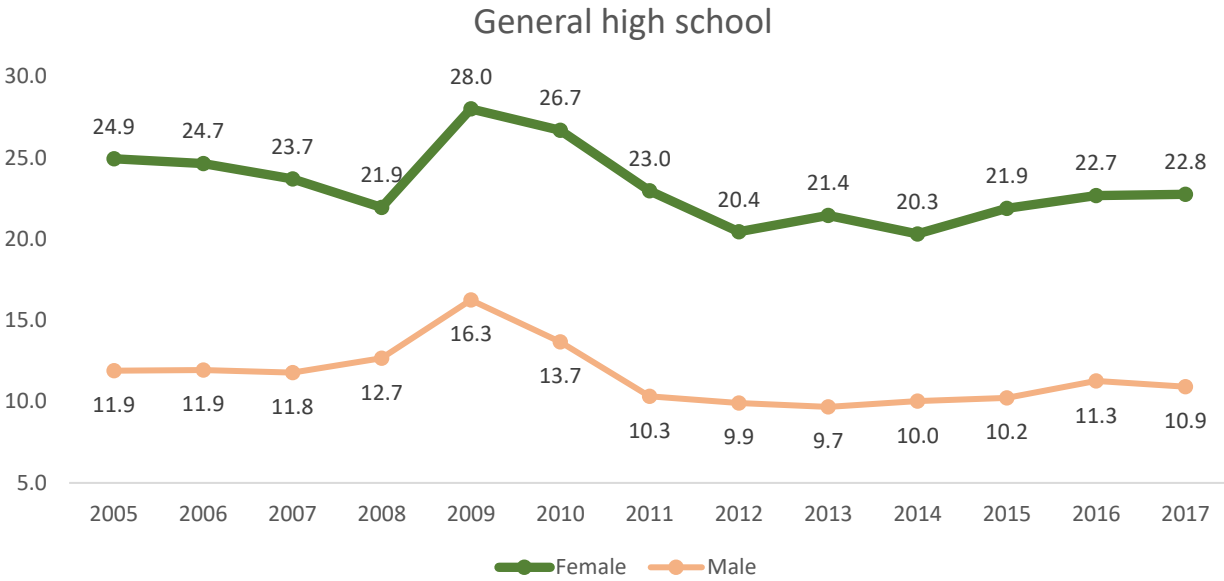
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The gender gap in unemployment rates among the general high school graduates is high

The gender gap in unemployment rates among the general high school graduates stays stagnant at a sizeable level. The stability it displays is strikingly similar to that of workers without a high school

degree (Figure 4). The gender gap started around 13 points in 2005, decreased to 9.2 points in 2008, but rose to 11.7 points following the crisis. It stayed stagnant until 2017. The gender gap remains at 11.9 percentage points at the end of the period. Note that the female labor force participation rates of high school graduate women decreased more slowly compared to that of women with lower skill levels. The female LFPR stood at 27.2 percent in 2005, increased by 7.7 points to reach 34.9 percent in 2017. The sources of this increase need to be analyzed further. Similarly, the male LFPR also increased sharply from 67.3 percent to 73.5 percent. Yet, we underline that the increase in the female LFPR is not the reason behind the widening of the gender gap in unemployment rates in this education category.

Figure 4: The non-farm unemployment rates and the LFPR of general high school graduates (%) (Ages 15-64, 2005-2017)



LFPR	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Women	27,2	28,3	28,9	29,6	31,0	30,9	30,9	31,1	32,5	32,4	33,3	34,4	34,9
Men	67,3	67,0	65,7	66,9	70,2	69,2	70,8	70,1	71,4	72,7	73,0	73,0	73,5

