Hacettepe University Graduate School of Social Sciences

Faculty of Economics and Administrative Sciences

Department of Economics

EXPLAINING THE CAUSAL RELATIONSHIP BETWEEN FEMALE LABOR FORCE PARTICIPATION AND ITS DETERMINANTS IN TURKEY

Bengi SARSILMAZ

Master's Thesis

Ankara, 2018

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KABUL VE ONAY

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Bengi Sarsılmaz tarafından hazırlanan "Türkiye'deki Kadın İşgücüne Katılım Düzeyi ile Belirleyicileri Arasındaki Nedensel İlişki Analizi" başlıklı bu çalışma, 29 Mayıs 2018 tarihinde yapılan savunma sınavı sonucunda başarılı bulunarak jürimiz tarafından Master tezi olarak kabul edilmiştir.

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o **Serbest Seçenek/Yazarın Seçimi**

29 /05/2018

Bengi Sarsılmaz

ETİK BEYAN

ETİK BEYAN

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DEDICATION

This thesis is dedicated to my brother, Selahattin Burak Sarsılmaz.

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ABSTRACT

Sarsılmaz, Bengi. *Explaining the Causal Relationship Between FLFP and Its Determinants in Turkey*, Master's Thesis, Ankara, 2018.

Despite female labor force participation rate (FLFPR) has steadily increased from 2005 onwards in Turkey, Turkey is still one of the countries having the lowest FLFPRs in the international arena. Furthermore, the labor force participation rate varies substantially by gender in our country. As is known to all, providing high level of economic development in a country can be possible on the condition that high quality of human capital is utilized, gender inequality is eliminated and employment rate is kept up at a high level. Therefore, the objective of this thesis is to present the main barriers preventing women from the labor market in Turkey. This study also aims to draw attention to the reasons behind the labor supply barriers of women from the causal perspective. For this purpose, the impacts of the determinants have been estimated using the data from Household Budget Surveys for the period of 2013-2015 via econometric analyses such as Probit, GSEM, and Mediation. This thesis is unique in terms of employed analyses (GSEM & Mediation) which have not taken place in explaining FLFP either locally or globally. On the one hand, the results of this thesis have been consistent with the findings which were specified both theoretically and empirically in the previous studies. On the other hand, this thesis is differed from the previous ones by testing the hypothesis such that "Turkish women participate in the labor market mostly by considering their opportunity costs for non-market activities." In conclusion, education has been found the key factor affecting women's participation since the opportunity costs for non-market activities are mostly determined by the education levels of women. Additionally, marital status, fertility, age, household income, household expenditure, asset ownership, and if married, spouse employment status are the other important factors affecting the women's participation decisions in Turkey.

Keywords

Female Labor Force Participation, Causality, Opportunity Cost of Not Being Participated in the Labor Market, Education, Fertiliy, Probit, Generalized Structural Equation Modeling, Mediation Analysis, Box-Tidwell Transformation

ÖZET

Sarsılmaz, Bengi. *Türkiye'deki Kadın İşgücüne Katılım Düzeyi ile Belirleyicileri Arasındaki Nedensel İlişkinin Açıklanması*, Yüksek Lisans Tezi, Ankara, 2018.

Türkiye, kadınların işgücüne katılım oranı açısından 2005 yılından itibaren istikrarlı bir şekilde artış göstermiş olsa da uluslararası arenada hâlâ en düşük kadın işgücüne katılım oranına sahip ülkelerden biri konumundadır. Bunun yanısıra, işgücüne katılım düzeyinde cinsiyet eşitsizliği ülkemizde oldukça yüksek seviyededir. Bilindiği üzere, bir ülkenin ekonomik düzeyde kalkınmasını sağlamak ancak kaliteli beşeri sermaye kullanımı, cinsiyet ayrımcılığının giderilmesi ve toplam istihdam düzeyinin yüksek seviyede seyri ile mümkün olabilir. Bu nedenle, tezin temel amacı Türkiye'deki kadınları işgücü piyasasından engelleyen temel bariyerleri ortaya koymaktır. Çalışma aynı zamanda kadınların işgücü arzındaki bariyerlerinin arkasında yatan temel nedenlere nedensel bakış açısı ile dikkat çekmeyi amaçlamaktadır. Belirleyici faktörlerin etkisi, 2013-2015 yılları arasındaki Hanehalkı Bütçe Anketlerine ait verilerin Probit, GSEM ve Mediation gibi ekonometrik analizler kullanılarak tahmin edilmesiyle elde edilmiştir. Bu çalışma, daha önce kadın istihdamını açıklamada hem yerel hem de küresel çapta yer almayan analizlerin (GSEM ve Mediation) kullanılması bakımından farklılaşmaktadır. Bir yandan tezdeki analizlerin sonuçları daha önce bu alanda gerçekleştirilen çalışmalardan elde edilen bulgular ile hem teorik hem de ampirik olarak tutarlılık arz etmektedir. Öte yandan tez, test etmiş olduğu hipotez (H0: Türk kadınları işgücü piyasasına en çok piyasa dışı faaliyetlerindeki fırsat maliyetlerini göz önünde tutarak katılmaktadırlar.) açısından diğer çalışmalardan farklılaşmaktadır. Hipotezin sonucu olarak, piyasa dışı fırsat maliyetinin en çok kadınların eğitim düzeyi tarafından belirlenmesi nedeniyle eğitimin Türkiye'deki kadın işgücü katılımında en önemli faktör olduğu tespit edilmiştir. Bunun yanısıra, medeni durum, çocuk sahipliği, yaş, hanehalkı geliri, hanehalkı harcama düzeyi, mal sahipliği, ve eğer kişi evli ise eşinin çalışma durumu da Türkiye'de kadınların istihdama katılma kararlarında önem teşkil eden diğer faktörlerdir.

Anahtar Sözcükler

Kadının İşgücüne Katılımı, Nedensellik, İşgücüne Katılmamanın Fırsat Maliyeti, Eğitim, Çocuk Sahipliği, Probit, Genelleştirilmiş Yapısal Eşitlik Modeli, Aracılık Analizi, Box-Tidwell Dönüşümü

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ABBREVIATIONS

EU: European Union

ELET: Early Leaving from Education and Training

FLFP: Female Labor Force Participation

GSEM: Generalized Structural Equation Modeling

HBS: Household Budget Survey

ILO: International Labour Organization

ISI: Import Substitution Industrialization

LFP: Labor Force Participation

LFPR: Labor Force Participation Rate

MENA: Middle East and North Africa

MoNE: The Republic of Turkey Ministry of National Education

NEET: Not in Education, Employment, or Training

NES: National Employment Strategy

OECD: Organisation for Economic Co-operation and Development

OLS: Ordinary Least Squares

PCA: Principle Component Analysis

TURKSTAT: Turkish Statistics Institute

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CHAPTER 1

INTRODUCTION

High labor force participation of women is a desirable and an expected goal due to several purposes. First, female labor participation contributes to the household economy and reduces poverty by increasing family budget. In addition, families' welfare levels such as saving, investment and consumption behaviours are affected in a positive way in the case that women work. Second, economic independence empowers women's position in their social circles. Women's empowerment triggers the country's growth by formalizing the human capital characteristics of the next generations. Third, providing gender equality in terms of labor market has incontrovertible benefits. As gender inequality decreases, a higher utilization of human capital increases the level of economic development in a country. Moreover, gender equality in the labor market influences equality of other social and familial environments as well. Therefore, FLFP has a great importance in all countries regardless of being developed or underdeveloped.

As is known, Turkey is one of the countries which has the lowest female labor force participation rates across the world. The labor participation rate also varies substantially by gender in Turkey. According to 2016 TURKSTAT Labor Force Statistics, the labor force participation rate of Turkey is at a very low level with 52%. On the gender basis, the participation rate is 32,5% for females versus 72,0% for males. Turkey is close to the averages of EU (75,5%) and OECD (74,7%) countries in terms of male participation rate whereas it lags behind in terms of female participation rate. The average FLFP rate is 59,3% for OECD countries and 61,3% for EU countries in 2016 according to the OECD report (OECD Quarterly Employment Situation News Release: 3rd Quarter 2017). According to the International Labour Organization (2017), the average of FLFP rate is 51,5% for Latin America and the Caribbean and, 47,8% for South Africa. Furthermore, the average of the World is 48,7%. Except Middle East & North Africa (20,6%) and Arab World (20,9%), Turkey remains at the backrows in terms of female labor force participation rate in the world. When FLFP rate of Turkey is examined for

the period between 1988 and 2016, the decreasing trend was observed in the period between 1988-2005 whereas increasing trend afterwards. Female labor force participation rate has increased nearly 10 points from 2005 (23,6%) to 2016 (32,5%). Despite, the upward trend is a remarkable improvement for Turkey in recent years, Turkey still needs to take actions in order to reach an expected level. Furthermore, Turkey can compete with developed countries in terms of economic welfare provided that the higher level of human capital is utilized.

In this context, the main objective of this thesis is to indicate which factors prevent women from the labor market in Turkey in recent years. However, identifying these determinants solely is not sufficient for giving detailed information about FLFP in Turkey. For this reason, the second objective is to observe the reasons behind the determinants from the causal perspective. In that case, we confront a hypothesis such that "Turkish women participate in the labor force mostly by considering their opportunity costs for non-market activities." This hypothesis is also tested and proved for cross segments via advanced econometric analyses.

Differently from the previous studies in the literature,

- This thesis does not only specify the important determinants, but also brings out the causal relationships between the determinants. For instance, previous studies have indicated the significance of education while this thesis reveals the reasons why education is significant or to what extent education is effective under different woman's life cycles such as being married, having children etc. Therefore, all factors are examined in the light of the cause and effect relationship.

- This thesis is unique in terms of used analyses which have not taken place in explaining FLFP either locally or globally.

- Structural Equation Modeling (SEM) is a multivariate statistical analysis method which enables the researchers to observe the structural relationships. Since the dependent variable is binary, Generalized Structural Equation Modeling (GSEM) is used which is an extensive module of SEM. While SEM is mostly used in marketing,

psychology and other social and behavioural sciences, this method has not been used for FLFP in labor economics before.

- Mediation analysis is generally carried out in SEM as a module in order to reveal the direct and indirect effects of independent variables to explain dependent variable. This thesis analyzes the effect of demographic characteristics and household income in order to explain household expenditures. This analysis enables to observe the impact of "the opportunity cost" for each sub-sample.

- This thesis obtains the results by covering a wide range of variables and a large sample size. Totally, 19 variables related to 35.984 individuals are used for different analyses. Furthermore, the data reflects the current situation in Turkey since time period of this study comprises the recent years of Household Budget Surveys (HBSs) as 2013, 2014, and 2015.

Thesis is organized as follows: The next section is devoted to a progress of female labor force participation within the historical process and the main barriers against women in Turkey. In Section 3, several important empirical studies are stated in the existing literature within the scope of three regional clusters: developed countries, developing countries and Turkey. In Section 4, employed data set and methodologies are presented. In Section 5, several analyses such as Probit model, GSEM and Mediation are carried out and interpreted the estimation results. Section 6 concludes thesis by examining the inferences with the existing policies and giving a set of policy recommendations.

CHAPTER 2

THE PROGRESS OF FLFP WITHIN THE HISTORICAL PROCESS & THE MAIN BARRIERS AGAINST WOMEN

2.1 THE HISTORICAL PROCESS OF FLFP IN TURKEY

Before interpreting the current situation of women in Turkey, it is important to understand the status of women in terms of both sociological and economic sides within the historical flow. Although evolution of the women's position in Turkey covaries with the women's position in the world, some religious, cultural and political differentiations and reflections of these facts on women's lives demonstrate variations in each society. Turkish women have gained many civil and political rights such as "public or out-of-home working opportunities", "high education rights" and "rising employment facilities" in the Republic Period. Within this context, if Republic Period is accepted as the breaking point, obtaining more economic and social acquisitions by Turkish women, it enables us to understand the structural variations between pre and post periods better.

2.1.1 FLFP in the Pre-Republican Period

Since early Turkish communities adopted nomadic life style, social and economic ascribed roles of men and women didn't much differentiate. In those times, it was obviously seen from the researches and the epics that Turkish women had the similar social rights as compared to Turkish men. For instance, In Orkhon Inscriptions, women (spouses) were mentioned as the ones who were responsible for the state affairs by means of their deep knowledge. It was also mentioned that women had voices in the political area and gave orders when it was required (Dulum, 2006: 4).

Not only were Turkish women found in the political life but they were also personally included in the working life. They were responsible for feeding of their families by engaging with some manual labors such as weaving, slivering, painting, and engraving.

Further, they took part in the wars together with men (Kırkpınar, 1999: 45-51). Women in the Turkish society were seen as men's mates and their complements.

However, the change in the social structure, the adopted religion within the misleading perspective and the changing social relationships were the main factors causing to degrade the statue of women over time. In the Ottoman Empire period, women were tried to be more isolated from the society by being under the influence of Byzantine and Iran traditions. In addition to this, agricultural based life style restructured the gender-based labor division of women and men. In the 16th century, the rescripts which were about the restrictions of the women's life were enacted. These unfavorable social regulations against women mostly affected muslim and non-muslim women in the urban sides. Despite the fact that the negative attitudes towards women's social life were obviously examined, there weren't any visible preventions on the women's economic lives such as "participating in the labor force" or "engaging in the commercial activities". On one hand, women who lived in the rural sides especially participated in the production areas such as agricultural, animal husbandry and handcraft activities. On the other hand, women who lived in the urbans worked in the shops as being shopkeepers or labourers. Their main responsibilities were selling clothes, jewelleries or engaging in the handlooms (Dulum, 2006: 55).

Women's education levels had been very low until rescript of Gülhane declared. Women had only education rights in the infant's schools, educating only religious matters (Caporal, 1982). They could continue to receive education provided that their families had financial possibilities to cover their educational expenses. Therefore, women in the urbans worked in the jobs which required neither high education nor high qualifications (Dulum, 2006: 60).

However, some remarkable improvements were observed in the women's working life in Tanzimat Reform Era. By means of publications which were aimed at increasing women's education levels and encouraging them to participate in social and economic life, women deserved to be educated in high school (idadi), junior high school (rüşdiye), industrial schools and teacher's training schools (Aydın, 2015). In addition to this, women were educated in the nursing and midwery branch for the first time in 1843.

Women in the high society had been at home in the urban areas previously, entered into the working life within Tanzimat Reform Era (Aslan, 2006: 120-121). Tanzimat Reform Era was the period which contributed to improve women's social, educational and economic lives by providing major and permanent reforms.

In other respects, Industrial Revolution leaded to discover new industries and to increase production possibilities at the end of the 18th century. The growing industries and the new economic world also enabled the foundation of capitalism. By the effect of the Industrial Revolution and the Reforms, women's working area was expanded within the capitalist system. Women had engaged in weaving, painting, and engraving in their homes previously, started to work in the industrial factories and the market working places in that period. Even though employment opportunities were enlarged for women in that period, they worked in terrible conditions. Women were subjected to long working hours, low wages and poor occupational healthy and safety conditions. Moreover, there weren't any kindergarden or nursing assurance for the use of their children (Makal, 2012).

At the end of the Ottoman Empire period, successive Ottoman wars, given capitulations to the foreigners and the lack of men in the labour force lead to heavy economic burden. By the Balkan War of 1915, women's labor force participation gradually increased in order to fulfill the absence of men who attended the army in the war. Women's labor force participation rate continued to increase during the WWI, the National and the WWII. However, although some women continued to stay in the labor market after the wars, most of women lost their jobs and returned to their traditional household works due to men's coming back (Mardin, 2000).

Through the end of Ottoman Empire period, weaving industry, especially cotton and silk weaving were the main manufacturing sectors for women. The tobacco industry was another important area where women's participation was about 50%. Similar to the industrial sector, women were also employed in the service sectors. Women's concentration on some special works such as weaving demonstrated gender-based occupational segregation in an obvious way (İnan, 1968). For instance, women couldn't be employed in the public sector during the first half of 19th century. From the second

half of 19th century, they started to work in the public, especially in health and education sectors (Aslan, 2006: 120-121).

In conclusion, in the beginning of the 19th and 20th centuries, women who had worked only in the agribusinesses or the handcraft related jobs in their homes, started to work in the market places and the factories by the effect of the reforms which were implemented in Tanzimat. Similar to the Ottoman women, European women were also involved in the labor force in that period. The main difference was that European women claimed their rights on the working conditions in that period (Dublen, 2014). Therefore, the authorities made discussions about the improvements in women's working conditions in Europe whereas such discussions did not exist in the Ottoman Empire at all.

2.1.2 FLFP in the Republic Period

In the Republic period, the attributed value towards women has increased considerably. New type of schools were opened with the aim of improving women's education levels. A high school for girls was opened for the first time in Ankara in 1922. Subsequent to the alphabet reform, women who were older than the formal training age learned how to read and write. Women who were educated in these schools went out from their houses and attended the social and working life. Women physicians were assigned to the Ministry of Health for the first time in 1930. Lawyer women participated in the Law Society (Baro) for the first time in 1928 (Aydın, 2015: 92).

The data related to women's working rates and the distribution of the working fields are very limited for the first years of Turkish Republic similar to the Ottoman Empire period. The first and the most important data related to female working rates were acquired from "1927 Industrial Counting" which was country-wide counting without any limitations. According to the results of this counting, rate of working women was 23,73% for over 14 working population. In addition to this, the rate of working girls was 35,74% for below 14 working population. When two groups were merged, 25,58% of them were women workers in total. In other words, one out of four employees was a woman or a girl (Makal, 2010: 21). Another finding from 1927 Industrial Counting was that the traditional sectors were the most preferred working fields among women. 43,7%

of adult women employed in agriculture based industries and 48% employed in weaving industries. As for the working girls, the rate increased to 70% in agriculture based industries and decreased to 24,5% in weaving industries (Makal, 2012: 53).

Since Ottoman Economy had been mainly agricultural in terms of production, Turkish Republic also aimed to increase the agricultural production capacity by adopting import substitution development strategy in those years. Through this strategy, the first stage meant producing basic consumer goods, like foods and textile products. Unfortunately, majority of women weren't educated or qualified enough to work as industrial employees in big-size enterprises. Similar to this, they couldn't take part in the employment area which were related to the production of the durable consumer goods or the industrial sectors (automotive, ship building etc.) within the second stage of Import Substitution Industrialization (ISI) (Toksöz, 2012). Therefore, this strategy couldn't much contribute to FLFP in the early Republican Period. The distribution of women's working fields didn't much differentiate in the period of 1920-1950. The occupational distribution demonstrated the similar characteristics in the early Republican period as in the Ottoman period. In other words, the share of the traditional working fields still remained to be quite high (Makal, 2010: 25).

