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EMPLOYMENT TRANSITIONS OF EGYPTIAN WOMEN IN TIMES OF CRISIS

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ABSTRACT

The labor force participation of Egyptian women has been chronic economic problem in Egypt. Despite the improvement on the human capital front, whether on the education or health indicators, the female labor force participation remains persistently low. Using the data from the Egyptian Labor Market Panel Survey (ELMPS), this paper aims to identify the factors that influence, and the probability of women being employed, and to look at the transitions of women between the different employment statuses across the years using historic data from 2006-2018. The paper relies on the logit regression model that identifies the factors affecting the probability of women being employed. The results indicate that women's transition in the labor market is not smooth, and being out of the labor force is often a sticky state. Women are not monogenous groups, and the factors affecting each work status transition vary greatly. Education is a main determinant of women's employment, marriage and the presences of dependents in the household are among the factors that significantly reduce the chances of women of being employed, confirming that women in Egypt face a tradeoff between their productive and reproductive roles in the society.

CHAPTER 1 INTRODUCTION AND PROBLEM STATEMENT

In September 2020, the Central Agency for Public Mobilization and Statistics (CAPMAS) reported that unemployment rate dropped to 7.3% as opposed to 9.6% in July 2020. While a drop in unemployment is always celebrated as a success, this decline in the unemployment coupled with the slowdown in the economic activity caused by COVID-19 could more likely be attributed to a decrease in the labor supply implying a discouraged worker effect rather than the result of a Gross Domestic Product (GDP) growth and a rise of employment.

Economic shocks and the respective changes on the business cycles have been instrumental in affecting the fluctuations in the labor market (Christiano, Trabandt, & Walentin, 2021). Economists consider wages, population, tradeoff between leisure and work, and work preferences as the main determinants affecting the labor supply in an economy (Ashenfelter, 1980; Lundberg, 1985; Pierre Cahuc, 2014; Tayal & Paul, 2021). Under this school of thought, the added worker effect and the discouraged worker effect are the exceptions that could also cause shifts in the labor supply. The COVID-19 pandemic is likely to cause fluctuations in the labor market outcomes (Kalenkoski & Pabilonia, 2020), where the economic downturn is affecting the status of many workers in the economy. The transitions in the employment status are observed in many economies in response to economic shocks, where many could move from employed to unemployed, others from employed/unemployed to out of the labor market, and some could potentially enter the labor market to maintain an adequate level of income within the households (Cardona, Flórez, & Morales, 2018; Leibowitz, 2005; Cardona, Flórez, & Morales, 2018; Cowan, 2020). Examining the transitions of women in and out of the labor market is of particular interest given their limited participation in the labor force historically over the years (Krafft, Assaad, & Keo, 2019; Leibowitz,

2005). The International Labour Organization confirms that the global labor force participation rate for women is only at 49 percent while the rate of it is 75 percent, showing a gap of 26 percentage point (The International Labour Organization, 2018)..

The COVID-19 distorted economies and the labor market affecting both the demand and the supply side of the market (Azcona, et al., 2020). On one front, the slowdown in the economies due to the lockdowns, the closure of schools and nurseries, and the exponential health troll experienced in all countries pushed businesses out of the market and therefore many employees and workers found themselves unemployed, with reduced workload/pay, or out of the labor force altogether (Stevenson, 2020; Kalenkoski & Pabilonia, 2020). On the other front, with the disruptions of the school systems and healthcare sectors, with the increased load of care chores on family members (Farré, Fawaz, González, & Graves, 2021), women have been primarily the ones who assumed most of these additional burden and responsibilities (Power, 2020; Dingel, Patterson, & Vavra, 2020). While the impact of COVID-19 is yet to be concluded given the extended pandemic period, this paper will evaluate the factors associated with the transitions of women in the labor force by relying on the fluctuations and transitions witnessed in previous shocks on the labor market

In Egypt, with women representing a minority in the labor supply as evident in the female labor force averaging at 20 percent over the last decades (World Bank, 2020), COVID-19 crisis could have a silver lining for their participation in the labor force, and they could have witnessed an added worker effect. In economic literature, the added worker effect could take place in economies during economic hardship (Ehrenberg & Smith, 2000). However, it is early to assess the full fledge impact of COVID-19 on the labor market, given that economies are still caught in its aftermath both on the health front and economic front, and the recent global supply chain crisis is expected to worsen the economic activity across the globe (International Monetary Fund, 2021). In fact, the

International Monetary Fund (IMF) lowered its projections for the global economy growth for the year 2022 by 0.1 percent between July 2021 and October 2021 (International Monetary Fund, 2021).

The response of women's behavior in the labor market varies from one country to another, and from one crisis to another. In fact, the literature from Latin America and Asian Countries noted that Added Worker effect was observed during the previous economic recessions whereby the female labor force increased (Francke, 1992; Cerutti, 2000; Leslie, 1988; Lim, 2000; Ehrenberg & Smith, 2000). However, this phenomenon does not indicate the absence of the discouraged worker effect. Particularly, the evidence from South Korea showed the withdrawal of some groups of women from the labor force as a result of the financial crisis in the end of the 1990s (Kim & Voos, 2007; Lee & Kisuk, 2005). Moreover, recent evidence on the COVID-19 indicated being a woman, young, and coming from underprivileged backgrounds were associated with the pejorative employment transition in the US (Cowan, 2020). Hence, existing data and findings around women's behavior in the labor market in times of crisis do not seem to indicate consistent patterns.

The objective of the paper is to identify the determinants associated with the employment status transitions of women during three previous shocks: (i) the economic and financial recession in 2008-2009; (ii) the political upheavals during the 2011 Revolution; and (iii) the devaluation in 2016. This will be done by relying on the Egyptian Labor Market Panel Surveys from 2006-2018.

This research will leverage on historical data to find the individual and household characteristics that determine the labor market transitions among women, which will be used to build a robust model that can predict the expected transitions during the COVID-19 crisis. While it is still early to assess the full impact of COVID-19 on the labor force participation, the purpose of this paper is to examine the labor market transitions for women that occurred in Egypt during previous

shocks, and identify the determinants associated with these transitions in an effort to predict if these factors would hold true during the COVID-19 crisis. By identifying the factors associated with employment status transitions based on historic data on the panel survey, the paper aims to provide the relevant entry points to address, preempt and/or mitigate the expected outcomes of COVID-19 on the labor market in Egypt, with a focus and interest on women in specific.

The paper will, therefore, support policy makers in identifying these factors in terms of labor market and employment outcomes of women, and will provide the relevant entry points to address and mitigate these challenges. The paper will, however, not attempt to assess the impact of COVID-19 on other demographic or socio-economic strata, nor will it attribute the consequences on the performance in any economic sector in particular.

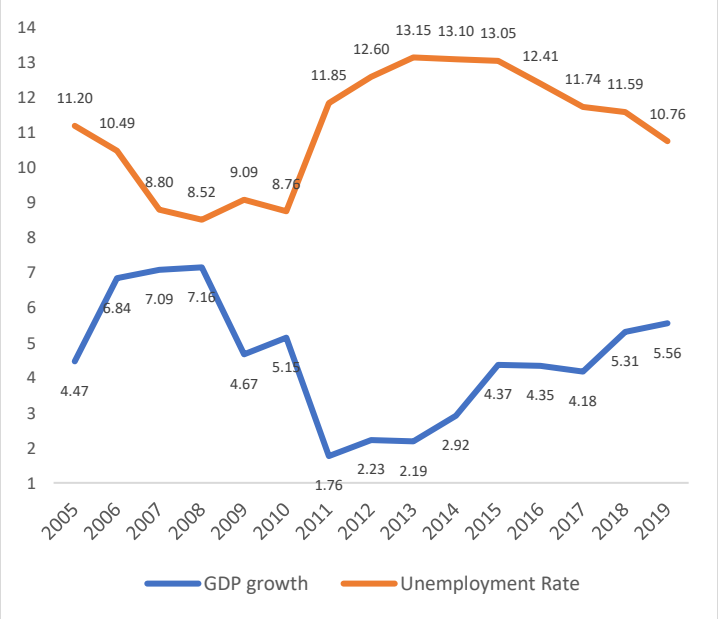
The structure of the paper is as follows: Chapter 2 will cover the contextual framework for Egypt, along with the theoretical framework underpinning the paper. Chapter 3 will cover the literature on the added worker effect and the discouraged worker effect in both developing and developed countries during previous economic recessions, and will provide a review of the literature on recent impact of COVID-19 on labor market outcomes in different countries. Chapter 4 will present the methodology pursued. Chapter 5 will offer the analysis and discussion of the results. Chapter 6 will provide the conclusion and policy implications along with their relevant recommendations.

CHAPTER 2 EGYPTIAN CONTEXT AND THEORETICAL FRAMEWORK

2.1. EGYPTIAN CONTEXT

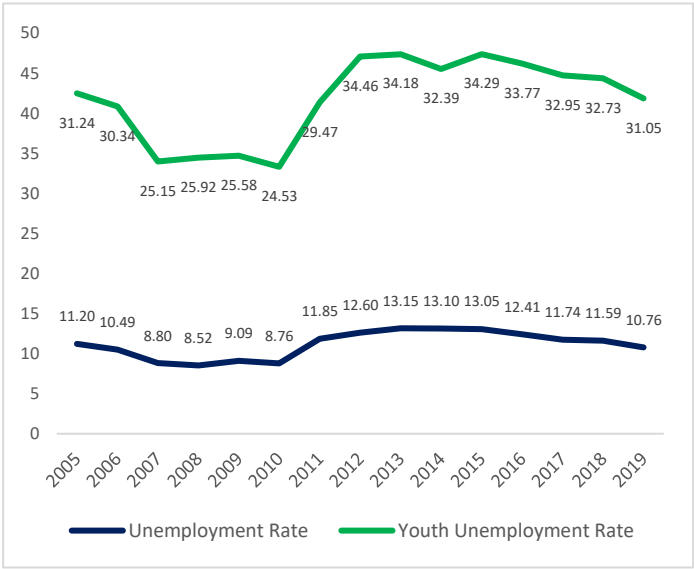
Over the years, Egypt's economy, as measured by the Gross Domestic Product (GDP), has been steadily growing (World Bank, 2020) (figure 1); however, the inequality of such growth could be noticed with the unemployment rate that is widening, especially among the youth (figure 1 and figure 2), and the persistently low female labor force participation compared to that of men's (figure 3).