Source: Betam, HLFS micro data, 2005-2017

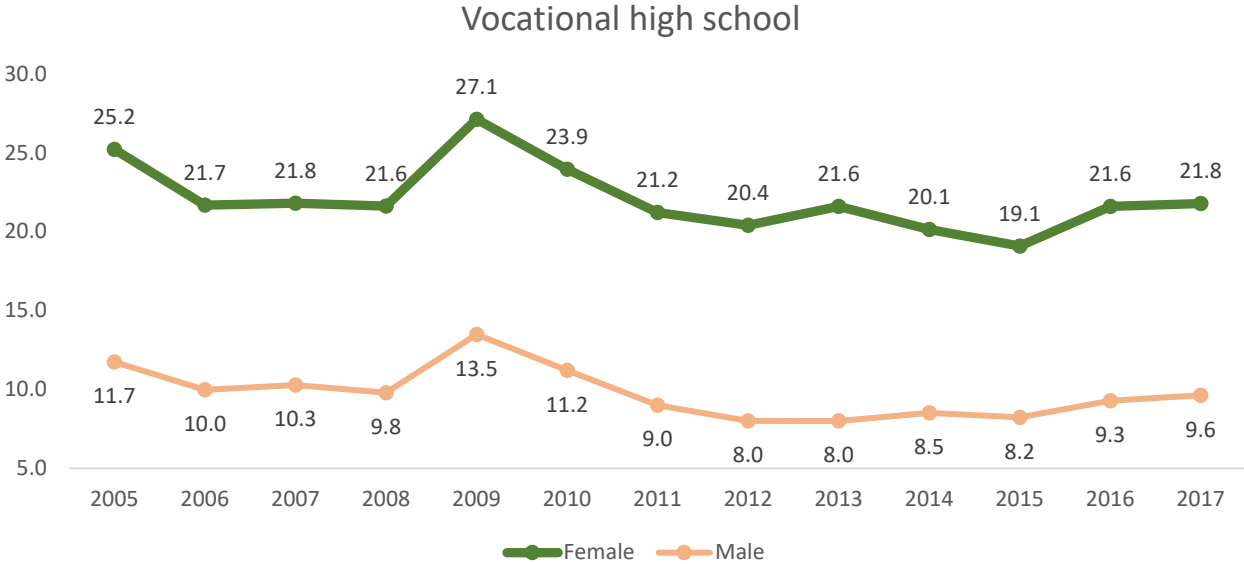
The gender gap in unemployment rates is high among vocational high school graduates as well

Another surprising finding of this research brief is the wider gender gap in unemployment rates among the vocational high school graduates compared to the general high school graduates. The fact that the highest unemployment rate among the vocational high school graduates, is one of the reasons behind this finding. Secondly, note that the gender gap in unemployment rates are again stagnant across the period under study. The difference of 13.5 points in 2005 increased to 13.6 points during the crisis, and decreased only to 12.2 percent in 2017 (Figure 5).

On the other hand, the female LFPR of vocational high school graduate women follows a similar trend to that of high school graduates. The female LFPR increased from 37.7 at the beginning of the period to reach 43.8 percent at the end, amounting to an increase of 6.1 points. Nevertheless, it is clear that the female LFPR is higher among the vocational high school graduates compared to those who are general high school graduates, at around 9 percentage points. This finding indicates that the vocational high schools may provide skills that are more compatible with the labor market relative to the general

high schools. Yet the unemployment rates are not lower. As for the men, the LFPR in this education category are relatively high (above 80 percent), yet the unemployment rates are not really different than those of general high school graduates. The data indicates that the problem lies not in the insufficient number of vocational high schools, but in the fact that the training provided does not translate to marketable skills, particularly among women.

Figure 5: The non-farm unemployment rates and LFPR among vocational high school graduates (%) (Age 15-64, 2005-2017)



LFPR	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Women	37,7	37,5	37,5	39,5	40,3	40,7	40,2	39,3	40,4	41,0	42,1	42,6	43,8
Men	82,6	81,5	82,2	82,1	82,8	83,0	83,3	82,4	83,0	82,3	82,9	83,7	83,2

Source: Betam, HLFSS micro data, 2005-2017

Worrying increase in the unemployment rates among the college graduates

A look at the gender gap in unemployment rates by education level, reveals that the unemployment rates among the college graduates followed a different course (Figure 6). Contrary to other education categories, the unemployment rates among college graduate women increased consistently across the period under study, i.e. 2005 to 2017, from 14.2 percent to 18.6 percent. During this period, unemployment rates among men followed a rather flat course around 9 percent. Therefore, the gender gap in unemployment rates among the college graduates increased from 6.1 points to 9.7 points (Figure 6). The reason behind the widening of the gender gap in unemployment rates is the steady increase in the unemployment rates of college graduate women.⁷