Despite all these negative conditions against women, the rate of working women increased considerably in 1940s. Based on General Directorate of Prime Ministry Statistics, the FLFP rate has increased by 12% from 1937 to 1943. Such major increase within 6 years is worth to be considered. Although Turkey didn't attend to the Second World War, majority of men were taken under arms due to mobilisation. The decrease of men in the labor force was tried to be fulfilled with woman and youngs in that period as in the previous war years. Undoubtedly, some legal arrangements related to the labor rights were put aside or smoothed over so that employers could easily employ women and young workers (Makal, 2010: 24).

After the effect of the Second World War was over, labor force participation rates have decreased gradually after 1950s. Table 1 indicates labour force participation rates by gender among 15 and over population. Since there is a lack of annual data for this period, each data represents 5-year periods covering from 1955 to 1985.

Table 1: Labor Force Participation Rates by Gender and Years

	LFP Rate of Males	LFP Rate of Females
1955	95,3	72,0
1960	93,6	66,3
1965	91,8	56,6
1970	84,7	50,9
1975	85,4	47,4
1980	84,9	46,3
1985	83,3	44,3

Source: State Institute of Statistics (Statistical Indicators:1923-1990, Table 1-8)

As can be seen from Table 1, labor force participation rate of men was significantly more than the rate of women in all years. Decreasing trends are observed for both genders. However, the decline of women's labor force participation rate was more rapidly than that of men in that period. The gap in labour force participation from 1955 to 1985 is 12 points for men whereas it reaches to 28 points for women.

The main reason of this decline was concerning the new economic growth strategy in Turkey. A structural alteration was observed by the effect of the export-led growth strategy which were implemented in 1980s. Share of agriculture was decreased as a result of reducing subsidies from IMF. Instead, share of industrial and services sectors were aimed to increase. Correspondingly, the FLFP decreased in the agriculture sector.

Along with the decline of the agriculture sector, migration from rural to urban areas came to the forefront in the post-1950 period. Women who had worked as "unpaid family workers" without any social securities in the rurals, started to be positioned as "housewives" upon their migrations (Önder, 2013: 36). Although, women became more conscious about the new and the industrialised economic world which required high technical and further education levels, some traditional attitudes imposed restrictions on women preventing from working in the market in those years. The thought of "a woman's place is in the home" prevailed in that period (Kocacık and Gökkaya, 2005: 196).

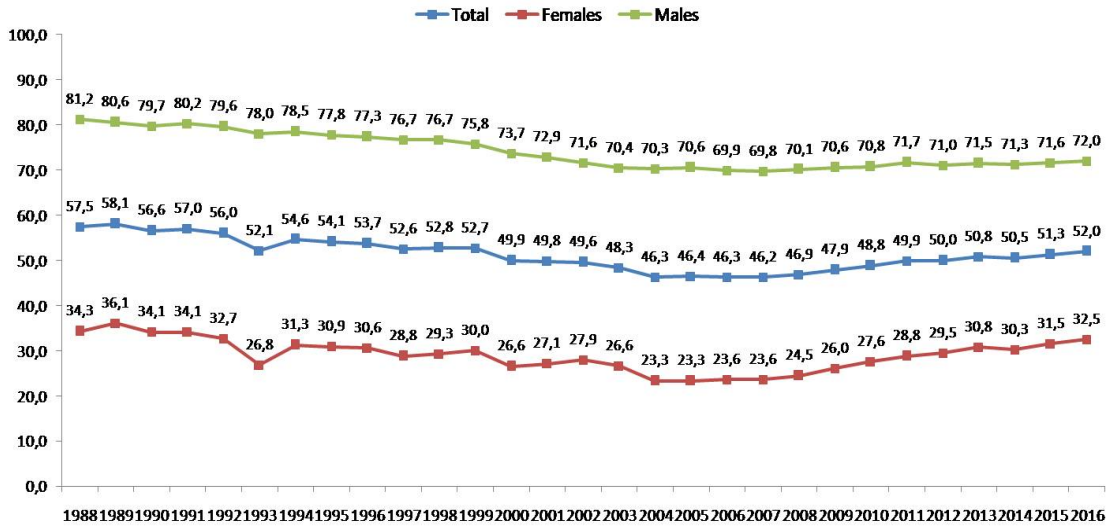
In addition to this, investments to manufactured or industrialized goods which were positioned as the underlying category of the export-oriented growth couldn't be increased at the expected level. On the contrary, the ratio of women workers decreased in industrial and services sectors in that period and agriculture remained as the main sector for women (Özer and Biçerli, 2003-2004: 64).

Although stability policies were implemented after 1980s in Turkey, high inflation rate couldn't be prevented. Therefore, wages and agricultural incomes depreciated excessively. Since the purchasing power declined, as the secondary labor force, women who hadn't entered in the labor force, tried to participate. However, since they didn't get benefit from the employment capacities which were generated in the industrial and the services sectors, they directed their supply to the informal sector. This situation also caused to accelerate the decline in FLFP trend (Ecevit, 1993: 127).

The labor force participation rate has been annually measured by TURKSTAT since 1988. As it is seen from the below graph, Turkish economy hasn't been successful at generating employment in the post-1980 period. The labor force participation rate has significantly decreased from 57,5% to 46,2% between 1988 and 2007. Turkey's working-age population grew by sixteen million people, yet only four million people could enter in the labor force participation additionally during that time.

On gender basis evaluation, the continuous downtrend was observed for both women and men until 2007. However , the trend has become stable for males from 2007 and onwards. Although male labor force participation rate has been increased by 1% in the 2007-2016 period, this increase is not significant. Interestingly, female labour force participation rate has increased from 23,3% to 32,5% in the 2005-2016 period. Although the uptrend shows a remarkable improvement, it still lags behind the level of 1988-1990 period. In addition to this, female labor force participation is persistently lower than that of males as it was observed in the previous periods.

Figure 1: Labor Force Participation Rates by Gender from 1988 to 2016



Source: TURKSTAT, Labor Force Statistics

When Turkey is compared to the developed countries in terms of labor force participation, it is obviously seen that Turkey is differentiated from these countries in a negative way. According to the OECD data, "OECD Quarterly Employment Situation News Release:3rd Quarter 2017", the average female labor force participation rate in 2016 was 59,3% in OECD member countries and 61,3% in the European Union countries. Turkey's female labor force participation was only 31.2% which is much lower than these averages. However, the gap narrows at the male based comparisons. The average male labor force participation rate in 2016 was 74,7% in OECD and 75,5% in the European Union countries. Turkey's male labor force participation rate was quite close to these averages with 70.1%. Nevertheless, Turkey has the lowest labour force participation rates for both genders among OECD member countries.

When regional FLFP rates are examined, we can observe that women's labor force participation in urban areas is lower than rural areas in Turkey. According to TURKSTAT Labour Force Statistics, the female labour force participation rates in the urban and in the rural area are 28% and 36,7%, respectively in 2013. One of the main reasons of this difference is that woman in the rural can work as an "unpaid family worker". Although there are many conceptual global discussions whether unpaid family workers can be included in the employed group or not, this type

of worker is counted as an employee in Turkey. On the contrary, the situation totally differs for women living in urban areas. Education level becomes a main determinant of working in the non-agricultural sectors. Therefore, the uneducated or the less educated women couldn't participate in the labor force in the urban areas (Dublen, 2014: 55).

Apart from the regional differences, similar to the early Republican period, the primary causes for the declines in the post-1980s are related to the transition of a production structure which is shifting from agriculture to industry and service sectors and migration movements from rural to urban areas. Both long-run transformations cause to the shifts in the economic and demographic structures. These shifting structures negatively affect the labour force indicators regardless of gender. However, women's difficulties entering into the labor market cannot be explained by only these transformations. The traditional gender-based labor division (woman is positioned as "home-maker" and man as "decision maker"), the gender-based occupational segregation and the negative social approaches against women preventing them from the labor market (Degirmenci, 2009).

Although, female labor force participation rate has decreased by 1980s, it shows a slight increase in the last years. As a result of the equalitarian policies, the trend of FLFP rate in the developed countries is in line with the general trend. As for Turkey, legal precautions which provided the equality of women and men have been mostly taken from 1995 onwards. It is possible to mention that the importance in gender equality has been comprehended in the later years in Turkey as compared to the developed countries. (Kılıç and Öztürk, 2014: 108). In addition, this increase cannot be only explained by equalitarian policies. Since women are considered as reserve labour force in Turkey, economic crises also affected.

In this section, social and economic transitions of women were stated within the historical context. In addition to this, labor force participation trends together with the primary reasons were demonstrated in order to overview the status of females at the macro level. In the next section, barriers and difficulties, encountered by the women in participating the labor force will be examined in detail. Furthermore, the legal regulations within the Republic period will be stated as well.

2.2 THE BARRIERS PREVENTING WOMEN FROM THE LABOR FORCE PARTICIPATION

2.2.1 The Conservative Social Attitude Against Women

In our time, the first and the most barrier of FLFP could be determined as the conservative social attitude against women in all areas. The place of women in society is under pressure in social, educational and economic fields. In terms of economic field, women are mostly obliged to work in labor intensive, low-paying, unqualified and low-skilled jobs. In addition to this, some qualified jobs with high salaries are off-positioned against women due to the gender segregation in the professional life. Being not implemented the "equal pay for equal work" policy efficaciously, working at low-status, part-time and informal jobs and the low unionization rate are accepted as a result of the view such that women is in secondary position within the labor force (Ulutaş, 2009: 27-28).

Further, although the domestic works are seen as the women's role in the society, the in-house efforts of the women are not appreciated or not valued. Unpaid domestic and caring responsibilities imposing on women are the result of the gender inequality in the patriarchial societies. This attitude also leads to regenerate the inequivalent position of the women against men, exploit their efforts and restrict them to reach the social sources (Eğitim-Sen, 2010: 28).

Another discriminating issue against women is observed in the "acceptance to a job". Even if a woman and a man have the same education levels and similar qualifications, employer tends to bring in man by thinking that women cannot work in the long term as compared to men due to the pregnancy or children caring (Turgunalı: 57).

Policies concerning the women's employment are also quite conservative in Turkey. For instance, the Labor Law 4857 Article 72 forbids women employing in the underground and underwater jobs such as mines and the tunnels construction. Although this law aims to protect women, it leads to the negative impact on women's images

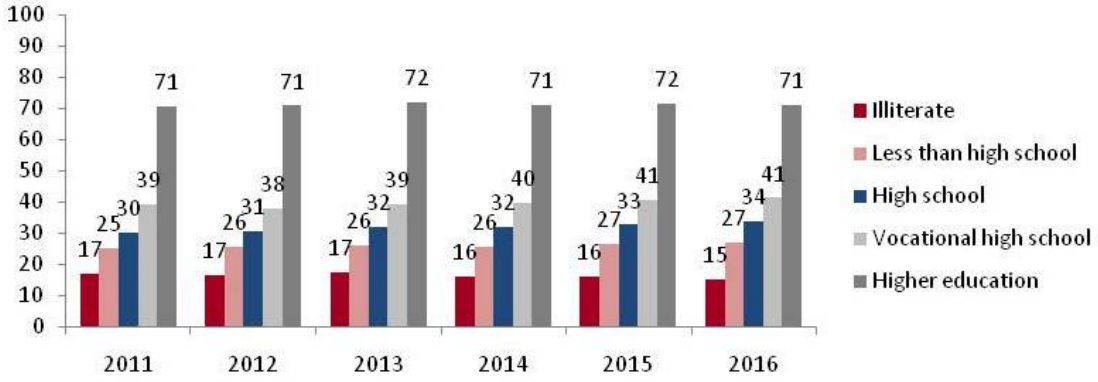
from the perspective of “weaker sex should be protected” (Özer and Biçerli, 2003 2004:70).

Moreover, most of the women do not make decisions on labour force participation alone in Turkey. Unfortunately, their employment decisions are mostly influenced by husbands' permissions, social norms and care responsibilities (Göksel, 2013).

2.2.2 Low Education Level

Low participation rate of women in the labor force is mainly stemmed from the women’s insufficient education levels. Figure 2 demonstrates that there is a very strong link between the education level and the FLFP in Turkey. While university or higher educated women tend to more participate, the low-educated ones prefer to remain out of the market.

Figure 2: FLFP Rates by Education Level between 2011 and 2016



Source: TURKSTAT, Labor Force Statistics

The main reason of the strong relationship is that low-educated women earn low wages and work under severe conditions such as “working in the long-hours” or “working without any social security”. In this case, the opportunity cost of the working is quite high for them. Therefore, instead of being existed in the labor force, they tend to do their houseworks and care their children or elder people in their households. Moreover, the kindergardens, creches or daycare centers are costly in Turkey and even if the low-educated women work, these costs will be unaffordable for them. While these issues

prevent women from the labor market, the strong relationship between education and labor force participation doesn't exist for men. It is more likely a result of the continual traditional perspective to men's role in Turkey.

In recent years, some education based campaigns such as "Snowdrops", "Let's Go to School, Girls" and "Dad, Send me to School" supported by international organizations, private sector and non-governmental organizations have been implemented in order to reduce the drop-out rates for girls. In addition to this, "Operation for Promoting the School Enrollment Rate Especially for Girls II" was implemented by MoNE General Directorate of Vocational and Technical Education between 23rd March 2015 and 23rd February 2017. The aim of the project was to increase the primary and secondary school attendance of girls and the awareness of the families with regard to the importance of the girls' educations. Another project, "Mother and Daughter at School" aimed to increase the literacy rate. With the scope of the project, 2.139.981 deserved to have literacy certificates in the period between 2008 and 2012 (The Republic of Turkey Ministry of Family and Social Policies, 2017). These projects have aimed to increase educational level of women and to reduce gender inequality of basic educational levels. In addition to this, increases in the number of schools and universities have contributed girls' attendancy in the last years.

On the other hand, the gender discrimination still continues in the vocational and technical education institutions in which male students exist predominantly. These institutions have a great importance in preparing students for employment and upskilling. Although any obstacle doesn't exist to enter in the vocational and technical schools, these schools are traditionally seen as "masculine" and most of the girls do not prefer (Önder, 2013: 49). Some regulations and communication activities that emphasize the importance of such schools may increase the awareness of public on this matter.

2.2.3 Informal Economy

"Informal employment" has increased gradually due to the economic and global developments since 1970s. Globally, the developed countries decided to move their production activities in the low-wage countries by aiming to take competitive advantage in the international arena. This leads to increase informal employment, which is mostly seen in the under-developed and developing countries, comprises employees who are not subject to legal regulations, taxation, social security and other side benefits such as annual and administrative leave etc. Women have predominantly existed in this type of employment in these countries. As for Turkey, uneducated or low educated women in the urbans still cannot find enough working opportunities in the formal economy which leads them into the informal employment. According to the TURKSTAT 2016 statistics, 43,5% of women work in the informal economy. In other words, almost 1 out of 2 women is outside of the social security system. Further, informal employees are mostly found in the labour intensive sectors such as textile, clothing, food, and service sectors whereas they are counted as unemployed.

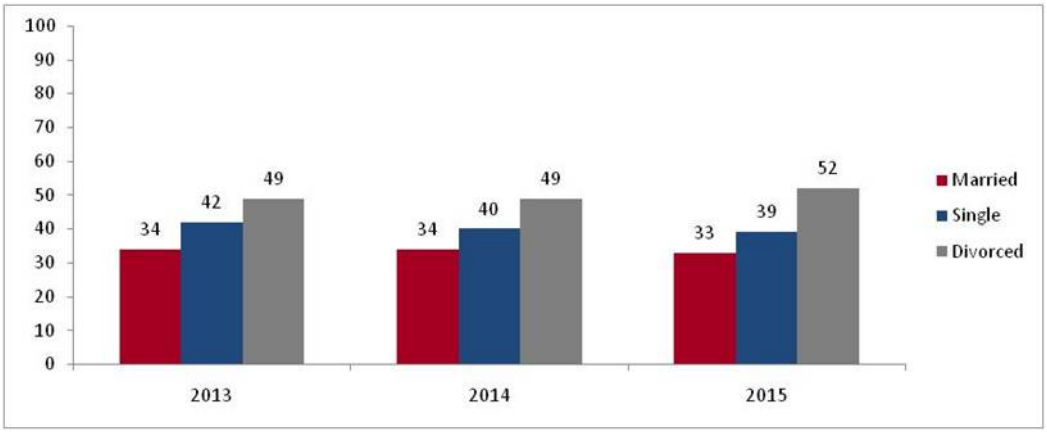
Some regulations and strategies have been enacted to struggle against the high levels of unregistered employment. Ministry of Labour and Social Security has published National Employment Strategy (2014-2023) which has aimed to solve the structural problems of the labour market, to develop solutions for both unemployment and informal employment issues. According to NES, the main strategy aimed at increasing the registered employment level in the agriculture sector since the highest level of informal employment was observed in this sector. Once the size of sector is totally determined, right policies can be generated accordingly. The other strategy is to increase the social awareness by carrying out the activities towards promoting registered employment. Another strategy focuses on "women employees" in the informal employment. Through this strategy, Ministry of Labour and Social Security has determined that a majority of the informal employed women exist in the small and medium enterprises, thus Ministry has planned to make incentives to these enterprises in order to support formal employment. However, this strategy seems to remain passive and doesn't center upon women directly, yet the given incentives can make a little contribution to increase formal employment in small and medium enterprises.

According to the TURKSTAT statistics, informal employment level has been in decline over the last ten years. Provided that some sanctions or penalties have been carried out effectively, the rate of informal employment can be reduced in the near future. However, high population growth, regional backwardness, internal migrations to the big cities and high refugee rates are the primary drawbacks to struggle informal employment. Additionally, the prevalence of working at homes (working by the piece, as a maid etc.) and part-time working are the main obstacles for women in this transition.

2.2.4 Marital Status

Marital status of women is one of the main determinants affecting female labour force participation in Turkey. Figure 3 demonstrates that married women are less likely to participate in the labor force as compared to the single and divorced women.

Figure 3: FLFP Rates by Marital Status



Source: TURKSTAT, Labor Force Statistics

The main reason is that married women have a double burden when they participate in the labour force and married working women spend much longer total hours of work as compared to houseviwes (Dildar, 2015: 26). According to 2015 TURKSTAT Time Use Survey, working women spend their times on domestic activities five times more than working men. Regardless of being employed or not, cooking, childcaring or tidying are seen as the women's primary responsibilities from traditional perspective. In this case, most of the married women prefer to be out of market.

Furthermore, as the number of children increases in the household, the likelihood of women's participaton decreases. It is likely related to the increasing cost of creche or kindergardens. Also, having more than one child increases the mothers' burdens significantly. Probably because of this situation, married employed women have less children than married unemployed women (Yıldırım and Doğrul, 2008: 249).

Several rules and regulations were enacted in order to protect the married women employees, especially in the urban areas. For instance, Labor Law declared that "women have right to get compensation if they quit their jobs after marriage based on the unwillingness of their husbands them to work". However, this law is open to be abused and has a negative impact on FLFP. Another law is about the "lactation rooms" in the workplaces. The women employees are obligated to go lactation rooms if 100-150 women workers are employed in their workplace. This requirement may restrict women from working out-of-home jobs in Turkey (Turgunalı, 2016: 58).