Figure 1: GDP Growth and Unemployment Rate from 2005 - 2019



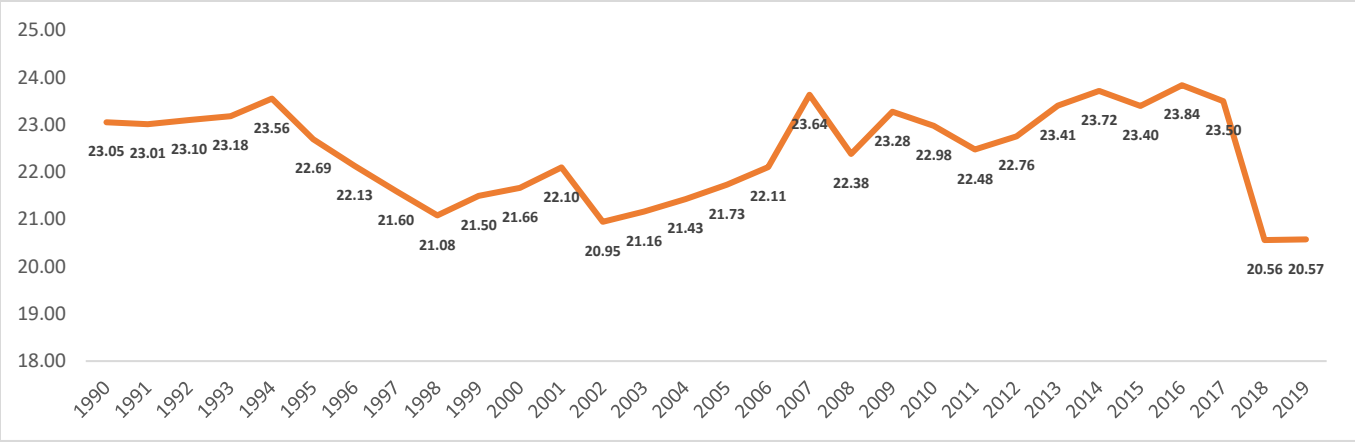
Source: Constructed by the Author using World Development Indicators 2005 – 2019, World Bank

Figure 2: Unemployment and Youth Unemployment



Source: Constructed by the Author using World Development Indicators 2005 – 2019, World Bank

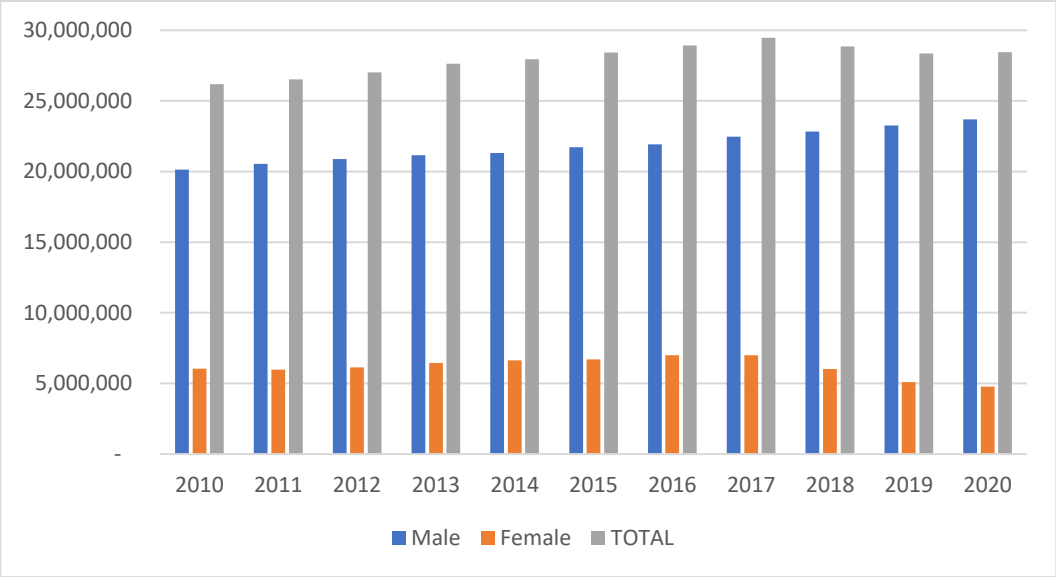
Figure 3: Female Labor force (as % of total labor force) in Egypt from 1990 to 2019



Source: Constructed by the Author using World Development Indicators 1990 – 2019, World Bank

With a population of about 110 million according to the latest statistics from CAPMAS (CAPMAS, 2021), the labor force is estimated to be around 26 million, where women represent only 15 percent. The participation of women in the labor force has always been very low, and the absolute number of women keeps on declining over the years (figure 4).

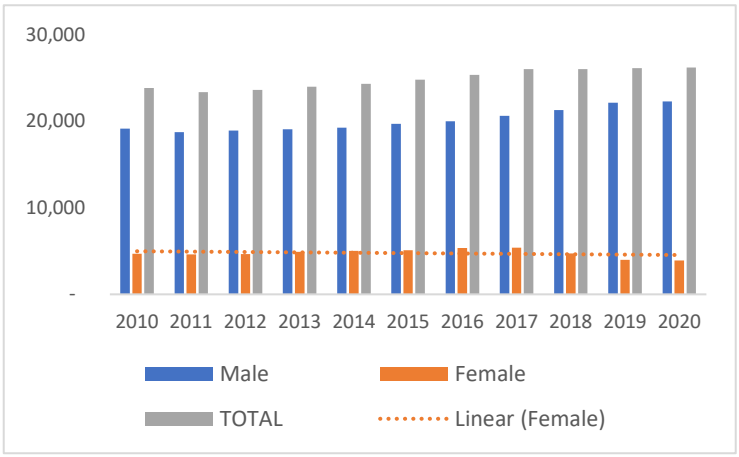
Figure 4: Labor Force in Egypt from 2010-2020 (millions)



Source: Constructed by the Author using CAPMAS Statistical Yearbook (March 2021)

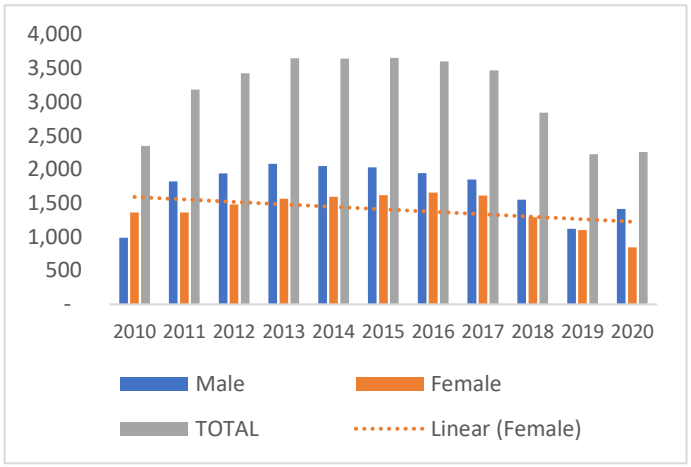
Not only is women's participation in the labor force shrinking, but also the total number of women employed is slightly decreasing. Even more, the number of unemployed women is also declining, indicating that women are dropping out of the labor force altogether (figure 5 and figure 6). This trend provides a better understanding of the declining unemployment rate that was recently observed in Egypt (figure 7). At first glance, the decline of the unemployment rate for women, that is at 17.7 percent in 2020, the lowest rate in the last decade, could potentially indicate a rise in the employment rate. Nevertheless, in the case of Egypt, a closer observation to the decline in both the number of women employed and the unemployed confirms that women are, in fact, dropping out of the labor force.

Figure 5: Number of Employed Persons in Egypt from 2010-2020 (in thousands)



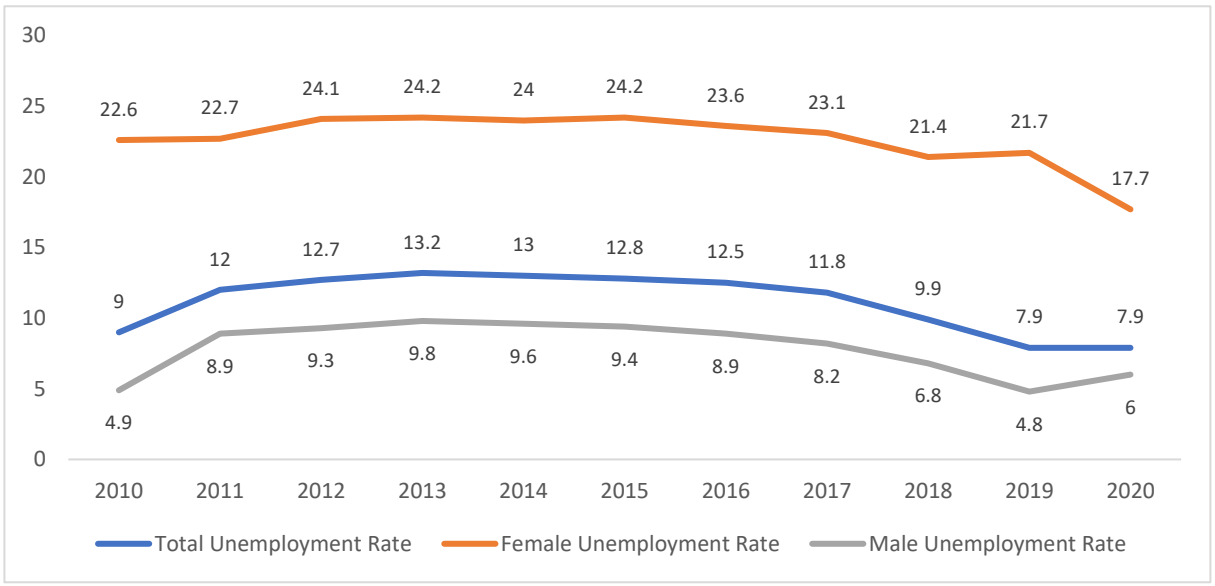
Source: Constructed by the Author using CAPMAS Statistical Yearbook (March 2021)

Figure 6: Number of Unemployed Persons in Egypt from 2010-2020 (in thousands)



Source: Constructed by the Author using CAPMAS Statistical Yearbook (March 2021)

Figure 7: Unemployment Trends in Egypt from 2010 - 2020 (in percentage)



Source: Constructed by the Author using CAPMAS Statistical Yearbook (March 2021)

Literature and research highlight how the limited participation of women in the labor market is negatively affecting economies and limiting its inclusive growth (World Bank, 2011). For the case

of Egypt, a report by the International Monetary Fund (IMF) indicates that if the rate of women participation in the labor market increased to the same rate of men, the GDP for Egypt would increase by 34 percent (Katrin Elborgh-Woytek, 2013). This IMF report is arguing that not only does higher level of women economic participation positively and directly impact the macroeconomy, but also, the gains are trickled down to the gains on the human capital front, especially on health and education (Katrin Elborgh-Woytek, 2013). Research has confirmed that when women have access to additional resources and have higher earnings, they tend to spend it on households' and children's needs specially on education which translates into enrollment of kids in schools leading to a virtuous cycle (Heintz, 2006).