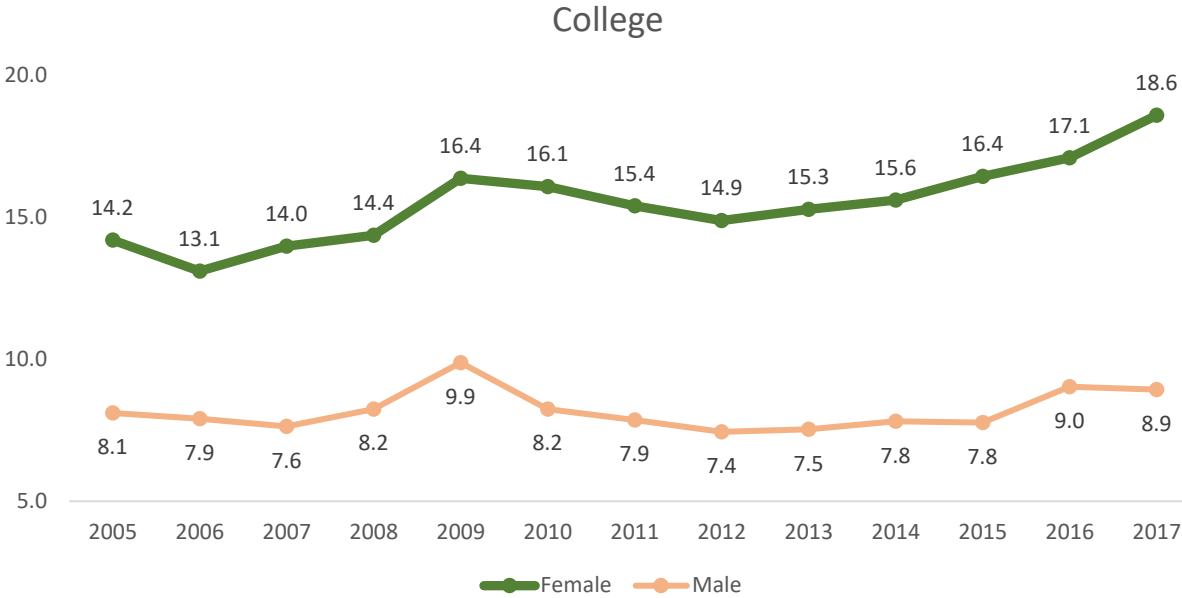
The labor force participation rates of this particular group increased by a mere 1.9 percentage points since the crisis. As such, it is much smaller than the increase among other groups. This limited increase may be due to an already high rate of participation. Furthermore, we would like to underline that the labor force participation rate of women with a college degree in Turkey is similar to those in Greece and Italy, the lowest rates in Europe. Yet, even though the increase in the rate remains limited, it still implies that approximately 175 thousand women with a college degree enter the labor market each

⁷ The share of women in non-farm employment who hold a college degree has increased to 39 percent in 2017.

year. In light of these findings, one could argue that, contrary to women with lower education levels, women with college degrees face additional barriers to employment along with the existing structural obstacles.

To shed light on the sources of this unfavorable widening of the gender gap in unemployment rates among the college graduates, we analyze the gender gap in different age groups within this education category.

Figure 6: Unemployment and labor force participation rates among the college graduates, by gender, (%) (Ages 15-64, 2005-2017)



LFPR	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Female	69,9	70,1	70,7	71,3	72,1	72,1	71,9	72,1	73,4	72,6	72,9	72,6	74,0
Male	86,2	85,6	85,7	85,9	86,4	87,1	88,1	87,8	89,0	88,3	89,4	89,3	89,6

Source: Betam, HLFS micro data, 2005-2017

Gender gap in unemployment rates by education and by age groups

The unemployment rates by gender and by age group are provided in Table 3, as well as the changes in 2005 to 2017. The unemployment rates are provided for 2005 and 2017, along with the gender gap, and its path for each age and education group. For example, the unemployment rates of college graduate women between the ages of 20 to 29 increased from 23.2 percent in 2005 to 29.6 percent in 2017. The unemployment rates among men with the same education level decreased from 17.8 percent to 17.5 percent. Hence, the gender gap in unemployment rates among college graduates between the ages of 20 and 29 widened by 6.7 percentage points $((29.6-23.2) - (17.5-17.8) = 6.7)$.