Although the fertility rate negatively affects FLFP, the government insists on the statement such that married women should born at least 3 children. By the bag law which was accepted in Grand National Assembly of Turkey, the children who were born in 15th May 2015 or afterwards, maternity allowance have been given to the mothers for each born child. Based on this policy, 300 TL was paid for the first child, 400 TL was for the second and 600 TL was for the third child without any condition in 2016. If women record in the social security system, the quantity of subsidies increases to 4.521 TL for the first child and 14.000 TL for the third child due to the temporary incapacity. This policy has also been valid for today. In addition to this, government supports women who are giving birth in nursing benefit or milk allowance. Although these subsidies are evaluated as being significant and positive, the increase in the number of children prevents women from FLFP. Moreover, one-off subsidies do not generate temporary solutions for increasing the employment level.

The current legal regulations are not only limited with the subsidies. "Tax Income Law Article 6663" and "Law Amending the Revenue Law" which are effectuated on 10th February 2016, regulated some personal rights of working females. Through these

regulations, working women were entitled to work part-time by two months for the first child, four months for the second child, and six months for the third and more children without any pay reduction. Also, the wages are paid by their employers within their part-time working period. In addition to this, working parents acquired to work part time right until the school age for each child (The Republic of Turkey Ministry of Family and Social Policies, 2017). All these policies provide much more flexibility to the working married women in Turkey. On one side, these privileges which are granted to the women are very positive. On the other side, these policies will bring the pecuniary obligations to the employers if they prefer the married women in their recruitment processes, especially in the private sector. As a result, the employers may not tend to employ married women. Even if they employ women, they are likely to pay the lower wages to them by considering the other special rights which were given by the government. This situation also leads to increase the gender inequality in terms of wages and recruitment processes. Therefore, a part of the charges caused by these policies should be undertaken by the state instead of the employers.

2.2.5 The Difficulties at Working Life

The gender discrimination in the labour force is mainly defined by a metaphor which is called as a “Glass Ceiling Syndrome”. It describes the invisible barriers that prevent women from participating in the labor market or rising their positions in an institution or getting promotions and additional benefits by considering only their genders. Therefore, even if women participate in the labour force, low rate of women can exist in the high level or senior management positions in Turkey as well as in the world.

According to the State Personnel Presidency of September 2017 data, 62% of the parmanent staff is male and 38% is female. The proportion of the women increases to 40% at only the staff titled in the public institutions whereas it decreases to 32% at the top management level such as being ruler and prosecutor.

The barriers are generally seperated into three categories such as individual, organisational and social within the “Glass Ceiling Syndrome”. The lack of confidence, not being tendency to improve themselves or not taking challenging duties are the main barriers from individual factor. The organisations which make the gender biased decisions and the managers who do not support women employees are the main obstacles resulted from organisational factor. As a last, gender role stereotypes lead to the social factor as another barrier for women (Karaca, 2007). By improving the education levels, providing high performance in their jobs and developing their professional skills, women can break down the prejudices of the societies. In fact, blocking the glass ceiling is in the women’s hands.

Last but not least, a part of nonworking women in Turkey are not counted as unemployed since they have searched for a proper job for a long time and finally lose their hopes to find a job. Thus, they define themselves as “housewife” in consequence of their desperations. If those were counted as “unemployed”, the unemployment rate among women will go up sharply.

CHAPTER 3

LITERATURE REVIEW

Many global and local researches have been done regarding to the female labour force participation and its determinants up till today. Women constitute half of the population in the world, therefore attaining sustainable growth will be possible provided that women can enter the labor market effectively. In this section, some important empirical studies in the existing literature are stated within the scope of three territorial divisions: developed countries, developing countries and Turkey.

The main reasons behind such regional classification is mentioned as follows:

- “The opposite trends” are the main differentiated point. Based on ILO statistics, while the average female participation rate has risen by 4% from 1990 to 2017 among high income countries, there is a decline of 4% in developing countries within the same period. Therefore, the studies in the developed countries have focused on the determinants of increasing female labour force participation whereas the other studies belonging to the developing countries have centered upon the main barriers behind the low female participation rate within recent decades.

- “Education” is still the main focusing area which is used to explain the main determinants of female labour force participation in the developing countries. However, since education levels are quite high for both genders in the Europe and the USA, this variable hasn’t been used among the latest studies.

- “Marital status” is one of the main determinants of female labour force participation among developing countries. “Being married” has a significant and negative impact on FLFP in almost all surveys in those countries. On the contrary, researches indicate that this variable is not an issue for the developed ones.

- The main hot point among developed countries is “the changing social attitude” and “the positive reflection of this alteration”. Many surveys have revealed that as the social

attitudes toward women move away from the traditional perspective, the level of entering in the labor market comes up considerably. However, this inferential hasn't been on the agenda among developing countries at all.

- Even if "fertility" is needed to be examined among both developed and developing countries, the approaches of the studies separate such that the developed countries handled the maternal employment with the non-parental child care usage while the developing countries only demonstrate the negative impact of fertility since the number of daycare centers or child care rooms haven't been enough to examine yet.

- Turkey is evaluated as being one of the European countries based on its geographical position and regime. However, Turkey also differs from Europe with its religion and some specific characteristics such as low female labour force participation rate. Therefore, analysing both developed and developing regions will be beneficial to understand Turkey thoroughly.

3.1 "Fertility" and "Social Attitude" as the Main Topic of Research Agenda among Developed Countries

Based on International Labour Organization, ILOSTAT database, the participation rate of the female population over 15 years old is 48,67% in 2017 all over the world. This rate increases to 51,05% in European area and 55,73% in the USA.

The negative relationship between female labour force participation and fertility is the long-lasting inquiry in the literature. It can be argued that decreasing fertility leads to increasing female labour force participation, and rising female employment leads to falling fertility rates. Engelhardt et al. (2004) examine the causality in the long-run relationship between fertility and the women's employment by using time series data from 1960-2000 for 6 developed countries namely; France, West Germany, Italy, Sweden, the UK, and the USA. Bi-directional causality is found as a result of the Vector Error Correction Models with a combination of Granger-Causality test. Another finding is quite striking since the common independent factors such as social norms, social

institutions and financial subsidies affect both variables. Therefore, although negative and significant correlation between FLFP and the fertility rate was found until 1970s, this correlation has become weaker and insignificant afterwards. It can be understood from the comprehensive study that social attitude has converted positively towards women in time among the developed countries. Accordingly, the social institutions such as the availability of childcare centers have reduced the negative position of the maternal employment.

Another study which comprises Europe was executed by Vlasblom and Schippers in 2004. They aim at revealing the determinants behind the significant increase in female participation rates in Europe, especially among married women. Some behavioral and characteristic factors are examined in the period of 1992-1999 across 6 European countries namely; (West-) Germany, Spain, France, Italy, the Netherlands, and the UK. The effects of behavioral and characteristic attributes are separated by using decomposition analysis. The behavioral effect is associated with the social norms and attitudes whereas the characteristic effect is formed by age, education and the number and the age of children. The results of the logit model suggest that since the educational levels among women are very high and the educated women fact become “normal” in the European countries, the effect of education has reduced in terms of participation in all countries. In addition to this, although fertility is still considered as the important factor for labour supply, the women tend to delay the first child or prefer fewer children ownership. Therefore, the demographic or characteristic attributes have decreased their importance levels as compared to the previous era. On the contrary, the main determinant is found to be behavioral differences between generations. In other words, norms and values in society have changed with the thought that working married women become common in all European countries and this alteration has been reflected by the shift in the social institutions of the welfare state. Therefore the EU policies which aim at increasing female participation rates have eased “work and family” procedures. Despite these policies have not provided much contribution on the children effect, the policies mostly change the perspective towards women and the labour supply patterns in the European area.

Treas and Widmer (2000) analyse the data from 23 developed countries across the world aiming at classifying the countries in terms of the attitudes towards married women's employment. They find three different attitude types such as "work oriented", "family accomodating" and "motherhood centered" based on the following question as "Do you think that women should work outside the home full-time, part-time or not at all?" under some life-course stages. 80% of the participants agree with the full-time employment, 15% part time and 5% staying at home by considering the women's period of "after marriage, before child". These rates change completely when thinking of the women with children. 9% of the participants agree with the full-time employment, 39% part time and 52% staying at home as considered the women is "being mother". Despite all countries support women's full time employment before children, all of them agree that becoming mother reduce the labor supply. Nevertheless, developed countries have demonstrated variations. Based on cluster analysis, The Netherlands, Israel, Canada, Germany(East), Norway, Sweden, and the US are in the "work oriented" cluster in which participants are least likely to recommend that women stay at home regardless of life-course stages. "Family accomodating" which is the biggest cluster in countries such as Australia, Austria, Germany (West), Great Britain, Italy, Japan, New Zealand, Northern Ireland, and Russia. Participants in this cluster are less likely to support full-time employment after children are grown. On the other hand, in motherhood centered cluster, respondents are more conservative on gender roles and are most likely to recommend that women should stay at home when they become mother. Bulgaria, the Czech Republic, Hungary, Ireland, Poland, Slovenia and Spain are characterised as motherhood centered. The result of the study indicate that having children is the main barrier even in the developed countries whereas being married is almost not. Positive attitudes towards married women's employment are in the consensus among developed countries, however minor attitude deviations in shade are observed in the motherhood stage.

Similarly, another study conducted for Ireland (O'Sullivan, 2012: 228-231) observe labour supply patterns. The aim of the study is to know whether the significant increase in FLFP is correlated with the changes in the gender role attitudes in Ireland. The data related to 1988, 1994 and 2002 from International Social Survey Programme (ISSP) is

selected to observe the variation in time. It is concluded that Irish attitudes have been mostly changed towards the family and gender roles within the period between 1988-2002. As Irish are away from traditional attitudes, their perspectives become more positive and work oriented towards maternal employment.

Another paper which investigates the intertemporal labor force participation decisions of married women was written in Germany by using the German panel data during the period 1990-2007 (Croda et al., 2011: 5-17). The linear probability model, static and dynamic random effects probit models were used to add state dependence and unobserved heterogeneity. In all models, "fertiliy" (measured by the number of children) is found as the most important determinant among different age groups in terms of participation decisions. On the other side, the husband's income has a small impact on the decisions except for the dynamic fixed effects probit model.

The recent surveys in the USA have shown minor differences from Europe due to the fact that the fertility issue is handled with the childcare availabilities directly. One of the studies conducting in the USA explores the relationship between the increasing maternal employment and the rising usage of non-parental child care, in particular the geographic supply of child care in Maryland (Herbst and Barnow, 2008: 138-147). The geographic supply of child care includes both the neighborhood's stock of family-based slots and center-based slots. Based on Ordinary Least Square and Three-Stage Least Square methods, it is determined that increasing both type of slots are associated with the rising rates of female labor supply. The result has a great importance for Maryland since state gives incentives in order to increase child care supply especially for low income districts.

Another study which calls attention to the childcare is conducted by Knobloch (2013). She noticed that the child care costs highly varied among the states between nearly $4.000 to $12.000 per year. The main aim of the study is to learn whether the high costs prevent women from entering the labour force or not. Based on the ordinary least square (OLS) regression model, it is found that the cost of child care is a critical factor in the female labour force participation. If the child care costs are up to $9.389, the costs will have a significant and positive effect on FLFP. However, if the costs are more than that,

the situation will become reversed. In that case, the costs have a significant but negative effect on FLFP. Additionally, it is revealed that the other factors such as the rate of adults with bachelor's degree and the rate of white people have positive impacts on FLFP in the USA.

Despite the fertility, child care availability and the social attitudes toward women have been the main research topics in Europe and USA in the recent decades, several researches still consider macroeconomic factors such as taxes, government policies next to the demographic factors. To give a clear example; Balleer et al.(2009) analyse the main determinants of the rising female labour force participation among 5 European countries by using a cohort based model. A number of time-varying variables such as union density, labor taxes, implicit tax on retirement for older employers, rate of educated young people, number of children and life expectany are analysed within this model. As a result of the estimation, labor taxes, labor unions, employment benefits, the number of children and the age levels of participants are specified as the main and common determinants in the European area whereas the impact level varies across age groups and countries.

3.2 "Education", "Marriage" and "Fertility" as the Main Topic of Research Agenda among Developing Countries

Based on 2017 ILOSTAT database, the female labor force participation rate has remained even less than half of the world average among developing countries. For instance, the rates of MENA region and Arab world are 20,6% and 20,9% respectively. Therefore, the surveys related to those regions give close attention to the main tangible barriers such as education and fertility behind the low participation rate instead of the social attitudes or norms.

The comprehensive paper which adresses the four countries of Arab World (Oman, Jordan, Palestine and Kuwait) was written by Al-Qudsi (1996:17-18). In his paper, it was highlighted that only 17% of Arab women participate in market formally in 1995 and this rate is worse among the women on the marriage age. The estimation results of the maximum likelihood female labor supply function reveal that there is a considerable

negative dependency between fertility and participation rate. In addition, there is a strong relationship between education and participation in all four countries. In other words, education plays a crucial role on engagement of Arab females in the market activities. Furthermore, education does not only appear a motivator for participation, but it provides continuity as well. Women with higher levels of education involve sustainably in marketing activities across all age groups as compared to the ones with lower levels of education.

Similar outputs are obtained in one of the study which is conducted for Pakistan (Ali et al., 2017). The women population has increased in time in Pakistan while the participation rate remains quite low and in a declining trend. Therefore, the female employment becomes an important discussion in the country. Time series data in the period between 1973 and 2014 was analysed with the binomial logit model. Education is the main trigger factor on FLFP. Literacy rate has importance as well, but since the literacy rate is high in the country, it doesn't provide the incremental effect afterwards. Age and experience of women are also indicated as the positive triggers in Pakistan in addition to education. Interestingly, many women work in their family jobs as being self-employment. The study finds out that declining self-employment and rising participation in the labour market leads to increase per capita income.

Aboohamidi and Chidmi (2013) also examine the effect of the main economic, social and demographic determinants on labour force participation in 4 countries such as Egypt, Morocco, Turkey and Pakistan from 1990 to 2008. These countries are thought to have similar characteristics due to the fact that the majority of all these countries are Muslim and have similar FLFP rates. The models of pooled, fixed and random effects were used in this study. The empirical results have indicated that the literacy and the urbanization rates have significant positive effect on FLFP whereas factors such as GDP per capita and fertility rate are exact opposite.

Another study conducting for Egypt (Nazier, Ramadan 2016: 14-15) examine the individual, household and social variables for specifying the constraints and the opportunities of female employment by using the "Egypt Labor Market Panel Survey" which was conducted in 2012. The results demonstrate that age, education level and

mother's employment status are the main determinants of FLFP in Egypt. The women with children have lower probability to be employed. However, when they are employed, they are more loyal to the public sector which is known as "family friendly sector". Three crucial outputs have been found as a result of the study. Firstly, when a woman's mother works, she is considered to be a role model in Egyptian community since she encourages to their children to obtain more education and to participate in labour force. Secondly, the education levels of women have positive significant effect on being employed in the public sector although it has no effect on their participation decisions. Lastly, the communities where they live plays a crucial role affecting their decisions.

Ogawa (2007: 84-103) also examines the effect of education and household factors on the probability of FLFP and separated the factors into formal and informal sectors in Indonesia by using the Indonesian Family Survey which was conducted in 2000. Probit model estimations indicate that being married, belonging to Islam religion, monthly income and the education level of household head, and family size have significant negative relationship with FLFP in all provinces in Indonesia. On the contrary, female's age influences the possibility of employment positively. Especially, 40-60 age group has the highest possibility. This finding is explained that this age group has an advantage of having much time since they don't spend their time on child rearing. The study also defined the J-curve relationship between FLFP and educational attainment. The probability of participation is higher among females who are incomplete primary educated, upper secondary and university graduated and it declines among primary and secondary graduates. Although education level is not considered as the main determinant of FLFP, as the education level increases, the participation rate of informal sector gets lower in Indonesia.

As one of the developing countries, India has shown some specific features such as low participation rate among women, variance in the rates over Indian states, and working in the informal sector to a large extent. The study deals with the rigidities in Indian labour market to reduce the informal employment alongside the determinants of female labour force (Das et al., 2015). Similar to the other developing countries, married women, women with young children and literate but less educated women are less likely to be in

the labour force. In additon, the women who are living in the households with high per capita expenditure are less likely to work. Increasing labor market flexibility is also important factor leading to allow more women who work in the informal sector to be employed in the formal sector. As a result of the study, it is recommended that high social spending and high investment in education should play crucial role to boost female workers of human capital.

Though a majority of surveys handled the demographic factors in developing countries, such macroeconomic indicators as GDP and economic development have been also investigated in a relationship with female labour force participation. Bhalotra and Umaña-Aponte (2010) aim at analysing the relationship between FLFP and GDP in the developing countries by using an unprecedented individual data which involved around 1,1 million women in 63 developing countries across 21 years, 1986-2006. The data covers the information about the education of the woman and her husband, the marital status, age, children number and household wealth as well as GDP per country. Country fixed effect model is used for controlling the individual characteristics while regressing individual employment on GDP. Overall, the 10% drop in GDP (recession) leads to increase 0.74% increase in FLFP. By region, the relationship between women's employment and GDP is negative for Asia and Latin America whereas positive for Africa. African women behave in a different way mainly due to the less paid employment opportunities and insurance problems. On the one hand, the increase in paid employment parallels with the sharp drop in total umeployment in Asia and Latin America. On the other hand, since there is a decline in paid employment and rise in self employment, total employment level doesn't increase in Africa. This study also find out the negative effect of fertility (the presence of a child under 5) on female labour force participation in the developing countries.

Verick (2014) also indicates that understanding the pattern between women's labor participation and economic development is complicated although it has been widely examined based on U-shaped relationship. Education levels, fertility rates, childcare availabilities, social norms also effect the participation rates in a country, therefore it can vary remarkably across the countries. In this study, exact U-shaped relationship between log(GDP per capita) and female force participation rates can not be found in

the 169 countries due to the outlier countries. For example, Turkey and India have lower participation rates in comparison to the the countries which have similar income levels while Brazil and China show above the curve line according to their income levels. Instead, U-shaped relationship has been found between the education level and female labour force participation. The considerable finding is that the labor market is convenient provided that women are graduated from at least secondary school. At higher levels of education, potential income is a motivator factor which overcomes social restrictions.

Overall, after the recent surveys which we have examined in the recent literature, we can conclude that “education” is at the common issue among developing countries although each survey demonstrates some specific territorial issues. Despite the literacy rates have considerably increased in recent years, the primary educational level is not enough to participate in the labour force, especially in the formal labor market. It can be understood from J-shaped or U-shaped curve patterns, the less educated women are still obliged to work in very hard conditions without having any social security in those countries. Provided that the educational level increases at the high levels (at least the completion of secondary level which are found out in the surveys), the participation rate will rise in the developing countries. As the second point, being married and having child are the main barriers which continue to isolate and distinguish women from the social and working environment in those countries. Childcare availabilities, state supports or positive social attitudes towards married women in terms of employment haven’t been on the literature agenda at all. This situation indicates that “female labour force participation” issue should not only be considered in the scope of economy, but it should also be evaluated in the scope of politics and sociology among developing countries.