The paradox in the Egyptian context regarding the limited participation of women in economic life is puzzling. Across the globe, the improvement in human capital of women has gradually led to a steady increase in the female labor force participation; however, women in Egypt have not followed this trajectory. Despite the accumulation on the human capital in terms of better education and improved health indicators, women in Egypt have a limited participation in the labor force, as is shown in figure 3. Rather than looking at the stagnant screenshot of women in the labor market and examining the factors associated with the status quo, this paper is interested in depicting the factors influencing the participation of women in the labor market, and therefore, the factors associated with the transition in employment status, particularly being working versus not working, whether this means women being unemployed or being out of the labor force. The paradox around the limited participation of women in the labor market in Egypt was carefully studied by economists and sociologists to understand and reveal what was holding women from entering and continuing in the labor force. (Assaad & El Hamidi, 2009; Zeitoun, 2018; Assaad R. , 2019)

Not only does women's participation in the labor market affects the macroeconomy, but it also has positive impacts on the education and health status of children, it brings more income to the households, and allows women to have autonomy, stronger sense of agency, and higher level of financial independence (World Bank Group, 2015). Research has also shown that educated and working mothers are more likely to raise and upbring children with better health and education outcomes (Leibowitz, 2005). It is therefore essential that researchers and policy makers understand, not only the factors holding women back from working and those encouraging them to continue working, but also those that determine and influence the transition of women in and out of the labor force.

Looking at the performance of Egypt in comparison to peers, is well below it is potential ,and the Gender Gap Index by the World Economic Forum for 2021 ranked Egypt at 129 out of 156 countries, with the worst performing pillar, economic participation and opportunities having a score of 0.421 and a rank of 146 out of the 156 countries (World Economic Forum, 2021). Although the index looks at a myriad of indicators to assess the gender gap, under the economic participation and opportunity pillar, the labor force participation is the worst performing ranking Egypt 150 out of 156 countries with a corresponding score of 0.266 (World Economic Forum, 2021).

Table 1:Egypt's Scorecard in the Global Gender Gap

	Score (1.00== parity)	**Rank (out of 156 countries)**
Global Gender Gap Index	0.639	129
Economic participation and opportunity	0.421	146
Educational attainment	0.973	105
Health and survival	0.968	102
Political empowerment	0.196	78

Source: Global Gender Gap 2021, World Economic Forum

The problem with the labor market in Egypt, especially for women, could be dissected to several factors. First, there are the demand and supply issues. The labor market, like any market in economics, is assumed to operate according to the rules of supply and demand, where participants in the labor force offer their services and the companies/employers would demand certain skills/profiles to fulfil the jobs, and the price dominating the market would be the wages.

Over the years, the female labor force participation has been stagnant at around 20 percent since 1990 (World Bank, 2020). The limited participation of women in the economy has major macroeconomic consequences, and highlights the significant gender gap on the economic level, among other statistics. At the policy level, the government of Egypt has been preoccupied with the women economic empowerment (Zeitoun, 2018), and under the Economic Development pillar of the Sustainable Development Strategy: Egypt Vision 2030, the female labor force participation is ambitiously set to reach 35 percent by 2030 under the Economic Development pillar of the strategy[1]. Despite the recent policies passed in support of this agenda, the needle is yet to be moved as the total number of women in the labor force continues to remain stagnant and low.

In spite of the increased education attainment and improved health status, the gains on the human capital front did not translate into more participation of women in the labor force. This paradox has been greatly studied to identify the factors that are associated with women's choice/decision to joining or withdrawing from the labor force. Looking at the supply side issues, factors such as fertility, marriage, and reservation wages could have an effect (Zeitoun, 2018). As for the demand side, there is the shrinking hiring at the public sector which has always been of preference for women (Barsoum, 2016), and the inhospitable private sector that is unable to absorb the supply of

[1] Sustainable Development Strategy: Egypt Vision 2030: http://sdsegypt2030.com/ Economic Development Pillar

women and meet their expectations (Barsoum, 2010; Assaad & El Hamidi, 2009). Other factors such as the implications of the oil revenues (Moghadam, 2001), lack of safe transportation, limited access to childcare, and burden of household's chores also play a crucial role in women's decision to work (Constant, Edochie, Peter, Martini, & Garber, 2020; Hendy, 2015).

To address many of the above-mentioned issues, and to support this agenda, the government has launched a series of reforms aiming to remove some of the barriers women face. For example, on April 19, 2021, the Minister of Manpower issued two decrees: (i) to allow women to work in certain sectors that were once prohibited to women (Decree 43 for year 2021[2]); and (ii) to remove the night shifts constraints for women (Decree 44 for year 2021[3]). In addition, the National Council for Women launched the Egyptian Gender Equity Seal with the private sector to promote the adoption and implementation of gender sensitive policies at companies to boost the participation of women (National Council for Women, 2021).

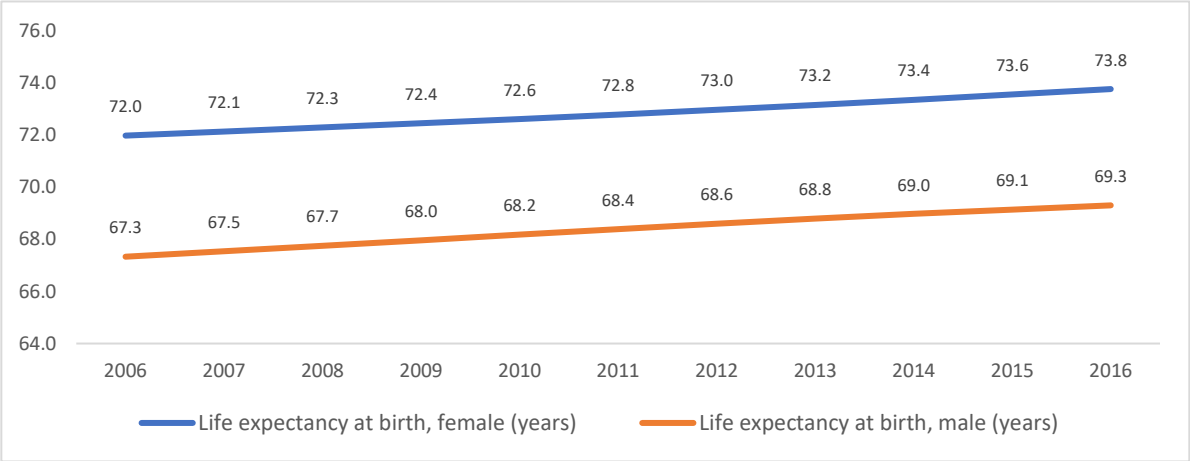
Looking at the evolution of female labor participation, since 1998, the rate has been stagnant at 20 percent with some fluctuations (figure 3). Following the economic reforms package that was implemented in 2004 under the cabinet of Nazzif, the female labor force participation jumped by over 10 percentage points to reach 23 percent. The rate has slightly dropped in the following years. However, it started to increase again in the aftermath of the 2008 financial crisis. A similar trend, with limited impact could be noticed following the January 2011 Revolution. Nevertheless, since 2016 and 2017, and in the following years after the economic reform agenda was implemented, the female labor force participation has been dropping to reach 20 percent in 2018.

[2] Electronic copy of the Decree 43 for Year 2021, published on the website of the National Council for Women (in Arabic here)

[3] Electronic copy of the Decree 44 for Year 2021, published on the website of the National Council for Women (in Arabic here)

Despite the gains on the education and health fronts, women's participation in the labor force is yet to reach its potential. Over the last several decades, girls have accessed more and better education and health services. Looking at the historic trends, it is noted that the gender gap is almost closing on the education front across the different levels from elementary to high school, and on the higher education, the number of women is rapidly increasing over the years. As for the health outcomes, women are currently living longer and enjoy a life expectancy of 73.8 years as opposed to 69.3 years for men (figure 8).

Figure 8: Evolution of Life Expectancy at Birth for Men and Women in Egypt

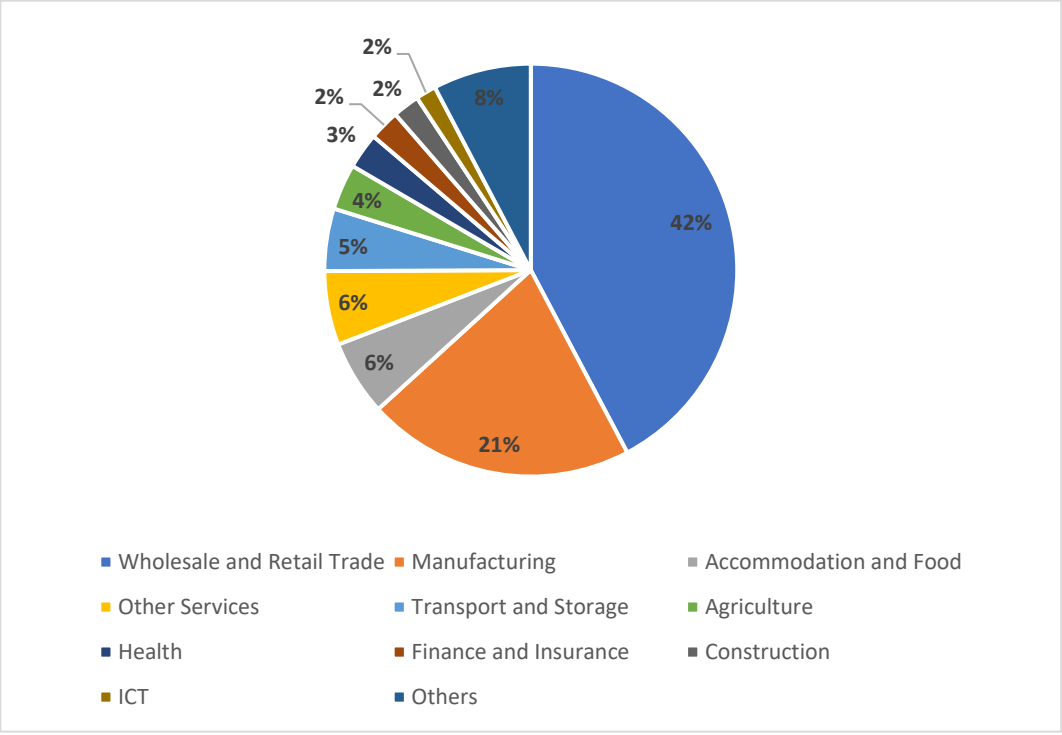


Source: World Development Indicators, World Bank

In 2016, the government announced its economic reforms backed by the Stand-by Arrangement for Egypt by the IMF under its Extended Fund Facility. The agreement with the IMF was to push the government to implement structural adjustments over a span of three years to restore its macroeconomic stability and promote inclusive growth. The reforms included the introduction of value-added tax, the liberation of the exchange rate, among other measures, and while these reforms were painful on the short run, the medium run is showing positive signs, as shown by the rates of the GDP growth. In addition, the structure of the economy and the nature of the sectors