In light of this data on age and education groups, we conclude that the gender gap widens particularly for the college graduates between the ages of 20 to 29. It is particularly disheartening to see that the unemployment rate among this group of women has risen to 30 percent. The gender gap in unemployment rates among the 30 to 44-year-old college graduates has also widened, yet, the level of unemployment rates is considerably lower among this group.

Other groups that observed widening gender gaps in unemployment rates are high school graduates in age groups 30-44 and 45-64, 3.5 percent and 3.4 percent respectively. The unemployment rates among the 30-44-year-old high school graduate women stands at 20 percent, which is surprisingly high. More generally, the gender gap in unemployment rates among the lower education groups has been widening. This issue will be discussed further below.

Table 3: Non-agricultural unemployment rates, by gender, education and age group (%)

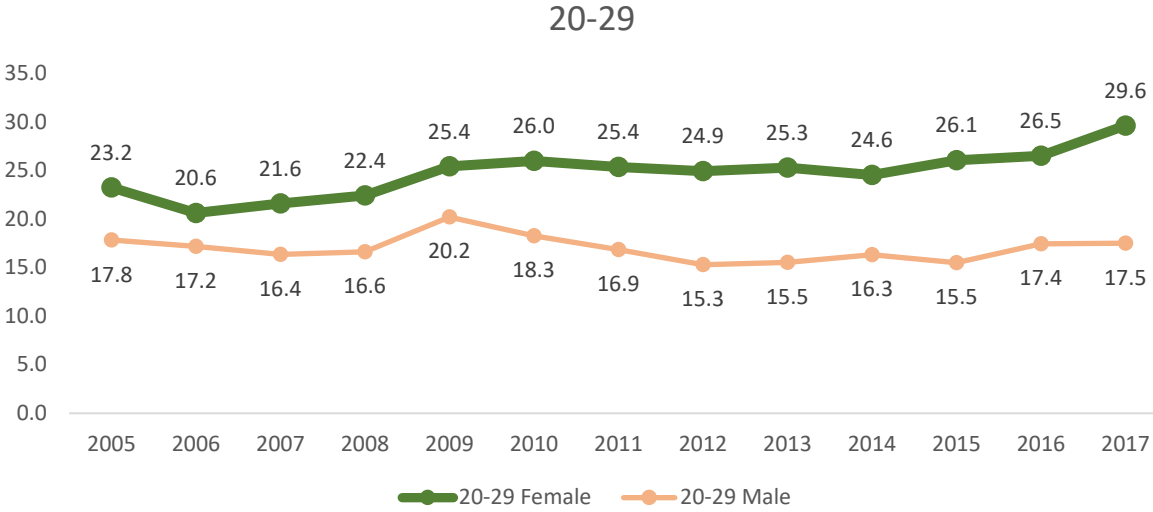
	20-29			30-44			45-64		
	(W ₁₇ -W ₅)			(W ₁₇ -W ₅)			(W ₁₇ -W ₅)		
	Women	Men	(M ₁₇ -M ₅)	Women	Men	(M ₁₇ -M ₅)	Women	Men	(M ₁₇ -M ₅)
COLLEGE									
2005	23.2	17.8		5.5	3.5		2.7	3.0	
2017	29.6	17.5	6.7	10.8	5.2	3.5	5.2	4.8	0.6
GENERAL HIGH SCHOOL									
2005	29.7	18.0		14.9	6.1		6.3	5.6	
2017	27.7	15.6	0.4	20.0	7.7	3.5	13.4	9.3	3.4
VOCATIONAL HIGH SCHOOL									
2005	27.4	16.3		15.3	5.2		7.7	6.9	
2017	25.7	13.3	1.3	16.2	6.0	0.0	11.5	7.8	3.0
LESS THAN HIGH SCHOOL									
2005	21.4	17.1		16.4	11.4		11.1	11.9	
2017	22.6	16.1	2.3	17.2	9.6	2.6	12.9	11.0	2.8