3.3 Empirical Studies for Turkey

In general, the recent surveys related to Turkey have focused on the similar issues with the developing countries with regard to the determinants such as education, marital status, fertility, age, household income, and spouse's income.

Common result of these studies shows a strong link between female education level and female labor force participation. However, different studies handle this relationship from different aspects. İlkkaracan and Acar (2007: 34-36), for instance, find that high education level in comparison with illiterate has positive effect as expected on the probability of participation. What is remarkable from the Household Labor Force Survey data in the 1988-2006 period is that there is a large gap between genders with the same educational levels. They have pointed out the gender gap and suggested that only university education can jump the female participation due to the opportunity cost of non-participation and affordability of childcare. In addition, according to Yıldırım and Doğrul (2008: 254-255), to the extent that women rise their education levels, their willingness to participate in the labour market increase regardless of their marital status. However, the estimation result of logistic regression model based on Household Budget Survey suggests that the least educated women are also willing to participate in the labour market. This situation may be explained that the women who are less educated are likely to have less household income. Therefore,they are willing to work for earning additional income. This fact also remind us the J-shaped or U-shaped curve pattern which we have investigated in the developing countries. Moreover, İnce and Demir (2006: 85) also emphasize the link between education and fertility based on the results of time series regression in the period between 1980 and 2004. It is indicated that the improving education will cause to low fertility and low unemployment rates. Accordingly, the combination of all these factors will cause to a higher level of FLFP in the community. Additionally, based on Yumuşak's study (2003), the net return of education on women is more than that of men. Secondly, the return on women's education is higher in developing countries as compared to developed ones. Lastly, providing the gender equality in terms of education will effect economic development in a positive way. These findings also indicate the importance of women's attainment to higher education with regard to the economic dimension.

Another common result of these studies is that being married and having children considerably declines the probability of participation for women. Kılıç and Öztürk (2014: 124-126) find that marital status is one of the main determinants effecting female labor force participation rate. Married and divorced women are less likely to participate labor force as compared to the single ones based on probit model. What is noteworthy from this study is that the probability of married women's participation is also lower than the divorced women. They emphasize the main barriers of women as the domestic responsibilities and affairs within the context of traditional aspect. It is also revealed from this study that having children less than 5 years old, elder people more than 65 years old and disability people reduce the female labour force participation. Further, according to the size of the marginal effects, having children less than 5 years old in the household has the most significant factor preventing women from the labour force. In addition, Yıldırım and Doğrul (2008) separate the age of children into two groups such as 0-6 aged and 7-18 aged in order to measure the effect of children's age on the women's participation. Both age groups have negative effect on female labor force participation rate but the coefficients are statistically insignificant. Instead, the number of children has a significant negative effect on women's willingness. Therefore, it is deduced from this survey that the number of children is more important barrier than the age of children in terms of the participation decisions among married women. Additionally, the married women are more likely to participate in cases which their children go to the kindergartens or creches. Moreover, Dayıoğlu and Kırdar (2010:39 43) draw conclusions from 2006 Household Labour Force Statistics data that despite being married has negative impact on participation in both urban and rural areas, the negative impact is stronger in urban area. Further, the divorced women in rural area are less likely to work. However, this case is not valid for urbans. While the number of children have negative effect in the urbans, the effect is almost none as for rurals. İlkkaracan and Acar (2007: 34-36) also find that having children less than 12 years old in the household causes to reduce the likelihood of women's participation of all groups except the women who are graduated from university.

Household income is needed to be examined due to the fact that as the household income increases, women are less likely to participate in the labor market in Turkey.

Kasnakoğlu and Dayıoğlu (1997) indicate that the family income and women's non wage income have a negative impact on their participation. They associate this finding with the traditional perception of women being secondary employees to men. In addition, according to Dedeoğlu (2000: 152), the type of family income and the other income sources are important. Economic distress compels women to enter the labor market directly. On the contrary, women think that their working period is temporary and they are not willing to participate labour force when the economic difficulties are resolved in their families. Additionally, the income, educational level and employment status of spouses are the other considerable factors with regard to the women's participation decisions. Similarly, Kılıç and Öztürk (2014: 124) find the significant negative impact of annual household income on female participation in the urbans whereas the impact is insignificant in the rurals. It can be interpreted that this situation is a result of unpaid family workers at the high levels in the rural areas.

Although conservatism is of vital importance on female labour force partipation in Turkey, few studies measure the effect of conservatism in Turkey. Göksel (2013) constitutes the conservatism index by combining two sub-indices which are called the social norm and religion index. The social norm index is associated with some questions based on 2016 Household Structure Survey to understand whether the participants agree that women work or not. By using principle component analysis, some individuals are segmented in the conservative group. The religion index is also formed by measuring the given importance in some cases: choice of spouse, friend and behaviour of clothing, eating or voting etc. When the effect of conservatism index which represents all social and religious variables is observed, the results indicate that conservatism has negative effect in urban areas whereas there is no significant effect in the rural areas. The main reason why the nagative effect is not observed in the rurals is that the women always work traditionally.

Several studies also examine the relationship between macroeconomic variables and female labour force participation in Turkey. However, there is no consensus about the significancies of these variables. Özer and Biçerli (2003-2004), for instance, do not find the significant relationship between several macroeconomic variables, such as unemployment rate, growth rate, inflation rate and FLFP. It can be intrepreted that

although those variables do not have a direct effect, they may influence on women's participation indirectly since the continuous and steady growth can generate the new working facilities towards women. On the other hand, İnce and Demir (2006: 83) find a very strong relationship between GDP growth rate and female participation rates. According to the time series regression results of this study, if GDP growth rate increases by 1%, female labor force participation rate will also increase by 2%. However, both studies conclude that the education of women is the first factor and should be considered above the macroeconomic variables.

In this thesis, the focus is on the microeconomic variables since these variables play more significant role in comparison to the macroeconomic variables in the existing literature related to Turkey. Different from the previous studies, this study does not only specify the important determinants, but also brings out the causal relationships between the determinants. For instance, previous studies have indicated the significance of education while this thesis reveals the reasons why education is significant or to what extent education is effective under different woman's life cycles such as being married, having children. As it can be seen on the following sections, this study also contributes on the literature by revealing the significance of the opportunity cost for women's participation decisions. Apart from that, this study will handle FLFP in a different perspective by using GSEM and Meditation analyses which have not been used in explaining FLFP either locally or globally before.

CHAPTER 4

DATA SET AND METHODOLOGY

4.1 DATA SET

The micro data which will be used for this study is based on the Household Budget Survey, conducted by TURKSTAT. The early budget related surveys covering the whole Turkey were carried out in 1987 and 1994. TURKSTAT has launched an annual regular Household Budget Survey since 2002. Time period of our study comprises 3 years of HBSs 2013, 2014 and 2015. This period was selected since some sampling design and frame differences were observed in the data related to the previous years on the ground that some villages united with greater municipalities in the provinces. All analyses will be carried out by using cumulative data instead of yearly data. Having standardized questionnaires across all years enables us to obtain this cumulative point of view.

According to the geographical coverage, since all of the settlements within the borders of the Republic of Turkey were included without any specific condition, Household Budget Surveys are nationally representative of Turkey. Therefore, this study is convenient to compare with the recent nationwide studies. In addition to this, the sample size is also big enough to make quantitative analyses and inferences. 2013 HBS was conducted with 36,812 individuals living in 10,060 households. 2014 HBS was conducted with 36,844 individuals living in 10,122 households. Finally, 2015 HBS was conducted with 40,956 individuals living in 11,491 households.

In order to make empirical analyses, it is necessary to draw the border lines of the sample. Working age female population will be our target subsample. Working age group is defined as being between 18 and 65 years old in this study. Working age female population comprises 31,4%, 31,4%, and 31,5% of all participants in 2013, 2014, and 2015 data, respectively. As of female based coverage, target group comprises 61,3%, 60,8%, and 62,5% of female participants in 2013, 2014, and 2015, respectively.

It is obvious that the distributions of each group within the data are similar for each year. In conclusion, 35,984 observations which refer working age females will be used for the econometric analyses. Table 2 summarizes the sample size of the data employed.

Table 2: Sample and Subsample Sizes, 2013-2014-2015 HBSs

	All Sample		2013		2014		2015	
	Count	%	Count	%	Count	%	Count	%
Total	114.612	100	36.812	100	36.844	100	40.956	100
Male	56.164	49,0	17.960	48,8	17.851	48,5	20.353	49,7
Female	58.448	51,0	18.852	51,2	18.993	51,5	20.603	50,3
Working Age Female (18-65 y.o.)	35.984	31,4	11.550	31,4	11.553	31,4	12.881	31,5

Source: TURKSTAT (2013, 2014, 2015 HBS micro data)

Based on Table 3, when the proportion of employment status is observed for the working age females within the survey month, 34,6% of them participates labor force in total and the participatipon rate has gradually decreased across all survey years. Almost two thirds of females are not currently working according to HBSs. In terms of data quality, the data is well distributed to make analysis since there is no accumulation in one year or one group.

Table 3: Employment Status among Working Age Females, 2013-2014-2015 HBSs

	All Sample		2013		2014		2015	
	Count	%	Count	%	Count	%	Count	%
Working Age Females (18-65 y.o.)	35.984	100	11.550	100	11.553	100	12.881	100
Working Females	12.446	34,6	4.046	35,0	3.992	34,6	4.408	34,2
Nonworking Females	23.538	65,4	7.504	65,0	7.561	65,4	8.473	65,8

Source: TURKSTAT (2013, 2014, 2015 HBS micro data)

4.2 ESIMATION METHODS

4.2.1 Probit Model

In order to explore the behavior of a dichotomous dependent variable, the most common used models are Linear Probability Model (LPM), Logit and Probit. Although Linear Probability Model is easy to apply, generally its assumptions are quite hard to be fulfilled. The weaknesses of LPM are; heteroskedasticity, non-normal distribution, functional problem and inaccurate $\mathscr{R}^2$ as a goodness of fit index. However, actually the major weakness is that the predicted values are not found between 0 and 1 (Johnston and Dinardo, 1997). Since the model is allowed outside the range, the model have failed in many applications.

Probit and Logit models are standard methods which are used in order to rule out weaknesses encountered in the Linear Probability Model. The main difference between Probit and Logit is different type of distributions of the error term. Logistic distribution is used in Logit model whereas normal distribution is used in Probit model. The results of two models are not directly comparable since the variances of error terms are different. However, if we multiply the probit coefficient with 1.81 (which is approximately $\pi/\sqrt{3}$), we can get approximately the logit coefficient (Gujarati,1999).

In this study, it is assumed that the error term is normally distributed. Therefore, the probit analysis will be used to explain the factors affecting FLFP. In probit model, y is taken on one of two values, 0 and 1. The definition of unobserved y^* is such that;

$$y_i^* = X_i\beta + \varepsilon_i \tag{1.1}$$

We can't directly observe y^*. Instead of it, we can observe y which takes on 0 and 1 according to the following rule;

$$y_i = \begin{cases} 1, \textit{if } y_i^* > 0 \\ 0, \textit{otherwise} \end{cases} \tag{1.2}$$

We assume that $\varepsilon_i \sim N(0,\sigma^2)$. It can be directly shown to the following equations according to the rule in Eq[1.2].

$$prob\ (y_i = 1) = prob\ (y_i^* > 0) \tag{1.3}$$

$$= prob(X_i\beta + \varepsilon_i > 0) \tag{1.4}$$

$$= prob(\varepsilon_i > -X_i\beta) \tag{1.5}$$

σ^2 is known as the variance of ε. Eq[1.5] is useful since if ε is divided by σ, the standard normal distribution which has zero mean and unit variance will be obtained. Therefore, the equations can be written as follows;

$$prob\ (y_i = 1) = prob(\frac{\varepsilon_i}{\sigma} > -X_i \frac{\beta}{\sigma}) \tag{1.6}$$

$$= prob(\frac{\varepsilon_i}{\sigma} < X_i \frac{\beta}{\sigma}) \tag{1.7}$$

$$= \Phi\,(X_i \frac{\beta}{\sigma}) \tag{1.8}$$

We have achieved the likelihood function in Eq[1.8]. It follows that

$$prob(y_i = 0) = 1 - prob(y_i = 1) = 1 - \Phi\,(X_i \frac{\beta}{\sigma}) \tag{1.9}$$

The likelihood functions of Probit is globally concave. Therefore, global maxima and local maxima values which maximize the log-likelihood function are similar (Johnston and Dinardo, 1997).

In this study, Probit model measures the average change in the probability of a woman being in the labour force with the change in independent or dummy variables which are related to the individual, income/expenditure, domestic and employment characteristics.

4.2.2 Generalized Structural Equation Modeling (GSEM)

Structural Equation Modeling (SEM) is one of the most powerful and widely used statistical technnique in social sciences. SEM is a method that can model interactivities and test the relations between multiple dependent and independent observed and latent variables concurrently. SEM was originated by biologist Sewal Wright during 1920s. However, the model was introduced to the social sciences at the end of 1960s (Mueller, 1996).

While SEM was convenient to measure only linear relations initially, it is not to be limited to linear today. In additon, SEM provides wide framework for such statistical analyses as factor, regression, discriminant etc (Hox and Bechger, 1998). Apart from these conventional analyses, SEM can examine the relationships between several variables by analysing more than one equation concurrently. In addition to this, this model enables to obtain more complicated path models, by intervening variables between the independent and dependent variables, and latent factor as well. However, SEM is applicable for only measuring continuous dependent variables.

Generalized Structural Equation Modeling, or GSEM is an extention of SEM for implementing a broader set of application. To understand GSEM model, firstly we should be familiar with the concept of Generalized Linear Model (GLM) which has been widely known and applied, especially in biostatistics.

The theory of GLM was introduced by Nelder and Wedderburn (1972). Although the model seems to be the standard linear model, its basic principle is to provide modelling with a large variety of nonnormal and noninterval dependent variables. This model was generated by relaxing some assumptions. For example, Gauss Markov assumptions require that the error term is distributed independently with zero mean and constant variance. However, these assumptions can not be satisfied if the dependent variable is not normally distributed (Gill, 2001). Therefore, GLMs can be formulated as the exponential family of distributions which include Gaussian, inverse Gaussian, Gamma, Poisson, Bernoulli. The exponential family allows us to model continuous, discrete, binary, proportional and count data (Hardin and Hilbe, 2006). While continuous data

can be modelled by Gaussian and inverse Gaussian, Bernoulli is feasible for binary data and Poisson for count data. GSEM which is based on GLM theoretically allows us to examine the relationships between several variables by analysing more than one equation concurrently. We can obtain the causal relationships between FLFP and the explanatory variables via this feature.

In this study, GSEM with Bernoulli type of distribution will be preferred since employment status which is our dependent variable is binary. The probability density function of Bernoulli distribution for a random varible X is the following:

$$P(X=0) = 1-\rho \tag{2.1}$$

$$P(X=1) = \rho \tag{2.2}$$

In fact, $0 \leq \rho \leq 1$, is the probability of female labor force participation. The expected value and the variance of X are shown as below.

$$E(X) = [1 \times \rho(X = 1) + 0 \times \rho(X = 0)] = \rho \tag{2.3}$$

$$\text{var}\ (X) = \rho q \tag{2.4}$$

where $q=(1-\rho)$ is the probability of a failure (Gujarati,1999).

While probit model provides us to understand the effects of explanatory variables in order to explain the probability of female labour force participation, GSEM is effective to observe the reasons and the causal relationships behind this probability. Therefore, Probit and GSEM can not be directly compared. However, they can be used as complementary models in order to explain the reasons and the causal relations in a more detailed way.

Unlike probit, GSEM is rather relied on the foresight of the analysts so that it is a flexible model in which a variable can be included or removed according to both the significancy of the relationship and the consistency with the previous literature surveys. Before establishing the causal relationships, the model should be based on a strong theoretical background. Otherwise, even if the coefficients seem to be significant due to

the high correlations, it can not be provided any meaningful or interpretable findings at all.

4.2.2.1 Process of GSEM

Models are generally estimated by using path diagrams. Path diagrams enable to construct the whole modeling system and observe the significancy of the relationships between all variables.

Figure 4: Path diagram for one equation

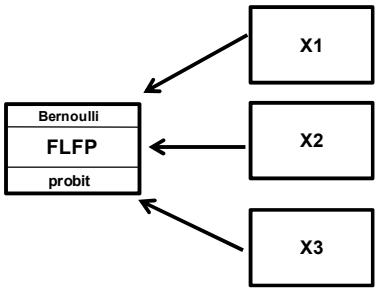
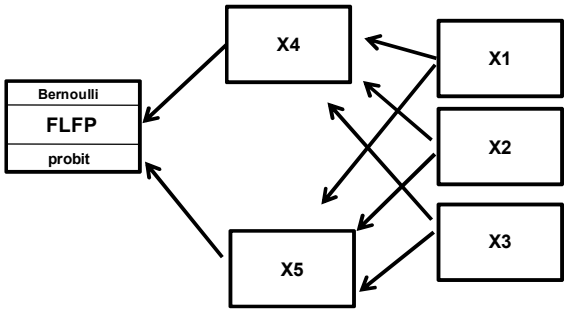


Figure 5: Path diagram for multiple equations



As it is stated from the previous section, since FLFP is binary dependent variable, Bernoulli type of distribution and Probit type of model are used for GSEM analysis. Figure 4 and 5 are the examples which illustrate the process of GSEM on path diagrams. Only one equation with one dependent and three independent variables is shown in Figure 4. Based on this figure, the coefficients of GSEM are the same as the coefficients of Probit model. Therefore, both methodologies are identical if one equation is estimated. On the other hand, GSEM is also a useful methodology in order to measure the relationships if there are more than one equation or one dependent variable and if all relationships are preferred to be measured concurrently. As it is seen from Figure 5, there are 3 equations with 3 dependent and 5 independent variables. X4 and X5 variables are existed as both dependent and independent in the model and both variables are assumed to be continous. Based on Figure 5, in the case that the dependent variables are X4 or X5, the equations are estimated by Gaussian distribution whereas if dependent variable is FLFP, the equation is estimated by Bernoulli. Therefore, GSEM also provides to model different type of dependent variables concurently.

In addition to this, goodness of fit indices such as RMSEA (Root Mean Square Error of Approximation), CFI (Comparative Fit Index) and AIC(Akaike Information Criteria) are observed in order to accept or refuse the whole model. These indices are relevant for continuous dependent variable and invalid for binary dependent one due to the fact that normality assumption is not fulfilled. In that case, only P-values of Chi-square distribution should be examined for all variables in order to accept whole model.