driving economic growth show that Egypt is still performing under its full potential as compared to its peers, and the sectors that are driving the economic growth are male dominated with the real estate and construction at the lead (International Finance Corporation, 2021). In addition, the decomposition of the employment within the private sector shows that the majority of the jobs are in wholesale with 42 percent followed by the manufacturing sector with 21 percent, according to the Establishment Survey by CAPMAS in 2017 (figure 9). The limited growth of the private sector along with the low quality of the jobs created (Assaad R. , 2019) coupled with the declining hiring in the public sector translated into fewer opportunities offered at the market at large, let alone for women.

Figure 9: Private Sector Employment by Economic Activity in Egypt in 2017



Source: From the International Corporation 2021 Report using Establishment Survey 2017 by CAPMAS

2.2. THEORETICAL FRAMEWORK

Clarifying the role of women in the economy along with the factors that influence the decision of women to work in the theory and literature will allow to draw the theoretical framework upon which this paper will rely on. At the macroeconomic front, the hypothesis on the trends of female labor force participation is that it has a U-shape vis-à-vis economic growth (Goldin, 1994). Under this theory, the female labor force participation would tend to decline during the early stages of economic development, and then it would pick up and increase at a later stage. While the model was found true in the developed countries, the relevance of it in developing countries is mixed. For some countries, such as India, the trend of female labor force participation did not follow the U-shape model, and despite the gains on the macroeconomic front, female labor force remains low (Sarkar, Sahoo, & & Klasen, 2019). In other developing countries, such as Turkey, this model was found true where plotting the labor force participation followed the U-shape curve theory (Gündüz-Hoşgör & Smits, 2008).

Following this model, the pickup of economic growth and the positive performance in Egypt throughout the recent years, should have yielded better economic outcomes for women. However, looking at the trend of labor force participation of women and the GDP growth, it is rather noted that the female labor force participation is not responding to the positive GDP outlook, and recently, due to the extensive period of unemployment, women are dropping out of the labor force. Moreover, depicting the performance of the economy, it is found that it is still not inclusive of women. For example, the composition of employment by sectors in the private sector shows that most sector are male dominated, offering, therefore, fewer opportunities to women, and the freeze in hiring in the public sector limited the window of opportunity for women to join the labor force. Moreover, for women to join and thrive in the economy, a number of factors are at stake. First, for

all economic agents to join the labor market, there are supply side factors influencing the decision such as wage, people's preferences for work, the trade-off between work and leisure, and for women in particular, the tradeoff between the productive and reproductive roles within their households is rather more important for women. Looking at the demand side, there is the public sector that has always been of preference to women, and the private sector that is not offering decent and good quality jobs, making women opt out of the labor market. In addition, there are the social norms and cultural barriers embedded in the patriarchal society. These factors were noted in several developing countries such as Turkey (Gündüz-Hoşgör & Smits, 2008) and India (Sarkar, Sahoo, & Klasen, 2019).

The exception for the above-mentioned factors that affect the decision to work relies in the added worker effect and the discouraged worker effect. The first concept argues that, in the case of loss of jobs of the main breadwinner in the household, there could be an increase in the labor supply of the second earner to maintain the overall household's income. However, during economic recessions, the extended periods of unemployment would "discourage" the unemployed to continue looking for a job actively, and this phenomenon would push them to drop out of the labor force altogether, leading to the discourage worker effect. In the case of Egypt, given the extensive periods of unemployment among women coupled with the several shocks for more than a decade, between the financial/economic crisis in 2008, the 2011 Revolution, the devaluation of the Egyptian pound in 2016, and lastly the COVID-19 pandemic, the paper aims to look at the transition of women from one work status to see whether they are rather experiencing a discouraged worker effect. It was well noted from the trends in women's labor force status where it was highlighted that fewer and fewer women are either employed or unemployed. In addition, it

looks at the factors influencing the probability of women being employed based on the panel data from the ELMPS.

CHAPTER 3 LITERATURE REVIEW

3.1. FEMALE LABOR FORCE PARTICIPATION IN ECONOMIC SHOCKS

The literature review section will be divided into three parts. Firstly, an overview of the previous economic shocks and recessions, and their impacts on the female labor force participation will be considered with a focus on developing countries, especially in Latin America, for its cultural and behavioral similarities with Egypt, and in East Asia for economic comparability. The second part will provide an overview of the available literature on the impact of COVID-19 on the labor market in developed countries to identify the overarching trends and present the main outcomes in these countries. Lastly, an overview of the factors and variables that are influencing women's decision to work.

To consider the topic, it is important to lay out the definitions for added-worker effect and the discouraged worker effect from economic literature, and highlight the behavior of women's in the labor market (Sabarwal, Sinha, & Buvinic, 2010). In particular, the existence of either the added worker effect or the discouraged worker effect has been extensively studies in both developing and developed countries (Lundberg, 1985; van Ham, Mulder, & Hooimeijer, 2001; Hansen & Warne, 2001). The former describes the increase in the labor supply of the second-earner in households as a result of the job loss of the main breadwinner; and the latter implies that extensive periods of unemployment period coupled with economic shocks would "discourage" the unemployed to continue actively seeking for a job, and therefore pushing them to drop out of the labor force altogether (Schweitzer & Smith, 1974; Bredtmann, Otten, & Rulff, 2018; DeLoach & Kurt, 2013). Regarding the Egyptian context where the employment rates for men are higher than of women, it is safe to assume that the second breadwinner as the labor force participation of men

is at 67% for 2017 as opposed to only 22% for the same year according to the Labor Force Survey by CAPMAS (CAPMAS, 2021), and therefore, a female member would be considered the second breadwinner in the household. This is also aligned with the societal views on the participation of women in the labor market, which confirm the complementary nature of the women's employment as they view the reproductive role more important that the productive role (Osman, 2019; Zeitoun, 2018). In a phone survey conducted by Baseera,[4] 92 percent of respondents reported that a woman is only successful if she is a successful mother, and 44 percent of the respondents believes that women's work has a negative and detrimental impact on her family duties and responsibilities (Osman, 2019).

Looking at the recent shocks, the Added Worker effect was witnessed during the different economic recessions across the globe, especially in the developing countries. In Australia, following the great recession, it was noted that women's behavior when partners suffered from job loss, was to increase their hours of work for those already working, and those who were out of the labor force witnessed challenges to enter the labor market (Gong, 2010). In Latin in America, the debt crisis of 1980s-1990s had led to a sharp increase in the female labor force participation in Peru (Francke, Women and the Labor Market in Lima, Peru: Weathering Economic Crisis. Women's Responses to the Recession in Latin America,. Paper prepared for International Center for Research on Women Seminar, 1992), Argentina (Cerutti, 2000), Chile, and Costa Rica (Leslie, 1988). Mexico has also witnessed similar trends as shown by Skoufias and Parker, especially among the wives (Skoufias & Parker, 2006). Their paper has confirmed that the unemployment of husbands increases the probability of wives to enter the labor force at the time of crisis and prosperity (Skoufias & Parker, 2006). Similar trends occurred in East Asia where several countries

[4] Baseera – The Egyptian Center for Public Opinion Research

witnessed an increase in the female labor force participation during the financial crisis of the late 1990s, notably in Indonesia and Philippines (Lim, 2000; Ehrenberg & Smith, 2000).

In addition, similar analysis in Turkey evaluated the responses of married women's labor supply as response to their husbands' loss of employment, and while the results supported that AWE dominates DWE during the economic crisis of 1994 (Başlevent, 2003). It was later deduced that in the following years from 2000-2010, an AWE was noticed, but only on a temporary basis (Karaoglan & Okten, 2012).

Nevertheless, the Added Worker effect does not indicate the absence of the discouraged worker effect. In fact, literature from South Korea has shown that the financial crisis of 1997 has led to the withdrawal of women from the labor market, and this was particularly true for the youth and single cohort of women (Kim & Voos, 2007).

Zooming on the Egyptian context, it was found that, following the January 25th Revolution, the decline in unemployment was not due to increased jobs opportunity, but rather demonstrated a discouraged worker effect, especially among the youth (Roushdy & Selwaness, 2014). This is aligned with other research such as Assaad, Krafft and Keo where their paper offered an analysis of the evolution of the labor supply in Egypt from 1988 to 2018 showing that women's participation in the labor market has been steadily decreasing since 1998 despite the noticeable increase in education attainment (Krafft, Assaad, & Keo, 2019) .

3.2. IMPACT OF COVID-19 ON LABOR MARKETS

The COVID-19 pandemic is likely to cause fluctuation in the labor market outcomes in Egypt, and the purpose of this paper is to examine the impact of economic shocks, with focus on COVID-19,

on the labor force participation especially among women and youth, by assessing the added worker effect (AWE) and the discouraged worker effect (DWE), if occurred.

Assessing the impact of COVID-19 on the labor market outcomes is of great interest to academia and policy makers alike, and OECD, ILO and the World Bank (Carranza, et al., 2020; International Labour Organisation, 2020; OECD, 2020) have produced reports indicating the dire impact of COVID-19 on the labor market and the economy at large. While the exact impact of COVID-19 is yet to be concluded, previous economic recessions and crisis can serve as a sound board to predict the impact of COVID-19 on the labor market and examine these fluctuations in terms of new entrants into the labor market, shown as the Added Worker effect, and those who exist the labor market as discouraged workers (IZA Institute of Labor Economics, 2020).