Source: Betam, HLFS micro data, 2005-2017

Unemployment rates of young women with college degrees

According to the findings summarized above, the unemployment rate of women with college degrees between the ages of 20 and 29 is considerably higher. The time trend of this rate is provided in Figure 7. Higher unemployment rates may partially be explained by the difficulties in finding a first job, and the instabilities during the first years in the labor market. Yet, the unemployment rates of young women are considerably higher than those of young men. In 2005, the unemployment rate among young women is 23.2 percent, that among men is 17.8 percent, which implies a gender gap of 5.4 percent. In the following 12 years, the unemployment rate among men stays pretty stable, however, that among women increases drastically, causing the gender gap to widen to 12.1 percentage points.

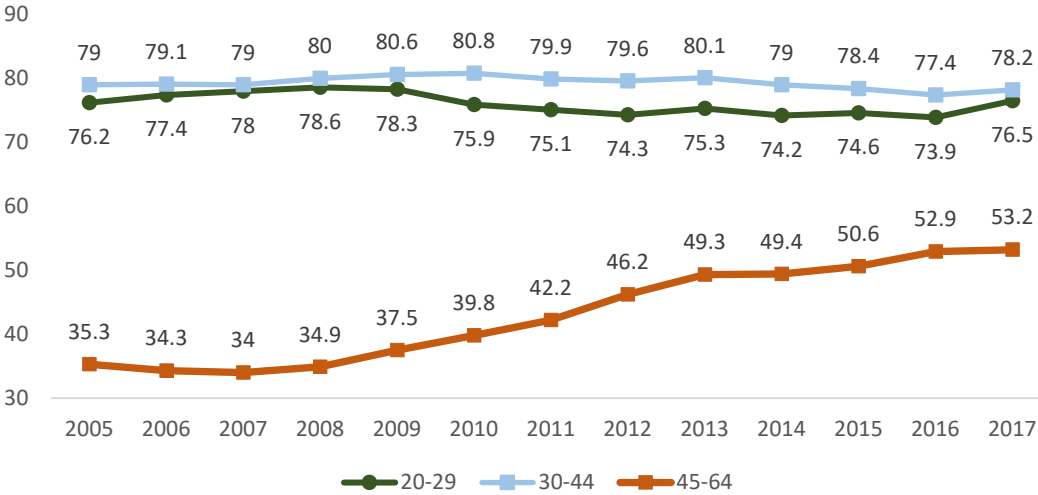
Figure 7: The unemployment rates of college graduates between the ages of 20-29 (%) (2005-2017)



Source: Betam, HLFS micro data, 2005-2017

Looking at the labor force participation rates of women with college education may provide useful insights. Data in Figure 8 reveals that the most striking expansion concerns the women above the age of 45, who choose to stay in the labor force for longer periods. In other words, the increasing labor force participation rates among this age group reflects the fact that they have been postponing retirement. One could argue that women who stay in the labor market until the age of retirement, have managed to do so thanks to relatively more stable jobs, thus would find it easier to stay.⁸

Figure 8: The labor force participation rates of college graduates by age groups



Source: Betam, HLFS micro data, 2005-2017

⁸ Note that many women exit the labor market in Turkey before reaching this age group, mainly due to marriage and care responsibilities.

Conclusion

The findings of this research brief show that the widening of the gender gap in unemployment rates has been caused by the drastic increase in the unemployment rates of women between the ages of 20 and 29 with college degrees. It is unexpected to see that these young women with relatively higher education levels in the labor market stands at such high levels.⁹ Clearly, this finding points to obstacles that young women with college degrees face in finding and keeping stable jobs in the labor market.