According to Figure 5, let assume that X3 has an insignificant relationship with X5 and significant relationship with X4 based on P values. In this case, researcher has to remove the link between X3 and X5 on the path diagram in order to reach a better or more significant model. When the model is reestimated, it can be observed that there is no relationship (zero effect) between X3 and X5. On the other side, the effect of X3 on X4 also changes since the number of equations which includes X3 decline to one. However, this change of X3 does not effect the link between X4 and FLFP. In other words, the effect of X4 on FLFP would be the same in both situations.

4.2.2.2 Box-Tidwell Transformation

Box and Tidwell (1962) restricted the variables to the polynomials of degree one or two. Then they regressed the model by estimating the best powers among all real numbers iteratively. This transformation is known as Box-Tidwell Transformation and it is widely used for testing the linearity today (Sobenes Bove and Held, 2011).

The Box-Tidwell transformation is expressed in 3.1:

$$V_i = X\,(\ln X) \tag{3.1}$$

If a transformed variable V_i is statistically significant in the regression, then it can be understood that this variable has a nonlinear relationship with the dependent variable. In this case, this variable is included in logistic (logit, probit) regression model.

$$\text{Probit}\,(\hat{Y}) = bo + b_1X_1 + b_2V_1 \tag{3.2}$$

The null hypothesis should be tested here which means that there is no significant curvilinearity between independent and dependent variable.

H_o: $b_2 = 0$
H_1: $b_2 \neq 0$

If the null hypothesis is rejected, the curvilinearity has to be recognized. Box-Tidwell also provides a way to estimate a nature of the curvilinear effect, as shown in 3.3:

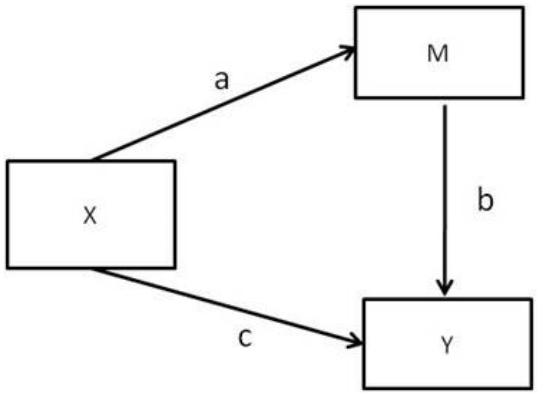
$$\lambda = \frac{b_2}{b_1} + 1 \tag{3.3}$$

where b_2 is taken from 3.2 equation and b_1 is taken from the inital probit regression model without V_1. X^{λ} gives the transformed X as a result of Box-Tidwell transformation method (Osborne, 2016). Since this transformation is applicable for continuous variables, we will examine the linearity of all continuous variables which we include in our model and if the curvilinearity is determined, the transformed forms will be used in analyses.

4.2.3 Mediation Analysis

Mediation analysis demonstrates both the direct and the indirect effects of explanatory variables in order to explain outcomes. It measures the causal pattern in which an explanatory variable affects a mediator variable that, in turn, affects an outcome. Since the errors are uncorrelated, this analysis is constructed by a series of linear regression models as described by Baron and Kenny (1986). This analysis is generally carried out in Structural Equation Modeling (SEM). An advantage of using SEM is that the indirect and total effects can be estimated by using a single model and it is also embedded in a larger model. Graphically, the mediation analysis can be shown as below:

Figure 6: Mediation Analysis



Based on this figure, X is defined as an explanatory variable, M is defined as a mediator, and Y is defined as a dependent variable. The direct effect of X on Y is measured by “c”, the direct effect of X on M is measured by “a” and the direct effect of M on Y is measured by “b”.

In order to measure the indirect effects, there are two approaches which are suggested by Judd and Kenny (1981) and Sobel (1982). The approach which is suggested by Sobel is known as “an equivalent approach”. This approach is based on calculating the indirect effect by multiplying two regression unstandardized coefficients. It is also proved that the coefficients produce the identical values regardless of which approach is used (Newsom, 2017). Therefore, the equivalent approach is used for generating the indirect effects in this study. In this case, the indirect effect of X on Y when M is a mediator variable is measured by multiplying a and b ($a \times b$). Correspondingly, the direct effect

and the indirect effect is summed by calculating as c + $a \times b$ in order to find the total effect of X on Y.

In this study, single mediation analysis will be employed for some subsamples. It is aimed to use this analysis for observing significant causal patterns with the direct and the indirect effects in a detailed manner. With the help of GSEM, we understand the causal relationships between explanatory variables in a broader scale. Then, we will look at the causal relationships between the critical variables for some important subsamples with the help of Mediation Analysis. We will try to understand the behavioral changes among subsamples about their decisions of LFP. Based on the standard errors and P values of all coefficients, we will observe the significancy of coefficients and depict only significant relationships as an output of this analysis.

4.3 VARIABLE CONSTRUCTION AND DEFINITIONS

Three groups of variables can be obtained from HBSs which are defined as "variables of socio-economic status of the households", "variables of consumption expenditures" and "variables of household composition, employment and income status". In this study, "the variables of socio-economic status of the households", "household composition, employment and income status" are used. Consumption expenditures have not been considered since the expenditure details are out of scope for this study.

The variables used in the Probit and GSEM analyses are defined as follows:

-Individual Variables:

i. Age group: Age is divided into 5 groups in order to observe the change of probability of participation for each group. The groups are defined as "18-24 years old", "25-34 years old", "35-44 years old", "45-54 years old" and "55-65 years old". These groups are converted to dummy variables and 18-24 age group is used as the omitted group.

ii. Marital status: Married, single, divorced and widowed are the categories which are defined by HBSs. These categories are converted to dummy variables and "single" is used as the omitted category.

iii. Education: The categories for this variable are: "primary education or less (including elementary education)", "secondary education (including any secondary level education and vocational schools at the secondary level)", "high school education (including any high school level education and vocational schools at the high school level)" and "university or higher education (including university, masters and doctorate level)". Although education levels were firstly seperated into four categories, the first three categories were merged due to the behavioral similiarities and the categories were used as "high school or less education" and "university or higher education" in the Probit model. "High school or less education" is used as the omitted category.

iv. Being reference person: Reference person (Household head) is the main decision maker and responsible for the expenditures of the household. The variable equals 1 if female is the reference person in her household and 0 otherwise.

v. Being student: İlkkaracan and Acar (2007) stated that the percentage of being a "student", as one of the mentioned reasons of unemployment, has increased gradually since 1988 in Turkey. Therefore, students are included in this study. The variable equals 1 if female is student and 0 otherwise.

-Income or Expenditure Related Variables:

vi. Asset Index Quantile: Asset ownership is another key determinant of FLFP. Yıldırım and Doğrul(2008) argued that one of the main reasons of increasing FLFP is that new technological household products become more common as compared to the previous years. In recent years, Asset Index is preferred to measure in order to understand household wealth instead of measuring household income or expenditure. According to Vyas and Kumaranayake (2006), if household income or expenditure might not be accurate, instead of collecting these data, the variables related to household ownership of durable assets (e.g. TV, car) or housing characteristics (e.g. natural gas, water) can be used. Principal component analysis (PCA) is one of the most commonly used statistical methods that construct components based on eigenvectors. The eigenvectors are obtained by using the correlation or co-variance matrix of the data. In this study, correlation matrix is used when PCA analysis is run since the raw data has not been standardized. On the other hand, correlation matrix also provides the advantage of gathering the variables in the same units. Upon applying PCA, the asset indices in the first component will be used in order to generate 5 quintiles. Kılıç (2012) stated that these five quintiles by reflecting different SES levels should be ranked from the poorest to the richest. In this study, the ownership of natural gas, LCD television, dishwasher, microwave oven and online service provider in the household will be included in PCA analysis to generate different SES levels.

vii. Household monthly consumption expenditure (TL): This variable demonstrates the total value of household consumption and it is a sum of "total purchase (for selected durable consumption goods)", "total consumption from own production", "total value of the consumption in business stock", " total value of such in-kind income as goods and services provided by the employer of an individual working as a regular employee" and "gifts and aids given".

viii. Annual disposable household income (TL): This variable is a sum of several elements which are "annual wage, salary and daily fee in cash/kind", "annual entrepreneurial income in cash/kind ", "annual rental income in cash/kind", "annual income from properties in cash/kind", "annual transfers received in cash/kind" and "imputed rent". "Non-consumption expenditures" and "annual aids given to other households regularly". These components are extracted from the total value to calculate annual disposable household income.

ix. Annual Individual income (TL): It is calculated as a sum of "total annual individual income in kind" and "in cash".

x. Spouse income (TL): It is calculated in a similar way of annual individual income. The premise here is that women will be less likely to participate in economic activities if their spouse's income is high.

xi. Transportation easiness: This variable is the composition of two variables as "having personal automobile" and "having free automobiles provided by the employer". The main reason of selecting this variable is that when it is not quite easy to get a working place, even if other conditions are feasible, many women do not enter the labor force (Duesenberry, 1986). The variable equals 1 if females can get their works easily and 0 otherwise.

-Variables Related to the Domestic Responsibilities:

Since domestic responsibilities are mostly taken over by women in Turkey, these responsibilities prevent women from labor force participation. İlkkaracan and Acar (2007) declared that 55% of the women couldn't participate due to such familial reasons such as child, elderly, disabled, sick care, housework whereas the ratio decreases to 1,5% for men according to 2005 Household Labour Force Survey. In this study, 5 following variables will be observed in this group.

xii. 0-5 aged child: Baby or early childhood care is one of the most important responsibility of women in their household. The variable equals 1 if females have 0-5 aged child/children and 0 otherwise.

xiii. Disabled person: Living with disable person is also a workload for women. The number of dependents are inversely related with FLFP. If a disabled person who have a metal or physical disability lives in the household, this variable equals 1.

xiv. More than 65 aged elder: Faridi, Chaudhry and Anwar (2009) stated that family types are the main factors of females' LFP decisions. According to their study, females who are belonging to a joint family are more likely to participate labor force. On the other hand, some surveys mention the exact opposite in the literature. Therefore, the effect can be ambigious. If a person who is older than 65 years living in the household, this variable equals 1.

xv. The number of children in educational age: If a child is son/daughter or grandchild of the household head and continues his/her education, he/she will be counted in this group. This variable covers 5 or more aged children who continue to their educations.

xvi. *Not seeking a job due to the familial reasons*: If a woman doesn't seek for a job due to the household chores, this variable equals 1.

-Variables Related to the Employment Status:

xvii. Employment status (the dependent variable): This binary variable demonstrates the employment status of working age females in the survey month. The variable equals 1 if working age female participates labour force and 0 otherwise.

xviii. Spouse's employment status: Since this variable is specified among married participants, spouse employment status cannot be included in the Probit analysis which is based on overall target group. However, GSEM enables multiple equations for different subsamples concurrently. Therefore, this variable can be added into the GSEM model. The variable equals 1 if a spouse of woman is working and 0 otherwise.

xix. Seeking a job: If a woman who doesn't have job but actively searches for a job, this variable equals 1.[1]

4.4 DESCRIPTIVE STATISTICS

The descriptive statistics for the continuous variables are presented in Table 4 and the percentage distributions of categorical variables are presented in Table 5. Both tables provide us to see the changes of the variables across the survey years. The variables related to expenditure and income are shown as the currency of Turkish Lira (TL).[2]

Table 4 indicates that there are significant differences in the mean values of household monthly consumption expenditure and annual disposable household income across the years. Total household income increases from 34655.2 in 2013 to 40402.6 in 2015. Similar to the positive trend of household income, household expenditure also increases over years. It can be argued that there are two major reasons behind these positive trends. First of all, the annual inflation rate in Turkey was approximately 8% in average

[1] STATA 15 version is used to run both Probit and GSEM analyses.

[2] Exchange rate of dollar (TL/$) was 1,95 in 2013, 2,19 in 2014 and 2,73 in 2015.
The annual disposable household income and household consumption expenditure were 16.776 $ and 15.223 $, respectively within the survey period.

in these years. Therefore, high inflation rate may cause the high-priced consumption goods and may lead to grow expense amount. As a second reason, the increase of income may trigger consumers to expend more.

Other continuous variables do not differentiate significantly across years. The average number of children in educational age is about 1. The average working experience of participants is about 10 years. Further, working hours of participants have slightly increased from 40.2 in 2013 to 41.4 in 2015.

With respect to the categorical variables, the distributions of age and marital status are similar across years. However, there is a significant shift on proportions from primary education to secondary education level in 2015.The proportions of being reference person and being student have slightly increased to 8.5% and 7.8%, respectively in 2015.

According to the Asset Index Quantiles, the proportions of high SES groups have increased whereas the proportions of low SES groups have decreased across years. This finding shows that the durable assets have gradually increased and the housing wealth has improved over time in Turkey. Besides, automobile ownership or free automobiles provided by employers have become more common in recent years. Almost half of women could get their jobs easily if all women worked.

When we look at the domestic characteristics, the percentage of household with having disable person is about 13%. Besides, 15% of participants are living with the elder relative(s) in their households. Familial reason is the most important variable since 51.7% of women don’t seek job due to the household chores and familial responsibilities. In addition to this, the rate increased from 51.3% in 2014 to 52.6% in 2015. In spite of that, the proportion of participants who seek for a job was similar with 3.4% in average across the survey years.

On the other hand, 34.6% of women participate labour force and this rate has relatively decreased across all the survey years. Besides, 77.1% of women’s spouses participate

labour force among married women and the rate decreased from 78.3% in 2013 to 76.2% in 2015.

Table 6 indicates the levels of labor force participation for each breakdowns. The participation reaches to the highest level with 42.6% in the 35-44 age group. The other high levels are observed among the 25-34 and 45-54 age groups with 38.1% and 35%, respectively. However, these rates decrease the lowest levels among the youngest, 18-24 and the oldest, 55-64 age groups.

In terms of marital status, the highest labor force participation level is observed among divorced participants. Nearly half of them work within the survey month. The second highest participation level is observed among single participants with 39.8% in average. However, this level decreases to 33.6% among married women. Widoweds are the lowest participated group when all categories are considered.

The labor force participation levels of high school or less educated participants do not much differ. However, the level doubles and reaches to 63.1% among university or post graduates.

Furthermore, almost one of each three students participate labour force when they continue to study. Although this level increases to 38.3% among reference participants, this rate can be evaluated as quite low by considering the position of them.

According to the Asset Index, the highest labor force participation levels are observed among the poorest and the richest quantiles conflictingly. The poorest quantile tend to work mainly due to the financial difficulties. However, the richest quantile are willing to work in order to spend more and increase their welfare levels.

Table 4: Descriptive Statistics for the Continuous Variables across All Survey Years

	Total	2013	2014	2015
Expenditure-TL (Mean)	2903,6	2655,8	2955,6	3079,1
(Std. Dev.)	(2357,7)	(1988,1)	(2231,6)	(2725,9)
(Min.)	80	164	153	80
(Max.)	98496	38021	39487	98496
Household Income-TL (Mean)	38152,9	34655,2	39141,4	40402,6
(Std. Dev.)	(35786,5)	(30671,1)	(38290,5)	(37448,8)
(Min.)	9	9	9	9
(Max.)	1153195	799709	1153195	1091839
Individual Income-TL (Mean)	5563,8	4913,9	5810	5925,8
(Std. Dev.)	(12525,2)	(10301,6)	(13533,5)	(13352,5)
(Min.)	0	0	0	0
(Max.)	492000	287440	492000	435200
Spouse Income-TL (Mean)	17913,5	16504,7	18214,6	18906,6
(Std. Dev.)	(27189,9)	(24363,9)	(27474,8)	(29209,9)
(Min.)	0	0	0	0
(Max.)	1121000	900000	1121000	1084200
Children in Educational Age (Mean)	1,01	1,02	1,01	1,00
(Std. Dev.)	(1,17)	(1,17)	(1,18)	(1,17)
(Min.)	0	0	0	0
(Max.)	14	11	14	10
Work Experience-Year (Mean)	9,98	10,04	10,08	9,84
(Std. Dev.)	(10,92)	(11,11)	(10,94)	(10,73)
(Min.)	0	0	0	0
(Max.)	55	50	55	50
Working Hours (Mean)	40,9	40,2	40,9	41,4
(Std. Dev.)	(17,2)	(17,5)	(17,4)	(16,7)
(Min.)	1	1	1	1
(Max.)	99	99	99	99

Source: TURKSTAT (2013, 2014, 2015 HBS micro data)

Table 5: The Pecentage Distributions for the Categorical Variables across All Survey Years

	Total	2013	2014	2015
Age (%)				
18-24 y.o.	15,4	15,7	15,3	15,3
25-34 y.o.	24,0	25,0	24,4	22,7
35-44 y.o.	24,9	25,3	24,8	24,5
45-54 y.o.	19,6	18,9	20,0	20,0
55-65 y.o.	16,1	15,1	15,4	17,6
Marital Status (%)				
Married	75,0	74,8	75,4	74,7
Single	17,0	17,1	16,8	17,2
Widowed	4,8	4,8	4,8	4,7
Divorced	3,2	3,3	3,0	3,4
Education Level (%)				
Primary or less	63,4	67,0	66,3	57,6
Secondary	8,3	4,8	4,9	14,6
High School	16,2	16,4	16,7	15,7
University or higher	12,1	11,8	12,2	12,1
Being Reference Person (%)	8,3	8,2	8,1	8,5
Being Student (%)	7,5	7,4	7,4	7,8
Asset Index Quantile (%)				
Quantile 1 (Poorest)	20,7	24,1	20,1	18,2
Quantile 2	21,1	21,9	21,1	20,5
Quantile 3	18,0	17,9	18,0	18,1
Quantile 4	18,7	18,4	18,5	19,1
Quantile 5 (Richest)	21,6	17,8	22,4	24,1
Transportation Easiness (%)	43,4	42,1	43,1	44,9
Disabled Person Existed in the Household (%)	12,7	12,1	12,4	13,4
Elderly Person Existed in the Household (%)	14,8	13,9	15,4	15,0
Not Seeking Job due to the Familial Reasons (%)	51,7	51,3	51,3	52,6
Employment Status: Employed (%)	34,6	35,0	34,6	34,2
Spouse's Employment Status*: Employed (%)	77,1	78,0	77,3	76,2
Seeking a Job (%)	3,4	3,3	3,5	3,4

Source: TURKSTAT (2013, 2014, 2015 HBS micro data)

*Among married women

Table 6: Labor Force Participation Levels for Categorical Variables, 2013-2014-2015 HBSs

	All Sample		2013		2014		2015	
	Count	%	Count	%	Count	%	Count	%
Age (%)								
18-24 y.o.	1590	28,6	556	30,7	495	28,0	539	27,4
25-34 y.o.	3287	38,1	1136	39,3	1069	37,9	1082	37,1
35-44 y.o.	3806	42,6	1203	41,2	1225	42,7	1378	43,7
45-54 y.o.	2470	35,0	749	34,4	792	34,3	929	36,0
55-65 y.o.	1293	22,3	402	23,0	411	23,0	480	21,2
Marital Status (%)								
Married	9073	33,6	2922	33,8	2945	33,8	3206	33,3
Single	2439	39,8	819	41,5	765	39,5	855	38,7
Widowed	353	20,6	122	21,8	111	20,1	120	19,9
Divorced	581	49,8	183	48,7	171	48,9	227	51,5
Education Level (%)								
Primary or less	7140	31,3	2455	31,7	2390	31,2	2295	30,9
Secondary	824	27,5	145	26,2	157	28,0	522	27,8
High School	1745	29,9	551	29,2	583	30,1	611	30,3
University or higher	2737	63,1	895	65,4	862	61,4	980	62,7
Being Reference Person (%)	1136	38,3	355	37,6	338	36,2	443	40,6
Being Student (%)	896	33,1	287	33,8	283	33,0	326	32,5
Asset Index Quantile (%)								
Quantile 1 (Poorest)	3072	41,3	1188	42,7	959	41,4	925	39,4
Quantile 2	2420	31,9	798	31,6	834	34,2	788	29,9
Quantile 3	1980	30,6	619	30,0	638	30,8	723	31,1
Quantile 4	2132	31,7	695	32,8	657	30,8	780	31,6
Quantile 5 (Richest)	2842	36,6	746	36,2	904	34,9	1192	38,3

Source: TURKSTAT (2013, 2014, 2015 HBS micro data)

CHAPTER 5

THE EMPIRICAL RESULTS

5.1 PROBIT MODEL ESTIMATION

In total, 11 explanatory variables are included in the Probit model in order to explain the probability of FLFP. The individual variables which are employed for Probit model are; age, marital status, education and being reference person. The income or expenditure related variables for Probit model are; household monthly consumption expenditure, asset index quantiles and transportation easiness. The variables related to the domestic responsibilities are; the existence of 0-5 aged children, the existence of elderly individuals, the existence of the disabled individual in the household and the number of children in educational age. Some variables which are defined in the variable construction section are not included in the Probit model whereas those are included in GSEM.