The early evidence from the developed countries indicate that COVID-19 affected the different groups of the population in varying degrees. Evidence from Singapore indicates a decline in labor income due to COVID-19, especially among the employed, as opposed to the self-employed (Kim, Koh, & Zhang, 2020). In addition, the health implications of pandemic could alter the behavior of individuals as shown by Dingel et al. (2020) where it was highlighted that people might reduce their willingness to seek work because the epidemic has compromised childcare services, schooling options, and other types of home and family health care availability, and therefore decreasing the labor supply in the economy (Dingel, Patterson, & Vavra, 2020). It was also noted by Monternovo et al. (2020) that the disruptions in the care economy, especially the absence of childcare services and the closure of schools led to a higher rate of absenteeism among females with young children that could translate into future unemployment or drop of the labor market.

Moreover, research from the United States (US) indicates the most affected groups are mostly women, youth, and those from underprivileged backgrounds (Cowan, 2020; Montenovo, et al.,

2020). In particular, Cowan (2020) examined the employment status transitions due to COVID-19 and the individual factors that were correlated with them in the US, and his findings show that there was an increase in gender gap. As for the disparities in unemployment patterns, Montenovo et al. (2020) confirmed the disparities across demographic sub-populations defined by age, gender, race/ethnicity, parental status, and education. In addition, it was also noted that not all sectors and jobs were equally affected by the pandemic by the same degree. It was noted that high paid jobs that were often occupied by higher educated workers and were likely to be secured, have witnessed the least disruptions given their preparedness to adapt to remote work environment entailed by the lockdown and physical distance level (Cowan, 2020; Montenovo, et al., 2020). However, it was also noted that those who work in essential industries had a lesser probability to lose their jobs, and these were among the least educated (Montenovo, et al., 2020). Both papers highlighted the inequity and inequality COVID-19 was and still is entailing on the labor market outcomes, and how the crisis is worsening the disparities in the labor market that were already noted in pre-COVID-19 era. It is therefore safe to assume that COVID-19 is more likely to cause the steepest disruptions to the groups who are vulnerable to economic shocks.

Evidence from developed countries have shown that the impact of COVID-19 was more severe on vulnerable groups, including women and youth, however, there is a gap in the evidence pertaining to the impact of COVID-19 in relation to the intra-households characteristics, especially on the change of employment status of the head of the household and whether or not this change has led to an Added Worker effect.

3.3. FACTORS INFLUENCING WOMEN'S DECISION TO WORK

Literature on female labor force participation and female labor supply in Egypt indicates a number of characteristics influencing the women's decision, and these factors are often interlinked and interdependent (Krafft, Assaad, & Keo, 2019; Selwaness & Krafft, 2021). Demographic factors, include age, educational attainment, location, marriage are among the most recurrent variables of influence, and many studies have looked at their impact vis-à-vis female employment (Zeitoun, 2018; Assaad & El Hamidi, 2009; Roushdy & Selwaness, 2014; Hendy, 2015). The impact of the demographic characteristics on the participation of women in the economy, and specifically marriage (İsvan, 1991; Salem, 2015; Selwaness & Krafft, 2021), are not only true for Egypt (Salem, 2015; Assaad, Krafft, & Selwaness, The Impact of Early Marriage on Women's Employment in the Middle East and North Africa, 2017), but also in many developing countries. For example, in Turkey, it was noted that there is a strong preference not to work after getting married (Özsoy & Sevilay, 2010; Gündüz-Hoşgör & Smits, 2008). In India (Sarkar, Sahoo, & Klasen, 2019), Argentina (Cerutti, 2000), and Bangladesh (Tanaka, Takahashi, & Ōtsuka, 2020) marriage is also considered among the reasons why, despite the economic growth, the female labor force is persistently low. Not only is marriage restricting women from joining the labor force, but also the burden of household chores that fall on the shoulder of women is limiting women from reaching their full potential (Constant, Edochie, Peter, Martini, & Garber, 2020; Dingel, Patterson, & Vavra, 2020; Katrin Elborgh-Woytek, 2013).

Moreover, education has also been found as of importance in women participation in the labor force (Psacharopoulos & Tzannatos, 1989; Heath & Jayachandran, 2016). The increase and improvement in female education has led to increase female labor force participation in the developed world, but women in developing countries did not follow this trajectory. While educated

women are more likely to be employed and to participate in the labor force, education in itself is noted to cause delays in entering the labor force since more women are spending more years completing their education (Taşseven, Altaş, & Turgut, 2016). In Egypt, the transition from school to work was duly studied, where the paradox between the increased educational attainment and the low female labor force participation was examined (Amer, 2007; Amer & Atallah, 2019).

Location and where women reside is another factor considered when discussing female labor force participation, not only in Egypt but also in other developing countries (Taşseven, Altaş, & Turgut, 2016; Sarkar, Sahoo, & Klasen, 2019). The argument is that the needs, expectations, and aspirations of the women in rural settings are different than the ones in urban areas, and the one-model fits all does not match. Specifically, it was noted in the studies that women in rural areas are more likely to be unemployed or out of the labor force altogether (Tanaka, Takahashi, & Ōtsuka, 2020; Özbay, 1994; Klasen & Pieters, 2015; Krafft, Assaad, & Keo, 2019).

Social norms and cultural beliefs dictating the traditional gender roles in the society are also important factors in the equation (Gündüz-Hoşgör & Smits, 2008; Sarkar, Sahoo, & Klasen, 2019; Bursztyn, González, & Yanagizawa-Drott, 2020). In addition, many authors have also blamed the inhospitable private sector on the low female participation in Egypt (Assaad R. , 2019; Barsoum, 2010; Assaad, AlSharawy, & Salemi, 2019).

CHAPTER 4 RESEARCH METHODOLOGY

4.1. OVERVIEW OF THE RESEARCH METHODOLOGY

The objective of the paper is to identify the factors determining the probability of women being employed, and the employment status transition among women, using a logit model. It will rely on quantitative methods to examine how individual' and households' characteristics affect the transition of women in and out of the labor market by primarily using the data from Egyptian Labor Market Panel Survey (ELMPS) between 2006 and 2018. The ELMPS data is widely used in the literature on Egypt's labor market and is a nationally representative sample as shown in Table 5. The choice of the quantitative methods is aligned with the research conducted in this area, which allows for unbiased analysis of the characteristics affecting the transition of women, with a large nationally representative sample in order to produce evidence-based policies and recommendations.

The methodology is divided into two parts:

Part 1: Factors influencing the probability of women being employed. To determine the factors predicting women being employed throughout the three rounds of the ELMPS, While the paper aims to look at the transitions of women between different employment status namely (i) employed; (ii) unemployed; and (iii) out of the labor force, due to the limitation of the panel data at hand, this part of the research will look at the transition between employed and not employed, where the latter encompasses both the unemployed and out of the labor force statuses.

Part 2: Factors affecting the employment status transitions. To plot the transitions of women by employment status from one round to another and the factors predicting these transitions, including the significance of work status at base year in comparison to the following years.

Moreover, a series of analysis are run to depict the transitions of women between the three work statuses from one round to another and to predict the factors of influence associated with the transition, if any. Although the sample size of women in the data from each round is fairly limited, this analysis allows to dissect the behavior of women in details and look at the factors that determine the transitions. In addition, the analysis will also include a model that take the employment status at base year as one of the variables to test whether or not the previous work status plays a role in the employment transition.

4.2. DATA

The paper would rely on the Egypt Labor Market Survey (ELMPS) from 2006 to 2018 to determine the characteristics and the patterns in women's behavior vis-à-vis previous economic shocks. For the purpose of this research, only the rounds 2006, 2012, and 2018 are used which coincide and capture three main economic downturns: the financial and economic crisis of 2008-2009, the 2011 Revolution, and the devaluation in 2016.

The ELMPS is carried out by the Economic Research Forum (ERF) and the Central Agency for Public Mobilization and Statistics (CAPMAS), and is collected and published by the Economic Research Forum. It is a nationally representative panel survey, and has four rounds of data spanning over twenty years where data were collected in 1998, 2006, 2012, and 2018. It provides information of the labor force participation, and includes households as well as individuals characteristics in addition to the wealth of data and indicators on the labor market and occupation characteristics for respondents.

At first, the dataset contains the population of both males and females across the different rounds in the ELMPS as seen in Table 3. For the interest of the paper, the male population is dropped as

the research is focusing on the female population which has a total sample size of 99,626 observations for the three rounds of surveys. However, since the interest is to look at probability of women being employed in the labor market, the sample is constrained to those in working age population (from 15 to 65 years old).

As for the second part of the analysis, the sample is restricted to women above the age of 20 to minimize the fluctuations of the transitions women face due to education, so that the cohort of women in question are more likely to experience transitions as a response to factors of supply and demand in the labor market.

Table 2: Sample Size by Sex

	Number	**Percent**
Male	99,555	49.98
Female	99,626	50.02
TOTAL	199,181	100
Source: Tabulated by the Author using the ELMPS		

Furthermore, across the three rounds included for this paper, looking at the distribution of women by work status, i.e. those who are of working age, it is found that the majority of women reported to be out of the labor market with the predominant percentage of 81 percent, followed by the share of employed representing 14.7 percent, and lastly the unemployed with 3.9 percent (Table 4).

Table 3: Distribution of Women of Working Age by Work Status (overall and in-between the panel data)

	Overall		**Between**		
Work Status	**Frequency**	**Percent**	**Frequency**	**Percent**	**Within Percent**
Employed	9,914	14.73	9,914	14.73	100
Unemployed	2,625	3.90	2,625	3.90	100
Out of labor force	54,783	81.37	54,783	81.37	100
TOTAL	67,322	100	67,322 (n= 67,322)	100	100
Source: Tabulated by the Author using ELMPS 2018					

4.3. ECONOMETRIC MODEL

For the first part, the analysis will rely on the logit nonlinear regression model to predict the employment status transitions among women where the vector of independent variables X is controlled and their predicted probabilities to the change in the employment status of women. It allows to predict the probability of a binominal variable, in this case, women being employed, on a number of independent variables that be either continuous or categorical. Research on labor market dynamics often resorts to logistic regression (Sarkar, Sahoo, & Klasen, 2019), and therefore, the use of the logit nonlinear regression model is justified given the binary nature of the dependent variable.