High unemployment rates may be caused by both demand and supply side problems. The labor force participation rates are similar across the 20-29 and 30-44 age groups. In Turkey, many women get married and have children between the age of 20 and 29. From the supply side, women may tend towards jobs with more flexible working conditions. In countries where women shoulder care responsibilities, they are more likely to take up jobs that offer more flexibility. Such opportunities that offer jobs with flexicurity remain very limited in the labor market in Turkey. Furthermore, given that care responsibilities fall disproportionately on the women, the relative cost of female employees is also higher. For example, firms are required to provide child care according to the number of female employees (rather than the total number of employees), the parental care after birth is defined as maternal leave, rather than parental leave, etc. Firms may be reluctant to hire women under these regulations that increase the relative cost of female employees. Note that women with higher education levels are more likely to look for formal jobs, precisely the types of jobs for which these relative costs are binding.

Lastly, the gender gap in unemployment rates among the lower education levels widened across the 45-64 age group. In the same age group, the gap among the college graduates is much smaller even if the female labor force participation rate of the latter group has been increasing, implying that the labor productivity levels of these women are relatively high. Postponing retirement may cause problems in accessing job opportunities, particularly for women with lower skill sets who are older. A closer study of their labor market experiences and their occupations may provide useful information.

⁹ The highest unemployment rate in the 20-29 age group belongs to women with college degrees (29.6 percent). In the same age group, the unemployment rates of general high school graduates stand at 27.2 percent, that among vocational high school graduates is 25.7 percent, and that among women with less than a high school degree is 22.6 percent.

Annexed Table 1: The unemployment rates of women and men by education levels (%) (Ages 15-64, 2005-2017)

	Illiterate		Less than high school		General high school		Vocational high school		College	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
2005	2.6	12.8	8.2	11.0	23.2	11.1	23.9	11.0	14.1	8.0
2006	1.8	13.3	8.8	10.4	23.0	11.2	20.9	9.4	13.0	7.8
2007	2.0	15.7	7.9	10.6	22.1	11.0	20.9	9.7	13.9	7.5
2008	2.8	17.3	9.1	11.6	20.6	11.9	20.6	9.2	14.3	8.1
2009	3.5	20.9	11.6	15.1	26.3	15.1	25.9	12.7	16.3	9.7
2010	2.8	16.5	10.5	12.4	25.0	12.7	22.5	10.6	15.9	8.1
2011	2.3	13.2	8.7	9.8	21.3	9.5	20.0	8.5	15.2	7.7
2012	1.7	12.0	8.2	9.2	19.0	9.2	19.4	7.5	14.7	7.3
2013	2.6	14.5	9.6	9.5	20.1	9.0	20.4	7.5	15.1	7.4
2014	3.4	16.2	9.5	9.7	19.0	9.3	19.3	8.0	15.5	7.7
2015	3.4	13.4	10.2	10.2	20.3	9.5	18.1	7.7	16.3	7.6
2016	3.8	13.3	11.1	10.1	21.1	10.5	20.6	8.7	16.9	8.8
2017	4.3	13.7	10.6	9.9	21.3	10.2	20.6	9.0	18.4	8.7

Source: Betam, HLFS micro data, 2005-2017

Annexed Table 2: The non-agricultural unemployment rates of women and men by education levels (%) (Ages 15-64, 2005-2017)

	Illiterate		Less than high school		General high school		Vocational high school		College	
	Female	Male	Female	Male	Female	Female	Male	Female	Male	Female
2005	17.7	23.4	18.0	13.7	24.9	11.9	25.2	11.7	14.2	8.1
2006	12.2	23.4	18.4	12.8	24.7	11.9	21.7	10.0	13.1	7.9
2007	14.5	27.7	16.8	13.0	23.7	11.8	21.8	10.3	14.0	7.6
2008	20.5	28.5	19.3	14.2	21.9	12.7	21.6	9.8	14.4	8.2
2009	23.3	33.8	23.4	18.7	28.0	16.3	27.1	13.5	16.4	9.9
2010	20.2	28.5	21.2	15.4	26.7	13.7	23.9	11.2	16.1	8.2
2011	16.1	23.5	17.9	12.4	23.0	10.3	21.2	9.0	15.4	7.9
2012	10.6	22.2	16.3	11.7	20.4	9.9	20.4	8.0	14.9	7.4
2013	14.4	25.2	17.9	12.0	21.4	9.7	21.6	8.0	15.3	7.5
2014	14.7	26.6	16.2	12.0	20.3	10.0	20.1	8.5	15.6	7.8
2015	12.9	21.3	17.1	12.5	21.9	10.2	19.1	8.2	16.4	7.8
2016	11.9	19.3	17.9	12.4	22.7	11.3	21.6	9.3	17.1	9.0
2017	12.8	20.3	17.2	12.1	22.8	10.9	21.8	9.6	18.6	8.9