The results of probit model indicate that the probability of FLFP varies with different age groups. 25-54 aged women are more likely to participate labor force as compared to 18-24 age group. When we consider all of the explanatory variables at their mean values, 25-34 aged women have a 12,6% higher probability of participation as compared to 18-24 aged women. The highest probability is observed among 35-44 aged women. In addition, only 55-65 age group has a lower probability of participation as compared to 18-24 age group. They have nearly 5% lower probability of participation. It can be argued that women don't tend to participate labour force in their young adult period due to the education or domestic responsibilities or they don't find a job due to the lack of experience. Youth unemployment is one of the most important problems in Turkey since the youth unemployment rates in Turkey have been higher than OECD average since 2000 (Susanlı, 2017). Furthermore, the inactivity of the youth is measured by NEET (Not in Education, Employment, or Training) rate which is a share of youth that isn't in employment, in education or in training process. As of 2016, the share of NEETs among 15-19 and 20-24 year olds in Turkey is 18,4% and 32,9%, respectively.

These rates should be considered to be more serious among females. In the same year, the share of NEETs among 15-19 and 20-24 year olds women in Turkey increases to 24,5% and 47,3%, respectively (OECD, 2017). When we look at this finding from a different point of view, it is possible to support this fact with another study called as "Time Use Survey" which was conducted by TURKSTAT in 2015. The aim of the survey was searching how persons use their time all day long. According to this survey, individuals aged 15 and over spend 2 hours and 48 minutes engaged in employment activities in average in Turkey. Males spend 4 hours and 40 minutes in employment activities whereas this duration decreases to 1 hour and 27 minutes among females. When the females are observed by different age groups, the most time spender group for employment is 25-44 aged females among all age levels. Their spending time on employment reaches to 2 hours a day in average. Although the duration seems to be low, it should be kept in mind that this duration covers both employed and unemployed females in "Time Use Survey".

Marital status is another key determinant of FLFP. The results of probit model indicate that divorced women have 6% higher probability of participation as compared to single women. However, married and widowed women are less likely to participate labor force as compared to single ones. While married women have almost 5% lower probability of participation, widowed women have almost 14% lower probability as compared to single women. In this study, 79% of widowed women are 50 years old or elder. Therefore, retirement or illness caused by elderliness might be the barriers for widoweds in terms of labor force participation. For women, "being married" is the main sociocultural issue for labor force participation in Turkey. Because, the gender roles and the division of the labor have been specified in the home. The traditional division of labor is that while women have the role of housewife and the care giver, men have the role of the breadwinner (İlkkaracan and Acar, 2007). In addition, according to Blau and Winkler (as cited in Yıldırım, 2008), substitution effect outweighs income effect for women as compared to men since it is general view that women substitute their times in domesic affairs in their non-market times. This perception increases for married women as compared to single ones.

The education level of females turns out to be the vital factor in determining the decision of labor force participation. According to the marginal effects of probit model, “being high educated” is the most effective criteria for the FLFP. High educated women who are graduated from university or higher educational institutions have 32% higher probability of labor force participation as compared to less educated women. In addition, since there is no significant differentiation among primary, secondary or high school graduates in terms of LFP, three groups have been merged and defined as ommited category. In the light of this finding, Yumuşak (2009) stated that the net returns of high education on women are higher as compared to men, especially in developing countries. Therefore, the gender equality of education contributes economic development positively. This leads to the need of higher education opportunities for women.

Although “being reference person” has a positive effect on LFP, it has a limited contribution. If a woman is the main responsible person for the income and expenditure of her household, she has a 7% higher probability of LFP as compared to a woman who are not reference person. When we think the position of being reference person, the marginal probability can be evaluated as quite low.

Household expenditure has the second largest marginal effect relating to the probability of FLFP. If the average monthly expenditure consumption increases by 1%, the probability of labor force participation of woman will go up by 24.5%. This finding shows that FLFP is very sensitive to the household expenditures. According to Faridi and Rashid (2014), an increase in household expeditures will increase the likelihood of FLFP due to the need of cash money. Inversely, the ownership of assets have negative and significant relationship with FLFP since the ownership of assets increases wealth and financial stability of household. In this case, women are less likely to seek a job. The findings of this study support the study by Faridi and Rashid. As women increase the number of durable assets or improve the housing characteristics, they become less likely to work. On the other hand, the wealthiest quantile have 21% lower probability of participation compared to the poorest quantile. This finding demonstrates that women work due to such compelling reasons as financial difficulties, expenditures or installments etc.

Today, transportation easiness is one of the most considerable factor in job preference, especially in the big cities. Besides, transportation costs are also being considered. In this study, this easiness contributes to the participation positively. The women who get their jobs easily have 2% higher probability of participation as compared to the other women. Although, this issue has a limited effect on participation, it has a great importance in terms of job changes.

With regard to the domestic variables, except "the existence of elderly person/people in the household", all variables have negative effects on the probability of FLFP. Although, the existence of elderly person in the household affects the probability of participation positively, its effect is quite small with 0,8%. Kızılgöl (2012) studied on the main determinants of FLFP and she observed the effects of the determinants for both married and single women. After the empirical analyses, she concluded that the rate of participation increases significantly among married women who are living in patriarchal and large families. This inference shows us the importance of big family structures and strong family ties in terms of FLFP. The other dependents which are 0-5 aged child, the number of children in educational age and disabled person have negative effects on LFP. The women who have children in educational age have 45% lower probability of participation as compared to the women who haven't. This is evaluated as the main barrier for married women. Besides, the probability of participation declines by 10% when women have 0-5 aged child. It is understood from this study that the number of children has much more negative effect than the small child in women's decisions. Yıldırım and Doğrul (2008) also stated that the willingness to participate is negatively affected by the number of children among married women. Besides, they emphasized that number of children is more important than the age groups of children on the participation decisions. In addition to this, disabled person care has also negative effect but this effect is not as much as child care or child rearing. Its negative effect is only 1,6%. The lower negative effect may be attributed to the low proportion of disabled people in overall.

Table 7: Estimation Results of Probit Model

	Marginal Effects	Coefficients	Std. Err.	P> |z|
25-34 y.o.	0,126**	0,334	0,010	0,000
35-44 y.o.	0,176**	0,467	0,011	0,000
45-54 y.o.	0,089**	0,239	0,012	0,000
55-65 y.o.	-0,047**	-0,132	0,012	0,000
Married	-0,041**	-0,112	0,009	0,000
Divorced	0,059**	0,157	0,018	0,001
Widowed	-0,139**	-0,423	0,014	0,000
University or higher educated	0,319**	0,828	0,089	0,000
Being Reference Person	0,072**	0,191	0,013	0,000
Household Expenditure	0,245**	0,673	0,022	0,000
Quantile 2	-0,118**	-0,339	0,007	0,000
Quantile 3	-0,164**	-0,490	0,007	0,000
Quantile 4	-0,191**	-0,582	0,007	0,000
Quantile 5 (Richest)	-0,212**	-0,646	0,007	0,000
Transportation Easiness	0,024**	0,066	0,006	0,000
Child (0-5 y.o.)	-0,099**	-0,281	0,006	0,000
Elder (≥ 65 y.o.)	0,008**	0,093	0,006	0,000
Disabled Person	-0,016*	-0,045	0,008	0,042
Children in Educational Age	-0,448**	-1,230	0,061	0,000
Log Likelihood	-21366,791			
LR chi2	3675.43(19)			
Prob > chi2	0,0000			
N	35984			

Notes: 1) **p<0.01, *p<0.05

2) The ommitted category for age is “18-24 age group”, the omitted category for marital status is “single”, the omitted category for education is “high school or less educated” and the omitted category for asset index is “quantile 1 ”.

5.2 GSEM ESTIMATION

We have learned the marginal probabilities of all explanatory variables for FLFP from the Probit model. Therefore, the most effective factors and the main barriers of participation have been determined in the previous section. Now, we observe the causal relationships between two events which exist if the occurrence of the first causes the other. These causal relationships enable us to understand the reasons behind the size of marginal effects in a more detailed way. Further, different from the Probit results, we will investigate the reasons why the females do not seek for jobs and which of them are inclined not to seek in this section.

In order to construct a significant model, all explanatory variables will be included into the analysis and all relationships between the explanatory variables will be observed. In this procedure, the significancy of the coefficients is not only observed, but it is also considered if the relationships are reasonable and consistent with the inferences of the previous literature surveys.[3] In addition, we try to add latent variables into the model. However, we couldn't find a very strong relationship between the explanatory variables in order to construct latent variables. Therefore, only observed variables are used in this model. Even if the model is set with the observed variables, the model presents us the broader perspective related to the determinants of FLFP. When the findings are interpreted, it is important that the coefficients give us an idea about the size of the relationships. However, the coefficients cannot be directly used as marginal effects in the comments since GSEM cannot produce standardized coefficients.

As we know from the Probit model that education plays a crucial role on FLFP. GSEM enables us to understand the reasons why education is the most important factor. The first inference from GSEM is that university or higher educated women contribute on

[3] Latent variables can not be used in the model since GSEM based on Summary Statistics can not be constructed in Stata 14. These summary statistics include means, standard deviations, variances, and correlations or covariances. Summary Statistics Data (SSD) can be only used for SEM but not for GSEM. Since SSD is not used for GSEM, instead of using covariance matrice, all data will be observed in order to find meaningful relationship. Therefore, the length of iterative procedure increases. In addition, if very high correlation between explanatory variables are not observed for constructing a latent variable, the model will give an error.

household income rather than the low educated women. In other words, education levels determine the amount of individual incomes and individual incomes directly effect to the household incomes. University, master or doctorate graduates have positive contributions on their household incomes whereas secondary or less educated women have negative contributions as compared to the high school graduates.

The second inference from GSEM is that the household income differences lead to increase the household expenditure gaps between the families with high educated and low educated women. If a woman has a high-education degree, her contribution on household income will be more and the amount of consumption expenditure of her household will be high accordingly. On the contrary, if a woman has a lower education degree, her contribution on household income will be limited, so the amount of consumption expenditure of her household will not increase. In this case, high educated women are positioned as being income earner. The domestic chores such as child caring or cleaning are not expected as their main responsibilities. On the contrary, if women are low educated, they don't tend to search for jobs, instead they spend their time on childcare or domestic chores. Because they are aware that even if they work, they couldn't provide much contribution on their household incomes and household expenditures. In this type of families, the main household members expect low educated women to undertake familial chores. Thus the gender roles are traditionally determined in those family types. From these findings, we encounter a fact of the income inequality and its sociological impacts. Dayıoğlu, Başlevent and Kuştepe (2006) have investigated the income inequalities among working females in their studies and they stated that most educated women have smaller families and higher household incomes than other working and non-working women. In their study, they concluded that the income inequality is higher among working women than men. The income inequality mainly comes from the different education levels of women. Another study which revealed to the strong relationships between the low educated women and their low income was handled by Saniye Dedeoğlu (2010). She interviewed with 50 garment workers living in Istanbul. In her paper, she stated that the garment workers have worked informally for long years. They don't exist in the long-term social security systems. In addition, the monthly incomes of home-based pieceworkers are much lower than the legal minimum

wage. She also emphazied the difficult working conditions accompanied with long working hours for this group. All these reasons prevent low-educated women from participating labor force.

Another subject related to the household expenditure is that higher household expenditure increases the probability of FLFP directly. Household expenditure is one of the most effective determinant of FLFP. This impact is demonstrated in both Probit and GSEM in this study. Females feel compelled to participate labor force due to the payments or compulsory expenditures. Therefore, women who do not seek for jobs due to the household chores tend to cut down the household expenditures. Although, they do not spend as much as working women, household expenditures couldn't be remained low in some situations. For instance, as the number of children increases, the household expenditures indispensably increase. Being married is another fact which increases the household expenditures. These facts lead to the pecuniary obligation for low-educated males as their husbands rather than low-educated females. Dayıoğlu and Kırdar (2010) make a comparison between the low-educated males and low-educated females in terms of the labour participation rates. In the period of 2002-2006, the rate of LFP is in the range of 10,9 and 11,8 among the women who are secondary or lower educated whereas the range is between 67,1 and 68,8 among the men who are in the similar educated levels. According to their findings, the main reason of these differences mainly come from the wage inequalities. It is also determined that more than 75% of low-educated women earns much lower than the legal minimum wage.

The other inference from GSEM is that the main reason for women who do not seek for job is child caring. If the number of children in educational age increases in the households, the tendency of not being participated among women increases. The result of the Probit model also supports this finding. Further, it is observed in GSEM that spouse employment and spouse income are the other determinants which demotivate women to participate labor force. If women are low educated, they have children and their spouse's are employed, their tendency to seek for jobs will decrease. In addition, the employment status of spouse has more importance than the income level of spouse for those women in their LFP decisions. Indeed, those women do not want to see themselves in LFP and consent to live with lower household income.

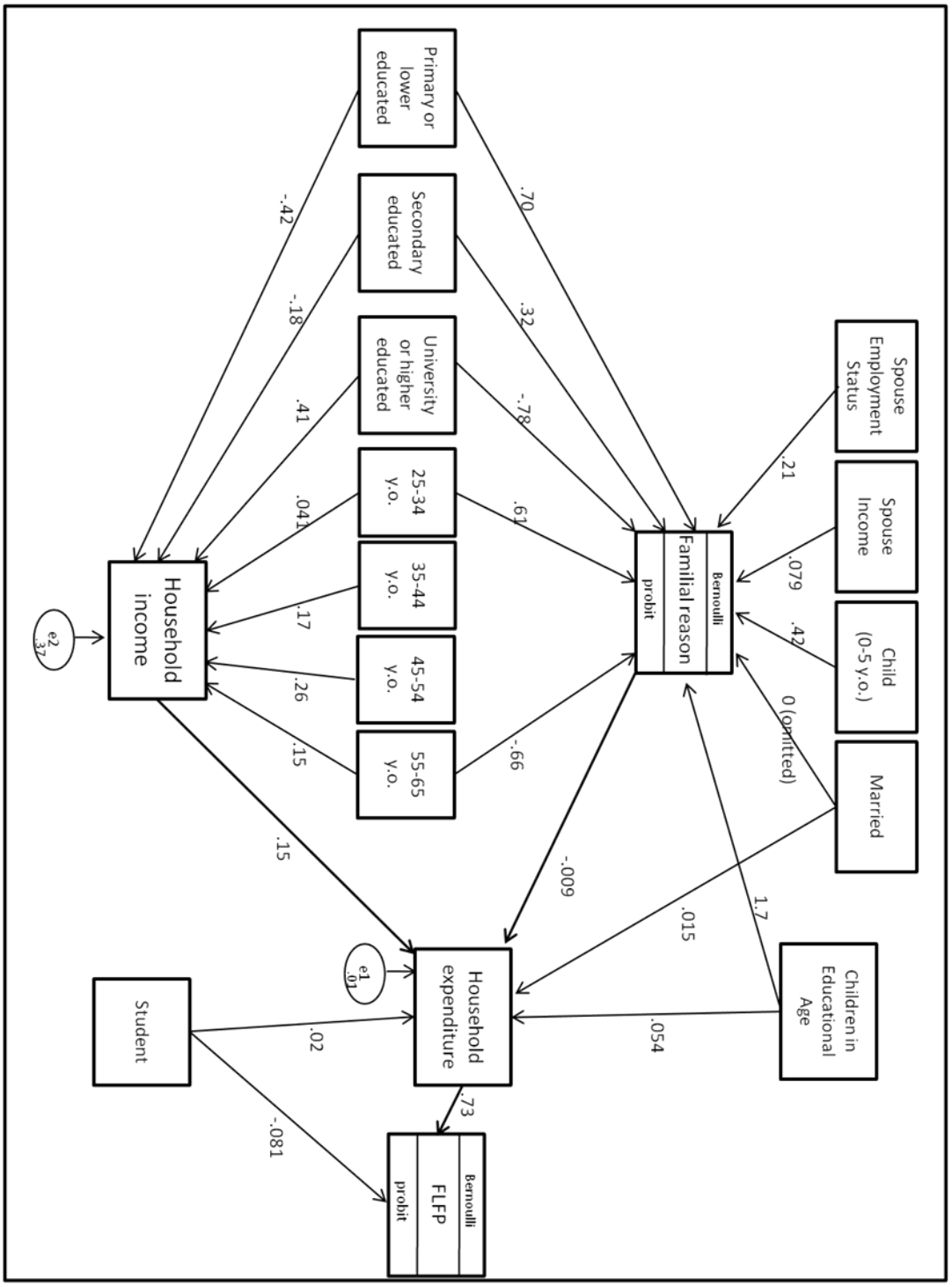
Another inference is that “being student” increase the household expenditure and have negative effect on LFP. The effects are statistically significant. Therefore, we can say that being student retards the probability of FLFP. Probit model also supports this finding. 25 or more aged group is more active in labour force rather than 18-24 age group according to the Probit model. İlkkaracan and Acar (2007) stated that the ratio of being a “student” as a reason for non-participation is gradually increasing from 1988 (6,0%) to 2005 (8,4%) based on TURKSTAT HLFS. Nevertheless, the low participation of 18-24 age group cannot be only explained by being student. According to Family Structure Survey which is conducted by TURKSTAT in 2016, the first marriage age for females is 24 in average. 51% of females are married at 19 years old or younger. The marriage at early ages is one of the main barriers of females for participatig labor force. Singh and Samara (1996) have studied on the impacts of early marriage among women in developing countries. They emphasized that educational attainment in combination with labor force participation cause to delay marriage. Education is conflict with early marriage and also narrows the range of partners since women are expected to marry educated men. It is understood from these statements that while some women prefer to marry at early ages, some of them prefer to continue their educations and delay their marriages. Due to such two different life-styles among women, 18-24 age group can be argued not to be more active in the labour force.