The logit model function as follows: where Y is equal to 1 when the woman is employed.

$$\Pr(Y = 1 \mid X_1, X_2, X_3, X_k, \mu)$$

Description of Variables

Table 4: Description of Variables

Variable	Description
Dependent Variable	
Women employed	A dummy variable of women being employed =1 (unemployed or out of the labor force otherwise)
Independent Variables	
Age	Age by category
Wealth	Household wealth by decile
Dependents	Presence of dependents mainly children below the age of 4 and the elderly above the age of 60
Marital status	A dummy variable which takes the value of 1 if the woman is married, and takes zero otherwise.
Education	Educational attainment by level
Household size	Size of households
Location	Urban or rural area

For the dependent variable, the probability of women being employed is considered versus women not employed, including either unemployed or out of the labor force. The ELMPS identifies three work statuses: (i) employed; (ii) unemployed; and (iii) out of labor force.

It was important to look at the possible transitions of women in-between these statuses. Using the xtlogit command, it was noted that outcome does not vary in any group, indicating that the mobility and transition of women between these 3 categories was not noted in the dataset at hand. To mitigate this limitation, a new dummy variable, not *employed* is created by combining the unemployed and out of the labor force, representing the *not employed* category. The dummy variable *employed* is equal to 1 if the women in employed, and takes the value of 0 otherwise (i.e. not employed – either unemployed or out of the labor force).

As for the independent variables, it is worth noting that all data is collected and available in the ELMPS, and for the sake of the model, some dummy variables were created. Specifically,

- **Age**. It is an integer variable and is collected as part of the demographic characteristics of individuals surveyed. In the model, different age categories were constructed to dissect the life cycle of women vis-à-vis their work cycle: Age 18 – 25; Age 26 – 35; Age 36 – 45; Age 46 – 55; Age 56 – 65 (dropped as reference)
- **Wealth**. It is captured in the data by two variables and is denoted by categories wither by decile or quintile. For the paper, the deciles of household wealth is considered where households fall between 1 – 10 different categories.
- **Dependents**. Given the role women play in household chores activities, the model account for the presence of dependents in the household, whether children or elderly. For children, the age is set until 4 years old to capture the presence of children that would be eligible to attend nurseries and childcare facilities. For elderly, the age is set to age 60+. A dummy

variable, *dependents in household*, is created that takes the value of 1 if there are dependents in the household below the age of 5 and above 60 years old, and takes the value of 0 otherwise.

- **Married**. The data includes the marital status of respondents by the following categories: less than minimum age; never married; contractually married; married; divorced; and widower. To evaluate the impact of marriage, a dummy variable is created *married* that takes the value of 1 if the woman is married, and takes the value of 0 otherwise.
- **Education**. The data classifies respondents (aged 6+) by six levels of educational attainment as follows: illiterate; reads and writes; less than intermediate; intermediate; above intermediate; and university and above. The intermediate category is dropped as a reference in the regression model.
- **Household size**. The demographic characteristics collected by the ELMPS includes the household size, and the model includes the variable as reported in the dataset.
- **Urban**. The dataset captures the geographic characteristics by urban and rural categories, and a dummy variable is created that takes the value of 1 if the women is residing in urban areas and takes the value of 0 otherwise.

The choice of the independent variables is well justified based on the literature on women employment and role in the labor market at the global level but also at the local context in Egypt as demonstrated in the literature review above. On the evolution/trends of women throughout the life cycle, several factors come into the equation. First, there is education and it is noted that more and more women are pursuing higher education, and therefore delaying their entrance to the labor market. Second, there is marriage, which has been identified as one of the major determinants in women's labor force participation, and the median age of marriage for women is 20 years a

reported in the ELMPS. With 50 percent of the Egyptian women getting married by the age of 20, many would have to assume the households' chores and responsibilities within their families. The characteristics of the household also play an important role with the presence of dependents within the household of crucial importance, such as the size of the household, the location of residency, and the wealth category of the family.

For the second part, the ELMPS has three labor force categories: (i) employed; (ii) unemployed; and (iii) out of the labor force. In order to depict the transitions of women from one status to another between the three rounds of survey, three matrices were constructed to map the transition of women from each employment category between two rounds at a time. In other words, with a base year 2006, a comparison is drawn on where women fall per employment status in 2018 to see the overall trend, and then from 2006 to 2012; and from 2012 to 2018. By depicting the transitions of women from one status to another between the three rounds of surveys, it allows for understanding the behavior of women between the two-time references accounting for economic crisis. In order to do so, two additional models are included to see the predictability of change/transition of employment status vis-à-vis most of independent variables identified above. The only independent variable that was not included in this section is the presence of dependents in the households, and given the small sample in the dataset, the construction and inclusion of this independent variable limited the sample even more making it not feasible for the model. Another set of analysis is included to consider whether or not the previous work status plays a role in predicting the transition in work status experienced by women.

CHAPTER 5 ANALYSIS AND DISCUSSION OF THE RESULTS

5.1. ANALYSIS OF DATA

DESCRIPTIVE STATISTICS

Table 5 provides the summary statistics of the variables used in the model as follows:

Table 5: Summary Statistics

Variables	Mean	Std. Dev.	Observations (N.)
Employed	0.1624751	0.3688892	58,729
Married	0.68513	0.464468	58,729
Dependents in household	0.0494475	0.2168022	58,729
Age between 18 - 25	0.2691175	0.4435049	58,729
Age between 26 - 35	0.2646222	0.4411356	58,729
Age between 36 - 45	0.1728277	0.3781015	58,729
Age between 46 - 55	0.1419742	0.3490266	58,729
Level of Education	3.051891	1.690958	51,049
Size of Household	5.164621	2.644684	58,729
Urban Areas	0.489707	0.4998983	58,729
Wealth	5.473705	2.856881	51,245

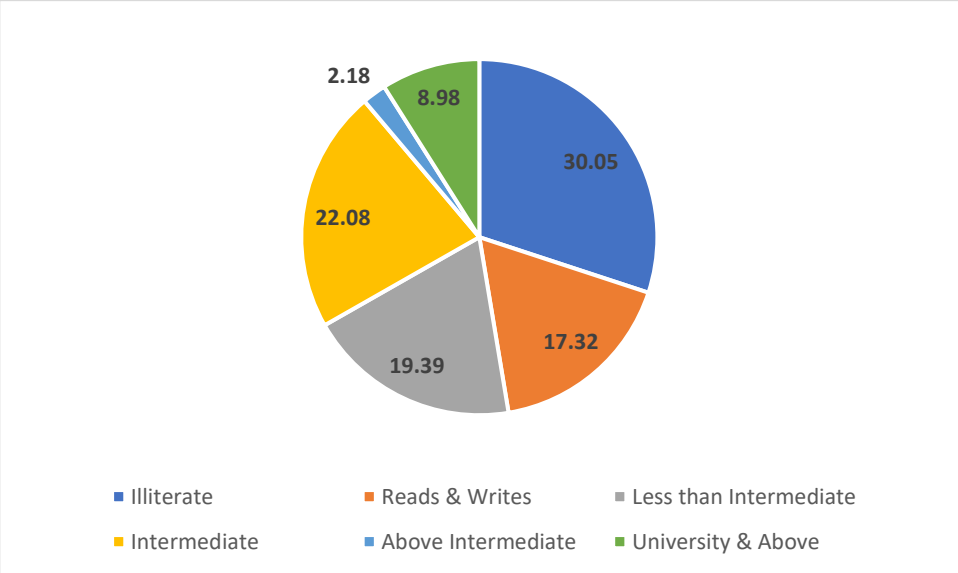
It is noted that the number of observations is reduced due to the missing values in the dataset for certain variables, and therefore the total number of observations included in the model is 51,047. The ELMPS tracks the transition of women between one round and another in terms of work status, and the data identifies three statuses as follows: (i) employed; (ii) unemployed; and (iii) out of the labor force. Across the years, the majority of women have reported being out of the labor, and the percentage increased between 2006 to 2018. Following the same trend, the share of unemployed women has also increased, and consequently, the share of employed women declined throughout the years as shown in Table 6.

Table 6: Share of Women by Work Status 2006 - 2018 (in percentage)

	2006	**2012**	**2018**
Employed	18.6	14.3	13.1
Unemployed	4.8	5.1	5.2
Out of Labor Force	76.7	80.6	81.7
TOTAL	100	100	100
Source: Author's calculations based on the ELMPS			

The decomposition of the educational attainment for women for the entire panel data shows that the majority of the women in the sample are illiterate with a percentage of 30 percent. Fewer women have completed above intermediate level of education and have a university degree or above with the shares of around 2.2 percent and 9 percent respectively (Figure 11).

Figure 10:Decomposition of Women by Education Level



Source: Constructed by the Author from the ELMPS

For women who are listed by education attainment and work status, there is a total 66,821 observations recorded in the panel data. By work status, approximately, the decomposition of women vis-à-vis their education level varies greatly from one group to another (Table 7). For example, one third of the sample is illiterate, one third of them received intermediate education, and one third has a university degree or above (figure 12). For the unemployed women, meaning

that they are not working but actively looking for jobs, the majority of them have either intermediate education or a university degree or above (figure 13). As for women out of the labor force, their profiles by education are the most diversified and distributed in the different education attainments, however, fewer have completed above intermediate and university degrees (figure 4). Looking at the other side of the coin, i.e. number of women according to their level of education, it is noted that 44 percent of women with university degrees and above are employed, about 40 percent are out of the labor force and the remainder is unemployed.

Table 7: Number of Women by Work Status and Education Attainment Level

	Employed	**Unemployed**	**Out of Labor Force**	**Total**
Illiterate	2,742	127	14,823	**17,692**
Reads & Writes	299	50	11,828	**12,177**
Less than Intermediate	729	154	12,636	**13,519**
Intermediate	2,779	1,835	10,996	**15,610**
Above Intermediate	541	231	753	**1,525**
University & Above	2,816	1,012	2,470	**6,298**
Total	**9,906**	**3,409**	**53,506**	**66,821**

Source: Constructed by the Author from ELMPS

For the small sample of women who transitioned between the three rounds in questions which represents a total of 4,961, it is noticeable that the transition is usually in favor to out of labor force. Looking at the overall trend from 2006 to 2018, out of women who were reported employed in base year 2006, half of them remained employed and almost the other half (48 percent) were out of the labor force by 2018. For those who were unemployed in 2006, only 22 percent were able to be employed by 2018, and more than 60 percent of them were out of the labor force. For those who were already out of the labor force in base year 2006, more than 80 percent remained out of the labor force, and 13 percent were able to get jobs by 2018 (Table 8).