Source: Betam, HLFS micro data, 2005-2017

Annexed Table 3: The rate of agricultural employment by education level (%) (Ages 15-64, 2005, 2017)

	2005		2017	
	Male	Female	Male	Female
Illiterates	51,9	87,4	37,9	69,7
Less than high school	22,2	59,3	20,3	42,9
General high school	7,9	9,1	7,8	8,1
Vocational high school	6,6	6,7	6,8	7,0
College	2,1	0,8	2,4	1,4
Total	17,0	44,7	13,8	27,2

Source: Betam, HLFS micro data, 2005-2017

Annexed Table 4: The share of men in employment by educational level (%) (15-64 yaş, 2005-2017)

	ERKEK						KADIN					
	Total	Illiterate	Less than high school	General high school	Vocational high school	College	Total	Illiterate	Less than high school	General high school	Vocational high school	College
2005	74.6	1.9	63.5	12.8	10.5	11.4	25.4	12.8	54.2	9.8	6.8	16.5
2006	74.3	1.8	62.7	12.2	11.3	12.0	25.7	12.1	52.8	9.8	7.5	17.8
2007	74.2	1.5	62.1	12.1	11.7	12.6	25.8	11.2	51.8	10.5	7.6	18.8
2008	73.6	1.5	61.7	11.8	11.7	13.3	26.4	10.5	51.2	10.2	7.8	20.2
2009	72.4	1.6	61.4	11.6	11.4	14.1	27.6	10.2	52.3	9.2	7.3	21.0
2010	71.6	1.5	61.6	11.1	11.0	14.7	28.4	10.6	53.6	8.5	7.0	20.3
2011	71.1	1.5	61.0	11.1	11.0	15.4	28.9	10.3	53.8	8.4	6.8	20.7
2012	70.5	1.4	59.3	11.1	11.4	16.8	29.5	9.7	52.5	8.5	6.7	22.6
2013	70.0	1.3	58.6	11.3	11.5	17.4	30.0	9.4	51.4	8.6	7.0	23.6
2014	70.2	1.4	58.1	11.1	11.3	18.1	29.8	9.0	50.6	8.6	7.1	24.7
2015	69.7	1.2	57.0	10.9	11.5	19.3	30.3	8.3	49.6	8.2	7.6	26.4
2016	69.3	1.2	55.7	10.9	11.9	20.4	30.7	7.3	48.6	8.3	7.7	28.2
2017	68.9	1.2	55.1	10.9	12.1	20.7	31.1	7.2	47.8	8.3	7.8	28.9

Source: Betam, HLFS micro data, 2005-2017

Annexed Table 5: The labor force participation rate of college graduates by age groups (%) (2005-2017)

College LFP (%)	20-29		30-44		45-64	
	Female	Male	Female	Male	Female	Male
2005	76.2	87.9	79.0	98.3	35.3	66.8
2006	77.4	86.6	79.1	97.8	34.3	66.4
2007	78.0	87.5	79.0	98.0	34.0	65.5
2008	78.6	87.9	80.0	98.0	34.9	65.8
2009	78.3	88.3	80.6	98.1	37.5	66.1
2010	75.9	86.2	80.8	98.1	39.8	69.9
2011	75.1	87.4	79.9	98.3	42.2	71.0
2012	74.3	86.3	79.6	98.0	46.2	71.1
2013	75.3	87.4	80.1	98.2	49.3	73.3
2014	74.2	85.2	79.0	97.9	49.4	73.2
2015	74.6	87.9	78.4	98.0	50.6	74.2
2016	73.9	87.6	77.4	97.7	52.9	74.1
2017	76.5	88.4	78.2	97.5	53.2	75.3

Source: Betam, HLFS micro data, 2005-2017