Table 8: Estimation Results of Generalized Structural Equation Modeling

Response: Household-income Family: Gaussian Link: identity
Response: Household-expenditure Family: Gaussian Link: identity
Response: Familial-reason Family: Bernoulli Link: probit
Response: FLFP Family: Bernoulli Link: probit

	Coefficients	Std. Err.	P> |z|
Household Income ←			
Primary or lower educated	-0,353	0,009	0,000
Secondary educated	-0,165	0,014	0,000
University or higher educated	0,418	0,012	0,000
(constant)	10,510	0,008	0,000
Household Expenditure ←			
Household income	0,152	0,001	0,000
Married	0,015	0,002	0,000
Familial reason	-0,009	0,002	0,000
Student	0,020	0,003	0,000
Children in educational age	0,054	0,011	0,000
(constant)	-1,605	0,011	0,000
Familial Reason ←			
Married	0	(omitted)	
Primary or lower educated	0,513	0,043	0,000
Secondary educated	0,276	0,063	0,000
University or higher educated	-0,740	0,060	0,000
Child (0-5 y.o.)	0,667	0,043	0,000
Children in educational age	3,560	0,587	0,000
Spouse employment status	0,524	0,034	0,000
Spouse income	0,035	0,022	0,105
(constant)	0,207	0,022	0,350
FLFP ←			
Household expenditure	0,728	0,046	0,000
Student	-0,081	0,026	0,002
(constant)	-0,371	0,007	0,000
var(e.household-income)	0,379	0,003	
var(e.household-expenditure)	0,011	0,000	
Log Likelihood	-41701,491		

Figure 7: GSEM Path Diagram



5.3 MEDIATION ANALYSIS

One test and one control group are used in the Mediation analysis. Test and control groups are “working” and “non-working” females, respectively. It is assumed that working females have some contributions on household income and household consumption expenditure whereas non-working females almost have no contributions.

Household income is used as a mediator and household expenditure is used as a dependent variable in the Mediation analysis. Explanatory variables are the individual characteristics such as “age”, “marital status” and “education level”. The effects of these characteristics on both household income and household expenditure will be measured. It is known from GSEM that household income has a significant positive effect on the household expenditure. Therefore, household income has a role on being “explanatory variable” in a relationship with the household expenditure. On the other hand, household income has a role on being “dependent variable” in a relationship with the individual characteristics. In addition, household expenditure is used as a dependent variable since the household expenditure is highly correlated with the probability of FLFP. If a one unit of the household expenditure increases, the probability of FLFP will go up by 0.73 according to our previous analysis, GSEM.

Initially, the direct effects of the individual characteristics on both household income and household expenditure will be measured. Then, the indirect effects of the individual characteristics on the household expenditure will be measured by using household income as a mediator.

In the previous section, it is known from GSEM that university or high educated women have more contributions on the household income and household consumption expenditure as compared to the low educated ones. Now, we will investigate the size of the contribution in the Mediation Analysis. In the 4th figure, there are two different education levels such as “university or higher education” and “high school education”. Other education levels will not be shown since the effects are insignificant. The result of the first figure which is related to the university or higher educated women is highly attractive. If a university or higher educated woman participates into the labor force, the

size of her contribution on her household income is quite high with 15%. The increasing household income also affects the household expenditure positively. As is explained in the previous paragraph, the effect of the household expenditure can be examined into two components such as “direct effect” and “indirect effect”. The direct effect of being university or higher educated on household expenditure is nearly 4% whereas the indirect effect is nearly 13%. In consideration of both effects, the total effect of being university or higher education on the household expenditure is nearly 17%. The effects of both household income and household expenditure achieve at the highest values when working women are university graduated or post-graduated. Therefore, if those women were not in the labor force, the opportunity cost for non-market activities would be very serious[4]. Nevertheless, when we think of the non-working costs, we shouldn’t forget the educational costs. The educational costs shouldn’t be only related to the household budgets, but these are also related to the government budgets. Therefore, when university or higher educated women do not participate labor force, it is an important lost in terms of individual, family and govenment economy.

When high school educated working women is observed in the Mediation analysis, it is obvious that all effects decrease significantly as compared to the university or higher educated ones. Even though this group has also contribution on the household income and the household expenditure, their contributions are limited. The income effect of this group is 2.7% and the total effect on expenditure is 3.7%. The opportunity cost for non-market activities among high school graduates is less than the university graduates or post-graduates. Differently from the Probit and GSEM analyses, it is possible to reveal another important inference with Mediation analysis. The inference is that women consider non-participation costs more than their financial needs in their decisions on LFP. If a woman’s education level is high, both woman and her family members prefer her to participate in the labour force by thinking her non-participation costs. Therefore, domestic chores are not her main responsible and she is disposed as “working women” in her society. On the contrary, if a woman is low educated, she is disposed as a

[4] Further, the educational costs which were spent to those women for their academic periods are the other side of this issue. However, the educational costs are out of scope in this study since these costs can not be measured.

“housewife” regardless of the financial needs of her household generally. Low educated women are also aware of that even if they work, their contributions on household income will be too little. Therefore, they tend to take over domestic responsibilities. In the Mediation analysis, the significant relationship with FLFP and household income contribution is not determined for the low educated women. This result also supports that the low educated women couldn’t earn enough income. This is the main reason of non-participating in the labour force for this group.

It is known from the previous analyses that age is another important determinant of FLFP. On the basis of the working women, the significant relationship between LFP and household income is only observed in 25-44 aged women. The women who are working at the age of 25-44 have significant contributions on their household incomes and household expenditures as compared to non-working women in this age group. Moreover, the gap widens at 25-34 age group. The income effect of this group is 3.2% and the total effect on expenditure is 3.3%. The opportunity cost for non-market activities among 25-34 age group is more than 35-44 age group. The income effect of 35-44 age group is 1.04%. The direct and the indirect effects of this age group on household expenditure are 0.65% and 0.96%, respectively. Accordingly, the total expenditure effect of 35-44 age group is very low with 1.61%. The estimation results of Probit analysis also support this finding. In the Probit analysis, it is seen that 25-34 aged women have a 12.6% and 35-44 aged women have a 17.6% higher probability of participation as compared to the 18-24 aged women. Further, 25-34 and 35-44 aged groups have the highest probability of participation among all age breakdowns. The revealed inference which is related to the non-participation cost consideration is also valid in terms of age groups. Another important point is observed in Time Use Survey which is conducted by TURKSTAT in 2015. Based on this survey, since 25-44 aged group spend more time in the employment activities, their income contributions are higher as compared to other groups.

With respect to the marital status, single working women have significant contributions on their household income and expenditure and this situation generates the high opportunity cost in case of non-participation. The income effect of single working women on their households is 2.5%. The direct and the indirect effects of this group on

household expenditure are 0.4% and 2.3%, respectively. Totally, the effect of household expenditure is 2.7%. This analysis is also made for cross divisions which are considered in the marital status and the education levels together. If a working single woman is university or higher educated, the effects of her household income and household expenditure increase to 7.7% and 8.1%, respectively. On the other hand, if a working single woman is graduated from highschool, the effects of her household income and household expenditure decrease to 2.0% and 2.3%, respectively. On the other hand, if a working single woman is low educated, she has almost no significant contribution on her family financials.

It is known from the Probit model that the probability of participation is lower among married women as compared to the single ones. In the Mediation analyses, there is no significant difference is observed between working married and nonworking married women in terms of income contributions of their households. However, when we look at the subdivisions of the married women, we can observe the significant relationships. In this study, 71% of working married women are graduated from secondary or lower education levels. Since the low educated working women have no significant impacts, we have also achieved the inference that working married women have no significant contributions in generally. However, this situation will inverse if the working married women are high-educated. If a working married woman is university or higher educated, the effects of her household income and household expenditure is very high with 16.9% and 18.9% in average, respectively. On the other hand, if a working married woman is graduated from highschool, the effects of her household income and household expenditure decrease to 2.7% and 3.7% in average, respectively. As a result, although the significant effects couldn't be observed among working married women firstly, when we consider the sub-divisions, we can observe the significant financial contributions among high school or higher educated working married women.

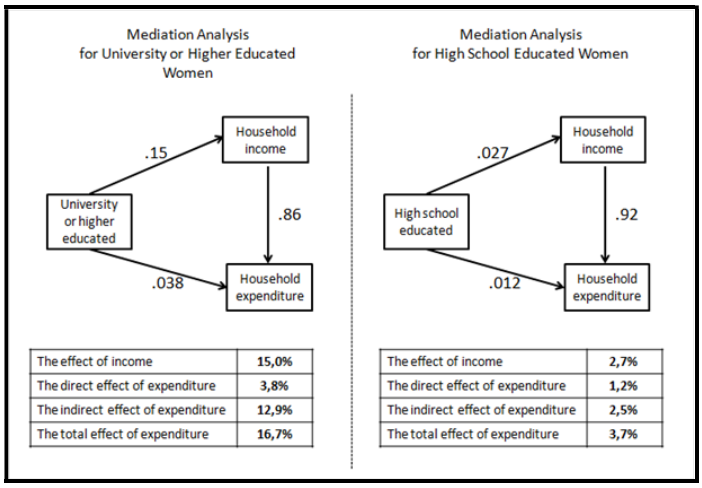
It is also known that the divorced women have 6% higher probability of participation as compared to the single women in the Probit analysis. However, we couldn't see the significant relationships between working and nonworking women in terms of income contributions of their households in this group. The main reason is that 55% of working divorced women are graduated from secondary or lower education levels in this study.

Since these working women have no significant impacts, it can be argued that the working divorced women have no significant contributions in generally. Similar to the working married women, the situation will inverse if the working divorced women are higher educated. If a working divorced woman is university or higher educated, the effects of her household income and household expenditure are quite high with 9.3% and 12.2%, respectively.

In conclusion, the Mediation analyses provided us to observe the size of the income and expenditure effects among some individual subsamples. In addition, we understand that the decisions of women in terms of labor force participation are highly correlated with the "opportunity costs" for non-market activities. If the opportunity costs are high, they tend to participate the labor force. Otherwise, they tend to be housewives. It is also understood from this analysis, "university or higher education" achieves the highest probability level of LFP since the high educated women have the highest opportunity costs in case of not being participated. It demonstrates that the role of women in the family or society is primarily based on their education levels.

In this section, we have examined the working women and we have found the strong relationship between "the probability of labor force" and "the opportunity cost". In the next section, we will examine the non-working women. We will try to find a question if there is any relationship betwen "the opportunity cost" and "the probability of seeking a job" among the non-working women.

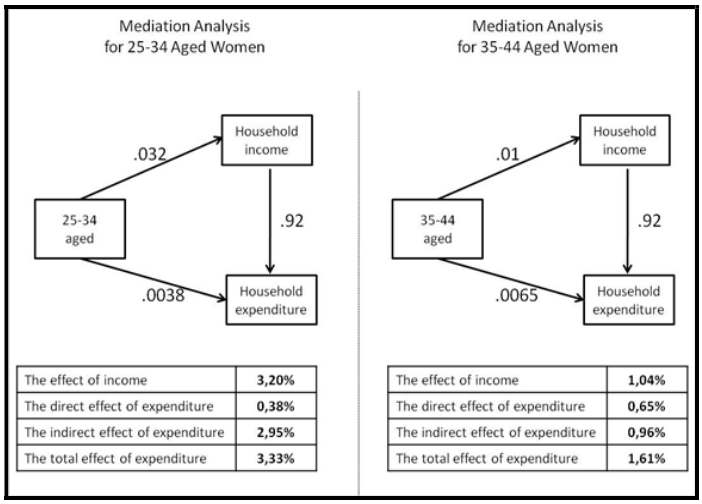
Figure 8: Mediation Analysis by Education Levels



The effect of income	15,0%
The direct effect of expenditure	3,8%
The indirect effect of expenditure	12,9%
The total effect of expenditure	16,7%

The effect of income	2,7%
The direct effect of expenditure	1,2%
The indirect effect of expenditure	2,5%
The total effect of expenditure	3,7%

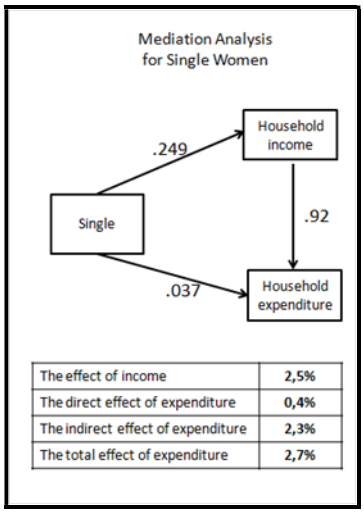
Figure 9: Mediation Analysis by Age Groups



The effect of income	3,20%
The direct effect of expenditure	0,38%
The indirect effect of expenditure	2,95%
The total effect of expenditure	3,33%

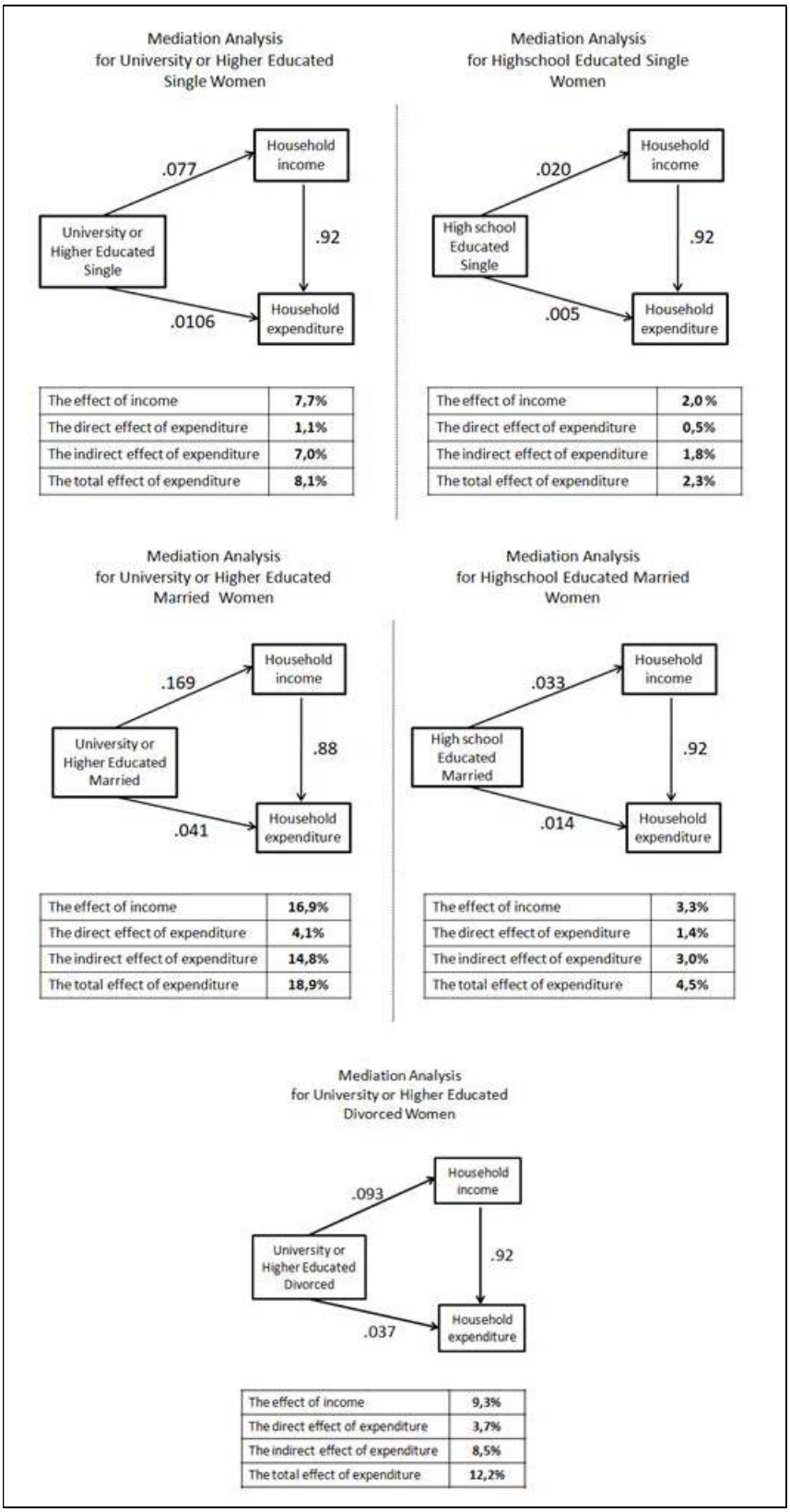
The effect of income	1,04%
The direct effect of expenditure	0,65%
The indirect effect of expenditure	0,96%
The total effect of expenditure	1,61%

Figure 10: Mediation Analysis for Single Women



The effect of income	2,5%
The direct effect of expenditure	0,4%
The indirect effect of expenditure	2,3%
The total effect of expenditure	2,7%

Figure 11: Mediation Analysis for Cross Breakdowns (Marital Status by Education Level)



5.4 PROBIT MODEL ESTIMATION FOR NON-WORKING GROUP

In this section, we will examine the non-working women and the probabilities of job seeking by considering the opportunity costs of not being participated. In the previous sections, we have found that university or higher educated, 25-44 aged and unmarried women have high probabilities of LFP. In addition, it is obvious that these groups have positive effects on their household incomes and household expenditures when they work. Being unemployed of these groups leads to the higher costs for their households. Therefore, we have argued that the probability of FLFP is mainly affected by the opportunity costs. It is also important to demonstrate the proof of this hypothesis among non-working women. In order to demonstrate this causality, we will use Probit analysis for regressing job seeking among non-working women. If the same groups come to the forefront in job seeking, it will be proved that there is a strong causality between FLFP and the opportunity cost for non-market activities.

Only individual variables are used in Probit analysis in order to achieve the comparable results with Mediation analysis. Firstly, the results of Probit model demonstrate that the probability of job seeking varies with different age groups. 25-44 aged women are more likely to seek jobs as compared to 18-24 and 45-65 age groups. This finding is also compatible with the result of Mediation analysis. According to the Mediation analysis, only 25-34 and 35-44 aged working women have significant contributions on their household incomes and expenditures among all age groups. It is not a coincidence that the same age groups come to the forefront among both working and non-working women. It is understood from both Mediation and Probit analyses, 25-44 aged group is willing to participate since they are aware that each day they spend as an unemployed has a high opportunity cost.