Zooming on the transition of women between 2006 and 2012, times where Egypt has passed through the economic and financial crisis and the 2011 Revolution, it is found that 60 percent of those employed in base year 2006 remained employed, and 37 percent reported being out of the labor force by 2012. Out of those who were unemployed in 2006, 60 percent were out of the labor force by 2012, 20 percent were still actively looking for a job, and around 19 percent were successfully employed. However, for those who were already out of the labor force, only 10 percent were able to be employed by 2012, 6 percent were unemployed, and more than 80 percent were still out of the labor force (Table 9).

As for the transition between 2012 and 2018 which coincides with the fiscal and macroeconomic reforms the government implemented in 2016, 63 percent of those who were employed in 2012 remained employed in 2018, and almost 35 percent were out of labor force. Among those unemployed in 2012, 70 percent were out of the labor force by 2018, 17 percent remained unemployed and almost 13 percent were successfully employed. Among those who were out of labor force in 2012, almost 85 percent remained out of the labor force, 11 percent became employed, and 4 percent were looking for a job (Table 10).

The transition to employment was fairly limited across the three rounds and only women were originally employed, the majority of them remained employed across the years. However, for those who were either unemployed or out of the labor force, the majority of them are prone to be out of the labor force.

Table 8: Transition of Women by Work Status from 2006 to 2018

Work Status 2006	**Work Status 2018**			
	Employed	**Unemployed**	**Out of Labor force**	**TOTAL**
Employed	668	27	646	1,341
	49.81	**2.01**	**48.17**	100
Unemployed	76	53	209	338

	22.49	**15.68**	**61.83**	100
Out of Labor Force	442	154	2,686	3,282
	13.47	**4.69**	**81.84**	100
TOTAL	1,186	234	3,541	4,961

Source: Constructed by the Author from ELMPS

Table 9: Transition of Women by Work Status from 2006 to 2012

Work Status 2006	**Work Status 2012**			
	Employed	**Unemployed**	**Out of Labor force**	**TOTAL**
Employed	811	29	501	1,341
	60.68	**2.16**	**37.36**	100
Unemployed	64	70	204	338
	18.93	**20.71**	**60.36**	100
Out of Labor Force	334	205	2,743	3,282
	10.18	**6.25**	**83.58**	100
TOTAL	1,209	304	3,448	4,961

Source: Constructed by the Author from ELMPS

Table 10: Transitions of Women by Work Status from 2012 to 2018

Work Status 2012	**Work Status 2018**			
	Employed	**Unemployed**	**Out of Labor force**	**TOTAL**
Employed	767	21	421	1,209
	63.44	**1.74**	**34.82**	100
Unemployed	37	52	215	304
	12.17	**17.11**	**70.72**	100
Out of Labor Force	382	161	2,905	3,448
	11.08	**4.67**	**84.25**	100
TOTAL	1,186	234	3,541	4,961

Source: Constructed by the Author from ELMPS

5.2. EMPIRICAL RESULTS AND DISCUSSION

The results of the analysis indicate that the majority of the independent variables included in the model have an impact on the probability of women being employed with a high level of significance as indicated their respective p-value in Table 11. Marriage and presence of dependents in the household significantly reduce the probability of women being employed, implying the

burden of households' chores and responsibilities on women's shoulders. Wealth is also another factor negatively impacting the probability of women being employed and this shows the economic motive for women to work plays an important, and could also imply that women could be working out of financial and economic necessity rather than to fulfil their aspirations.

Table 11: Empirical Results

VARIABLES	**Employed**
Married	-0.309***
	(0.0295)
Education Attainment	
Reads and Writes	-0.242***
	(0.0743)
Less than Intermediate	-0.494***
	(0.0491)
Intermediate	0.662***
	(0.0368)
Above Intermediate	1.544***
	(0.0646)
University and Above	2.010***
	(0.0457)
Presence of Dependents in the Household	-0.666***
	(0.0931)
Age Category	
Age between 18 - 25	-0.703***
	(0.0566)
Age between 26 - 35	0.0846
	(0.0556)
Age between 36 - 45	0.799***
	(0.0556)
Age between 46 - 55	0.885***
	(0.0560)
Size of Household	0.0312***
	(0.00545)
Urban Areas	-0.0521*
	(0.0272)
Wealth	-0.0370***
	(0.00544)
lnsig2u	-9.261***
	(3.463)
Constant	-1.882***
	(0.0629)
Observations	51,047
Number of panel	51,047

Standard errors in parentheses
***** p<0.01, ** p<0.05, * p<0.1**

Looking at the impact of the independent variables, marriage reduces the chances of women being employed by about 30 percent. The role of marriage plays vis-à-vis women's employment and their participation in the labor in Egypt is well documented by in both quantitative and qualitative research (Krafft, Assaad, & Keo, 2019) (Salem, 2015) (Osman, 2019). The complex and dynamic interactions of marriage, the attached responsibilities to it, and the societal expectations from women in fulfilling the role of being married, impose a burden on women in pursuing an active economic role in the society. Considering that in times of crisis, women might have resorted to paid work to cover the needs of the household, the data could not draw a conclusion on this regard.

The presence of dependents in the household reduces the chances of women being employed by more than 66 percent and this is understandable and aligned with the literature on the care economy in Egypt since the care for the children and the elderly, among other responsibilities, fall on the shoulder of women (UN Women, 2020). As highlighted in the recent UN report, the infrastructure and policies related to the care economy are having a detrimental impact on the labor force participation of women in Egypt.

The level of education attainment affected the probability of women being employed, with better education levels having positive and significant impact. For all education levels from intermediate, above intermediate and university and above, women have higher chances to becoming employed and the probability increases with the level of education by 66 percent, 150 percent to more than 200 percent for intermediate, above intermediate, and university and above respectively. On the other hand, being able to only read and write or have less than intermediate level of education has

a negative and significant impact on the probability of women to being employed by 24 percent and 49 percent respectively.

By age category, being older than 36 years old increases the probability of women being employed, and this is aligned with the increase of education attainment of women in recent years with many pursuing higher education and university. However, for the age cohort between 26 – 25, the results are not significant even at 10 percent level. The youth cohort of women between the age of 25 and 35 is likely to either be engaged in higher level of education or are in their prime stage of marriage and motherhood; and therefore, constraining their probability of being employed.

Wealth plays an important role as well, and is negatively impacting the probability of women being employed. This means that the wealthier the household, the lesser need there is for women to work and actively participate in the economy.

The area of residence, whether a woman is in a rural area or urban area has an impact, with urban areas, negatively affecting the probability of women being employed. The underlying explanation could be related to the concerns of sexual harassment and lack of safe public transport for women in urban setting which hinder their engagement in the economy (Zeitoun, 2018).

The size of the household also has a positive and significant impact on women's probability of being employed, and albeit it could be puzzling result at first glance, since more members in the household could indicate more responsibilities and chores on the shoulders of women, but it could also indicate more helping hands within the households to support women in their chores. Further research and investigation would be required to investigate the relationship between the probability of women being employed and the size of the household.

As for the second part, of the research which looks at the probability of women being employed or unemployed, keeping out of the labor force as reference, it is noted that the probability of women being employed in 2012 is affected by the level of education intermediate and higher having a positive and significant impact. The size of the household has a significant and negative impact on the probability of being employed. In addition, being employed in the previous round, i.e. being employed in 2006 has also a positive and significant impact on the probability of being employed in 2012. Looking at the probability of women being unemployed, education has a significant and positive impact starting less than intermediate education level till post graduate. Marriage has also a negative and significant impact on women being unemployed. However, being unemployed in 2006 does not have any significant impact on the probability of women being unemployed in 2012 (Table 12).

Table 12: Impact of Being Employed or Unemployed in Base Year 2006 on the Probability of Being Employed or Unemployed in 2012

Employed in 2012	
Reads & Writes	-0.2498542
Less than Intermediate	0.0131327
Intermediate	.9163952***
Above Intermediate	1.235545***
University	2.187719***
Post-Graduate	3.131977***
Household size	-.0575763**
Deciles of household wealth	0.0003701
Urban/Rural	0.0046465
Marital status	0.0628703
female_employed_06	2.49559***
female_unemployed_06	0.1198841
Constant	-2.659529***
Unemployed in 2012	
Reads & Writes	1.275942
Less than Intermediate	1.546622***
Intermediate	3.777681***
Above Intermediate	4.062614***
University	3.963964***
Post-Graduate	4.588017***
Household size	-0.0676415
Deciles of household wealth	-.0555557*

Urban/Rural	.2947332*
Marital status	-.5671555***
female_employed_06	-.4290107*
female_unemployed_06	0.1893165
Constant	-2.798278***
Out of Labor Force in 2012	Base Outcome
N(obs)	4959

* p<0.05, ** p<0.01, *** p<0.001

Comparing between the probability of women being employed or out of the labor force, keeping unemployed as a reference, being out of the labor force in base year 2006 has a negative but insignificant impact on being employed or unemployed in 2012 (Table 13).

Table 13: Impact of Being Employed or Out of the Labor Force in Base Year 2006 on the Probability of Being Employed or Unemployed in 2012

Employed in 2012	
Reads & Writes	-0.2498542
Less than Intermediate	0.0131327
Intermediate	.9163952***
Above Intermediate	1.235545***
University	2.187719***
Post-Graduate	3.131977***
Household size	-.0575763**
Deciles of household wealth	0.0003701
Urban/Rural	0.0046465
Marital status	0.0628703
female_employed_06	2.375706***
female_out_06	-0.1198841
Constant	-2.539645***
Unemployed in 2012	
Reads & Writes	1.275942
Less than Intermediate	1.546622***
Intermediate	3.777681***
Above Intermediate	4.062614***
University	3.963964***
Post-Graduate	4.588017***
Household size	-0.0676415
Deciles of household wealth	-.0555557*
Urban/Rural	.2947332*
Marital status	-.5671555***
female_employed_06	-.6183272*
female_out_06	-0.1893165
Constant	-2.608961***
Out of Labor Force in 2012	Base Outcome

N(obs)	4959

* p<0.05, ** p<0.01, *** p<0.001

For the rounds 2012 and 2018, it is noted that having an education level from intermediate and above till post-graduate has a positive and significant impact on women being employed in 2018. The wealth of the households have a negative and significant impact on women being employed in 2018. In addition, being employed in 2012 has a positive and significant impact on being employed in 2018 (Table 14).