It is known from the Mediation analysis that single working women have significant contributions on their household incomes and expenditures whereas married working women don’t have significant contributions on their household financials. When we examine the unemployed women, married unemployed women have a 6% lower probability of seeking jobs as compared to single unemployed women. This finding also

demonstrates the causality between FLFP and the opportunity costs for non-market activities such as child caring and domestic chores etc. Therefore, in order to observe the opportunity cost of this group, we have to observe the married women by different education levels. In the mediation analyses, we have found that if working women are higher educated, their contributions are significant. Therefore, education has a great importance of this group. As shown in table 10, although being married has a negative effect on seeking job, university or higher graduated married women are more likely to seek jobs inversely. In addition to this, highschool educated married women have a positive probability of FLFP. However, this probability is lower than the probability of university graduated or post graduated married women. These results are exactly compatible with the results of the Mediation analysis.

Differently from the other results, causality relationship can not be explained for divorced women. Divorced non-working women have a 3% higher probability of seeking a job as compared to single non-working women in the Probit analysis. On the other hand, we couldn't observe the significant relationship between FLFP and the contribution on household income or expenditure in the Mediation analysis. Actually, this finding can be interpretable since divorced women could live alone or along with their children in their homes. It is possible that they don't live with their family elders. Therefore, they couldn't contribute their household financials. Although, there is no causality found between FLFP and the opportunity cost for non-market activities among the divorced working women, they are more willing to seek jobs as compared to the single women.

As a result, it is demonstrated that university or higher educated, 25-44 aged and unmarried non working women have high probabilities of seeking jobs. These segments have also high probabilities of LFP. When the reasons are examined, we confront that the opportunity cost of not being participated is higher among these groups as compared to the low educated, 18-24, 45-65 aged and married women. High education has the highest probability of LFP and seeking for a job since this group has the highest opportunity cost for non market activities. It is also concluded that education is more determinative than marital status of FLFP in Turkey. Although being married has a negative effect on LFP, in case of being high school or higher educated, their

opportunity costs of not being participated become higher and the effect turns into a positive sign.

Table 9: Estimation Results of Probit Model for Explaining Seeking a Job

	Marginal Effects	Coefficients	Std. Err.	P> |z|
25-34 y.o.	0,019**	0,240	0,004	0,000
35-44 y.o.	0,022**	0,273	0,005	0,000
45-54 y.o.	-0,009*	-0,135	0,004	0,015
55-65 y.o.	-0,034**	-0,734	0,003	0,000
Married	-0,058**	-0,619	0,005	0,000
Divorced	0,029**	0,325	0,009	0,001
Widowed	-0,024**	-0,563	0,003	0,000
University or higher educated	0,126**	0,915	0,009	0,000
High school educated	0,026**	0,314	0,004	0,000
Log Likelihood	-4027,608			
LR chi2	1542.26(9)			
Prob > chi2	0,0000			
N	23538			

Notes: 1) **p<0.01, *p<0.05

2) The ommitted category for age is “18-24 age group”, the omitted category for marital status is “single”, the omitted category for education is "secondary school or less educated”.

Table 10: Estimation Results of Probit Model for Explaining Seeking a Job with Interaction Terms

	Marginal Effects	Coefficients	Std. Err.	P> |z|
Married	-0,101**	-0,779	0,005	0,000
Married X University or higher educated	0,081**	0,581	0,012	0,000
Married X High school educated	0,051**	0,422	0,007	0,000
Log Likelihood	-4474,4583			
LR chi2	648,56(3)			
Prob > chi2	0,0000			
N	23538			

Notes: 1) **p<0.01, *p<0.05

CHAPTER 6

CONCLUSION & DISCUSSION

Initially, the main aim of this study was to learn which determinants prevent women from the labor force participation in Turkey. In addition, the secondary aim was to understand the reasons behind the determinants and the barriers within a causal perspective. In accordance with these purposes, the advanced econometric analyses which are called as Probit, GSEM and Mediation were applied on basis of 35,984 individuals. The interrelated and striking empirical results have been obtained as a result of these analyses. Further, these results are not only consistent with the findings of the literature surveys which are related to the FLFP in Turkey, but also these results carry a contribution value by providing a different point of view. Accompanied with the recent applied politics in Turkey, the results of this study will be presented in details on the following paragraphs.

It is found out from the Probit analysis that the most substantial determinant of FLFP is "education". Women with a higher level of education are more likely to participate in the labor force. The underlying reason of education is that university or higher educated women have significant and positive contributions on their household incomes which is determined by GSEM. On the other hand, as long as education level decreases, the effect becomes weaker and statistically insignificant. Another finding from GSEM is that there is a significant link between household income and household consumption expenditure. In other words, higher household income triggers household consumption expenditure. Therefore, in the case that university graduated or post graduated women work, their contributions on their household income and household expenditure reach to a maximum level.

In this case, we have developed a hypothesis such that "women participate in the labor force mostly by considering their opportunity costs for non-market activities". In order to test this hypothesis with Mediation analysis, we separate women into two sub-groups such as working and non-working women. In the first group, we measure the impact of

their contribution on their family economy. In the second group, we measure the level of probability to seek for a job. According to the first group results, if a university or higher educated woman participates into the labor force, the size of her contributions on her household income and household expenditure are 15% and 17%, respectively. As for highschool educated woman, the size of her contributions decrease to 3% and 4%, respectively. On the other hand, in the case that a lower educated woman participates into the labor force, it can not be found any significant relationship between her participation and her contribution on her household financials. We have also observed non-working women related to their attitudes toward job seeking with the aim of proving the hypothesis. In similar to the first group, high-educated non-working women have the most probability of seeking a job. When the all explanatory variables are at their mean values, university graduated or post graduated non-working women have a 13% and highschool educated non-working women have a 3% higher probability of seeking jobs as compared to lower educated non-working women.

Although education is of vital importance in terms of entering the labor market, the education levels of females are still insufficient in Turkey. According to the news bulletin published by TURKSTAT (2016), the illiteracy rate is 5,4% among 25 or more aged population in 2015. This rate decreases to 1,8% among males while increases to 9,0% among females. In other words, 9 out of each 100 women in Turkey are unable to read and write. In addition to this, the rate of 2 or 4 years university graduated individuals over 25 or more aged population is 15,5%. These rates for males and females are 17,9% and 13,1%, respectively. Though the education levels of women have improved over years, we obviously see the gender inequality in terms of education right in Turkey. The Ministry of National Education also published national education statistics in the period of 2015 and 2016. They follow the “Student Sex Ratio” which is obtained by dividing the female gross schooling ratio by the male gross schooling ratio. This ratio is nearly 100% in terms of primary and secondary education levels. We can understand that females and males attend the basic educational levels at the same rate. However, this ratio decreases in terms of high school and higher education levels since females are less likely to attend the higher educational institutions than males. Although, this ratio increases over years, the gap between males and females still exists.

It can be deduced from this result that the society still gives more importance to the males' education rather than the females' education in Turkey. Moreover, the educational gender gap increases in rural areas due to the dominant traditional view.

In the recent years, government has been in cooperation with international and non-governmental organizations and private sectors to incrase the education levels of women and to reduce the drop-out rates of girls by means of campaigns. The campaigns which have focused on primary and secondary school attendance of girls, aimed to create awareness of the families with regard to the importance of girls' educations and to increase the literacy rate. In addition to this, the number of schools, universities and the capacities of them have been increased. By these policies, it can be observed that these projects are effective in terms of preventing gender inequality at the basic educational levels. However, the main issue is observed at the higher educational levels in our study. We have observed that university graduated or post graduated women have the highest probability of participating labor force. On the other hand, primary and secondary educated women have a less probability as compared to the high level of school graduates. Therefore, it would be more effective to make some policies or projects in order to support women in terms of obtaining higher education level.

This inference is also parallel with the report, "Tackling Early Leaving from Education and Training in Europe: Strategies, Policies and Measures" which was published by European Comission in 2014. According to this report,Turkey has the highest early leaving from education and training (ELET) rate as compared to the European countries.

In this report, 13,6% of 18-24 aged males with lower secondary education are not in the further education or training among EU-28 countries in average. This rate for females is 10,2%. Only Bulgaria and Turkey have the opposite gender trends. The ELET rate is 35% of males, versus 39,9% of females in Turkey. Moreover, the highest difference (4,9%) in early leaving between female and male students is observed in Turkey. Even though Bulgaria has the same trend with Turkey, the difference between female and male students in Bulgaria is very low with 0,4%. Unfortunately, The European Comission also states that Turkey doesn't have a strategy to eliminate early leaving in

this report. Although, increasing the number of universities in Turkey brings some advantage to close the gender gap, policies or the projects should be developed for women students to continue and complete their educations.

In these days, although high-educated women are more likely to participate in labor force, they encounter gender inequality and mobbings such as wage differences, recruitment, upgrade and promotion processes. As a result of these negativities, although the women's education levels gradually increase over years in Turkey, this improvement doesn't reflect on the FLFP directly. As for low-educated women, the difficulties are much insufferable. They are mostly employed informally with under the legal minimum wage. They can not be presented in the social security system and have no chance to be retired at their elder ages. All those negative situations prevent women from being in the labor market. Therefore, if the legal sanctions become more strict and persuader for employers, it will be presumably a favour of women employees.

Apart from all these, women gain advantage by obtaining high level of education. The increase in the educational level of women will bring them high-level job facilities, economic independency and self-confidence. High-educated women can directly participate in the labour market and political life since they can contribute these areas by producing more systematic, high added and reasonable solutions. As popular and successful business woman Cansen Başaran Symes mentions, women have more systematic point of view than men whereas men are more advantageous in focusing on the solutions in business life. While men behave more self-enclosed, women are more successful in terms of network establishing and team building. Therefore, women have significant contributions to business life by means of their social and leadership skills.

The effect of marital status is also observed within the causal perspective in terms of female participation. It is determined by Mediation analysis that only single working women have contributions to the family economy among all marital statuses. If a single woman participates into the labor force, the size of her contributions on her household income and household expenditure are 2,5% and 2,7%, respectively. Although, no significant contribution is observed among working married women,the significant contribution will be possible if working married women have higher education levels.

This finding shows that the substitution effect outweighs the income effect, especially among married women. One of the biggest barrier of participation in labor force for married women is “child caring”. Based on GSEM analysis, as the number of children in educational age increases in the households, women’s willingness to job seeking gradually decreases. In addition, having 0-5 aged child also decreases the likelihood of women’s participation. When we interpret these results within the context of our hypothesis, we have proved that single women have less opportunity costs for non market activities rather than married ones since most of the married women have domestic and child care responsibilities. In addition to this, spouse employment and spouse income affect married women’s decisions negatively. Nevertheless, the university or higher educated married women have a 17% contribution on the household income and a 19% contribution on the household expenditure in the case of working. It can be obviously deduced that education plays a greater role than marital status in terms of FLFP in Turkey since high education produces more opportunity cost of not being participated in the labor force.

Although fertility is awared as one of the obstacles for women’s participation in Turkey, it is obvious that fertility statistics are still high, to the detriment of our country. Eurostat published the data of the fertility rate in the period of 2010-2015 for European Union countries and Turkey. According to these statistics, Turkey has the highest fertility rate among all countries. In 2015, fertility rate for Turkey is 2,14 whereas for EU-28 is 1,58 in average. Further, 0-14 aged children population rate is still very high with 25% in 2016 in Turkey (The World Bank, 2016). However, the rate is 15% in European Union countries in average. On the one hand, the childcare availabilities are hot topic in the surveys of the developed countries despite the fertility rate are less than that of Turkey. On the other hand, Turkey stays behind in increasing childcare availabilities such as creches, kindergartens, daycare centers etc. as compared to developed countries. Even though a number of childcare centers exist and become prevalent in time, most of them are private and costly. Giving subsidies to the mothers for each children is an appreciated policy. However, instead of giving subsidies at only once, state can provide the free creches or daycare centers. In this case, win-win system could be put into place. Not only will free care centers contribute the mothers’

participations, but it also effective on creating additional employment. Additionally, some researches can be done in an attempt to determine the number of care centers based on regions and more incentives can be given for the regions in which low creches or care centers exist. For instance, closeness of these places to the home is a topical issue in the USA in the recent years.

Another finding from this thesis is related to the disabled people care. Caring for such people has a 1,6% negative effect on women's labour force participation. Despite the impact may be considered as minor as compared to child rearing, the rate of disabled people in Turkey is not low. According to the TURKSTAT Turkey Disability Survey 2002, the proportion of disability is 12,3%. When a disabled individual lives in a household, mostly woman undertakes on the disabled individual's caring services in Turkey. Therefore, providing free care centers which are close to their homes gives opportunity for women to work and attend to the social life.

Undoubtedly, age is another significant determinant in our study. First of all, it is found that 25-34 and 35-44 aged women are more likely to participate labor force as compared to 18-24 and 45+ aged women as a result of Probit estimation. Similarly, the significant link between FLFP and household income is only observed in 25-44 aged working women among all age groups based on Mediation analysis. What is noteworthy from this analysis is that the opportunity cost for non-market activities is higher in 25-34 age group as compared to 35-44 age group. While the income effect of 25-34 age group is 3.2% and the total effect on expenditure is 3.3% in comparison to non-working women in the same age group, the income and expenditure effects decrease to 1.0% and 1.6% for 35-44 age group, respectively. As for non-working women's job seeking behaviour, the same age groups come to the forefront. 25-44 aged group is more willing to seek for a job when they are unemployed. The main reasons of low participation rate among 18-24 aged women are early-marriage, fertility and being student. The 18-24 aged women who continue to high educational level tend to delay their marriage and fertility periods while some of them who are less educated tend to marry and have children in this age group.

We have also measured the effect of being student on household expenditure and FLFP in our study. On the one hand, being student increases the household income. On the other hand, this situation decreases the probability of labor force participation. For young females, formal part-time job facilities should be increased which are currently common in the developed countries. Despite the rights were specified according to the Labor Act No:4857 Article:13 in 2003, part-time working conditions have been still against the law. In general, they work informally without any side benefits. From a different point of view, Koç and Görücü (2011) mention that part time jobs mostly take place in agricultural and unqualified jobs in Turkey. They argue that state laws are very strict and unfavorable to the employers. Therefore, employers do not tend to recruit employees as part-time workers since they could not reduce their costs to the large extent.

In conclusion, this study is unique with regard to the used statistical methods and the acquired results from the analyses. In terms of statistical methods, Logistic (Logit, Probit) or OLS regressions have been used commonly for FLFP related surveys in Turkey up to now. By using GSEM and Mediation analyses in this area for the first time, the determinants are examined within the causal perspective. Low education and fertility have been mentioned as the main determinants of women's participation in the previous surveys. However, the reasons behind the importance of these factors haven't been measured by the statistical analyses. By examining the links between all explanatory factors, this survey gives us a large point of view regarding to the determinants of female labor force participation in Turkey. Additionally, this study differs from the other surveys in terms of recent data usage (2013-2015) and recent policies which are given place at comments and suggestions.

Limitations of The Study:

Despite the study is unique due to the usage of GSEM as a new method, there is a lack of prior research studies on this topic with the same method. If there were previous studies with GSEM in labor economics, we would probably have an opportunity to compare the approach and the results. Despite, using new methodology seems to be a limitation, it is an important for us to identify new gaps and direct the further researches

in the literature. The secondary limitation is related to our first aim that we have planned to reveal unobserved (latent) determinants of FLFP such as time constraint, culture etc. However, the correlations between observed variables are not strong enough to segment and constitute such unobserved (latent) variables. Therefore, the low level of correlations between observed explanatory variables may be considered as another limitation of this study although these variables have a strong relationship with the dependent variable.

Future Studies:

Despite many studies have been done with respect to FLFP globally, used statistical methodologies are quite limited. Logistic regressions are preferred to use for specifying the observed determinants while VECM and Granger Causality are preferred aiming to reveal the causal relationships between observed variables. Shortly, all these econometric analyses have been interested in the observed variables. However, some social, cultural and motivational factors exist in our lives which we cannot measure directly. Although some surveys measure the effect of several religious or social issues by asking to the individuals explicitly today, the replies should be evaluated as "claims" - not always be accurate. Instead, the important issue is to reveal these latent factors implicitly without asking any opinions directly. Therefore, the latent factors and the implicit surveys will be presumably on the front burner for the future.

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APPENDIX 1. ORIGINALITY REPORT

HACETTEPE UNIVERSITY
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MASTER'S THESIS ORIGINALITY REPORT

HACETTEPE UNIVERSITY
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Date: 12/06/2018

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I respectfully submit this for approval.

Date and Signature

Name Surname: Bengi SARSILMAZ — 12/06/2018

Student No: N15223899

Department: Economics

Program: Economics

ADVISOR APPROVAL

APPROVED.

Doç. Dr. Dilek BAŞAR

(Title, Name Surname, Signature)

APPENDIX 2. ETHICS COMISSION FORM

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
ETHICS COMMISSION FORM FOR THESIS

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
ECONOMICS DEPARTMENT

Date: 12/06/2018

Thesis Title: Explaining the Causal Relationship between Female Labor Force Participation and its Determinants in Turkey

My thesis work related to the title above:

1. Does not perform experimentation on animals or people.
2. Does not necessitate the use of biological material (blood, urine, biological fluids and samples, etc.).
3. Does not involve any interference of the body's integrity.
4. Is not based on observational and descriptive research (survey, interview, measures/scales, data scanning, system-model development).

I declare, I have carefully read Hacettepe University's Ethics Regulations and the Commission's Guidelines, and in order to proceed with my thesis according to these regulations I do not have to get permission from the Ethics Board/Commission for anything; in any infringement of the regulations I accept all legal responsibility and I declare that all the information I have provided is true.

I respectfully submit this for approval.

Date and Signature

Name Surname: Bengi Sarsılmaz
Student No: N15223899
Department: Economics
Program: Economics
Status: ☒ MA ☐ Ph.D. ☐ Combined MA/ Ph.D.

12/06/2018

ADVISER COMMENTS AND APPROVAL

Doç. Dr. Dilek BAŞAR
(Title, Name Surname, Signature)

ÖZGEÇMİŞ

Kişisel Bilgiler

Adı Soyadı : Bengi Sarsılmaz

Doğum Yeri ve Tarihi : Ankara/19.10.1985

Eğitim Durumu

Lisans Öğrenimi : Uludağ Üniversitesi İ.İ.B.F./Ekonometri

Yüksek Lisans Öğrenimi : Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü /İktisat

Bildiği Yabancı Diller : İngilizce

İş Deneyimi

Çalıştığı Kurumlar : Synovate Pazar Araştırma Şirketi (2008-2010)

: Ipsos Pazar Araştırma Şirketi (2010-2014)

: Nielsen Pazar Araştırma ve Medya Şirketi (2014-2015)

: Zita Pazar Araştırma ve Danışmanlık Firması (2015-....)

İletişim

E-Posta Adresi : bengi.sarsilmaz@gmail.com

Tarih : 29.05.2018