Table 14: Impact of Being Employed or Unemployed in Base Year 2012 on the Probability of Being Employed or Employed in 2018

Employed in 2018	
Reads & Writes	0.0999818
Less than Intermediate	-0.005363
Intermediate	.7616968***
Above Intermediate	1.183634***
University	1.730837***
Post-Graduate	3.500162***
Household size	0.0047279
Deciles of household wealth	-.0708639***
Urban/Rural	.2448791**
Marital status	-0.0308738
female_employed_12	2.344515***
female_unemployed_12	-0.1965351
Constant	-2.336923***
Unemployed in 2018	
Reads & Writes	.8271706*
Less than Intermediate	1.148309***
Intermediate	2.100153***
Above Intermediate	2.338344***
University	2.850301***
Post-Graduate	4.289388***
Household size	0.0368176
Deciles of household wealth	-.0919396**
Urban/Rural	0.2750252
Marital status	-.1987294*
female_employed_12	-0.465523
female_unemployed_12	.6516528***
Constant	-3.485981***
Out of labor Force in 2018	Base Outcome
N(obs)	4947

* p<0.05, ** p<0.01, *** p<0.001

Looking at the impact of being out of the labor of force in 2012 on the probability of women being employed in 2018, it is noted that there is no significant impact of the former on the latter, and rather, education, urban setting and being employed in 2012 have the significant and positive impact on women being employed in 2018. However, being out of the labor force in 2012 or employed in 2012 have a negative and significant impact on women being unemployed in 2018 (Table 15).

Table 15: Impact of Being Employed or Out of Labor Force in Base Year 2012 on the Probability of Being Employed or Unemployed in 2018

Employed in 2018	
Reads & Writes	0.0999818
Less than Intermediate	-0.005363
Intermediate	.7616968***
Above Intermediate	1.183634***
University	1.730837***
Post-Graduate	3.500162***
Household size	0.0047279
Deciles of household wealth	-.0708639***
Urban/Rural	.2448791**
Marital status	-0.0308738
female_employed_12	2.54105***
female_out_12	0.1965351
Constant	-2.533458***
Unemployed in 2018	
Reads & Writes	.8271706*
Less than Intermediate	1.148309***
Intermediate	2.100153***
Above Intermediate	2.338344***
University	2.850301***
Post-Graduate	4.289388***
Household size	0.0368176
Deciles of household wealth	-.0919396**
Urban/Rural	0.2750252
Marital status	-.1987294*
female_employed_12	-1.117176***
female_out_12	-.6516528***
Constant	-2.834328***
Out of labor Force in 2018	Base Outcome

N(obs)	4947

* p<0.05, ** p<0.01, *** p<0.001

For the factors associated with each transition states between 2006 and 2018 between; 2006 and 2012, and between 2012 and 2018, the detailed output tables are in Annex 1 and the following results are noted.

For women who were employed in 2006 and remained employed in 2018, being able to only reading and writing or having a less than intermediate degree reduces the chances of women of being employed in both 2006 and 2018 with p-value of 0.05. The size of the household also reduced the probability of women being employed in 2006 and 2018 with a high confidence level (p-value 0.001). However, having a degree between intermediate and post-graduate increases this probability with high level of confidence at 0.001 p-value).

For women who were employed in 2006 and unemployed in 2018, they are more likely to have having an intermediate degree with high significance (p-value of 0.001); above intermediate with limited significance (p-value of 0.05) or university degrees with p-value of 0.01. The rest of the variables do not have any significant impact on this cohort. For those who were employed in 2006 and out of the labor force in 2018, almost all levels of education have negative and significant impact to certain extent. Being able to only read and write, having a less than intermediate level of education, intermediate degree or university degree have a negative impact. The size of the household also has a negative and significant impact. Only the location seems to have a positive and significant impact.

For the women who were unemployed in 2006 and employed in 2018, having a less than intermediate, intermediate, above intermediate or university degrees have a negative and significant impact with p-values of 0.001. In addition, belonging to the highest wealth decile (tenth

decile) also reduces the probability of women being unemployed in 2006 and employed in 2018. For those who were unemployed in 2006 and 2018, only less than intermediate degree seems to have a negative impact with limited significant at 0.01 p-value. Finally, for those who were unemployed in 2006 and out of the labor force in 2018, they are more likely to have intermediate, above intermediate or university degree.

For women who were out of the labor force in 2006 and employed in 2018, they are more likely to have a university degree. It was also noted that location, and belonging to the either the middle class, namely the fifth or sixth wealth decile or the upper class, nineth or tenth wealth decile, have a negative and significant impact on this cohort. For those who were out of the labor force in 2006 and unemployed in 2012, having any degree between less than intermediate to university increased the probability of being among this cohort. Looking at those who were out of the labor force in 2006 and 2018, having any degree from intermediate to post-graduate reduces the chances of being among this cohort. The are also more likely to in large households, and belonging to the highest wealth deciles.

For women who remained employed in 2006 and 2012, being able to only read and write or having a less than intermediate education have a negative and significant impact, and having education from intermediate till post-graduate, increases the chances of women being employed with high level of significance (p-value 0.001). Being from the highest wealth decile also increases the chances of women remaining employed. The size of the household has a negative and significant impact on women remaining employed in 2006 and 2012.

For women who were employed in 2006 but became unemployed in 2012, having intermediate or above intermediate level of education increases chances of women transitioning from employment to unemployment between 2006 and 2012. Marriage is noted to reduce this probability to a less

extent with a p-value of 0.01. For women who were employed in 2006 but out of the labor force in 2012, the different levels of education reduce the chances of women experiencing this transition. However, urban and household size increases the probability of women transitioning from employment in 2006 to out of the labor force in 2012.

For women who were unemployed in 2006 and employed in 2012, education is the only variable with positive and significant impact, especially for intermediate, above intermediate and university level of education. For women who were unemployed in 2006 and 2012, only marriage has an impact with a negative and significant impact, and the rest of the variables have no impact on this transition. For women who were unemployed in 2006 and out of the labor force in 2012, having intermediate, above intermediate or university degree have a significant and positive impact on this transition; and size of the household and belonging to the highest three wealth deciles have a significant and negative impact.

For women who were out of the labor force in 2006 and employed in 2012, having a university degree has a positive and high significance on the probability of women transitioning from out of the labor force to employment, and having a post-graduate degree also has a positive but with less significance with a p-value at 0.01. For women who were out of the labor force in 2006 and unemployed in 2012, only education has a positive and significant impact, notably less than intermediate, intermediate, above intermediate and university degree.

For women who were out of the labor force in 2006 and remained out of the labor force in 2012, all levels of education have a positive and significant impact as noted by the high p-values these variables have. Higher levels of wealth deciles also have positive and significant impact starting the sixth decile. The location and marriage both have a positive and significant impact on women remaining out of the labor force in 2006 and 2012.

For the transition of women between 2012 and 2018, it is noted that for women who remained employed in the two rounds, having an education level of intermediate to university increases the probability of women being employed. As for the factors reducing the chances of women remained employed in 2012 and 2018, having less than intermediate education has a negative and significant impact with p-value at 0.05; the household size has a negative and significant impact with p-value of 0.001. For women who were employed in 2012 and unemployed in 2018, all variables have no significant impact with the exception of intermediate education but only with a p-value of 0.05. as for women who were employed in 2012 and out of the labor force in 2018, only less than intermediate and size of the household have a negative impact with a limited significance at p-value of 0.05.

For those who were unemployed in 2012 and employed in 2018, education has positive and significant impact with having a degree from intermediate to post-graduate increasing the probability of transitioning from unemployment in 2012 to employment in 2018. For those who remained unemployed in the two rounds, having an intermediate, above intermediate or university degree has a positive and significant impact. For those who were unemployed in 2012 and moved out of the labor force in 2018, location and all levels of education have a positive and significant impact on the transition.

For those who were out of the labor force in 2012 and employed in 2018, location and household size have the positive impact with a significance level at p-value of 0.001 and 0.05 respectively. Belonging to the highest deciles of wealth has a negative and significant impact with a p-value of 0.01; and having above intermediate level of education also have a negative impact but with limited significance with a p-value of 0.05. For those who were out of the labor force in 2012 and unemployed in 2018, all levels of education have a positive and significant impact, and belonging

to either the third or the ninth wealth deciles have a negative impact with a significance level at 0.05 p-value. For those who were out of the labor force in both 2012 and 2018, location and all levels of education have negative and significant impact, while belonging to the highest wealth decile (tenth decile) has a positive and significant impact.

The results above, although are from a small sample, indicate that women are a heterogeneous group and do not follow unified patterns when it comes to the factors affecting their transitions in the labor market. With all its levels, education is the recurrent factor affecting the transitions of women and influencing the probabilities of women being employed or not. It remains of the main determinants in the female labor force participation; necessary but not sufficient. Although having a advanced levels of education does not guarantee that women remain employed across the years, but it is a crucial determinant in women's employment.

CHAPTER 6 CONCLUSION, POLICY IMPLICATIONS AND RECOMMENDATIONS

6.1. CONCLUSION

In conclusion, this research paper aims to depict the socioeconomic characteristics along with the gender related differences that influence and impact the probability of women being employed in the labor market. The findings of the paper are aligned with the rich literature on the female labor force participation in Egypt which identify marriage and burden of the care responsibilities among the factors hindering women from reaching their full economic potential.

As the literature indicates, women's decision to work, especially during economic hardships could be to maintain the consumption level of household and to compensate for the loss of income associated with the loss of jobs of their husbands. Rather than noting an added-value effect, the results of the research confirms that rather, women experienced a discouraged worker effect, and instead of the different crisis becoming fuels to get more women to join the labor market, many have opted out to ultimately withdraw from the labor force altogether. This is also depictable by looking at the trends of female labor force over the last decades, where it is clear that the decrease over the years did actually experience a fluctuation which could be attributed to a discouraged worker effect. The economic motive and financial necessity are also of crucial importance, and many women would not work if not needed, and they would rather prefer to remain unemployed or out of the labor force.

By trying to identify the factors during previous economic shocks is of a value-added as lessons learnt to guide future policies in an effort to cushion the negative impact on women's employment. As demonstrated, marriage and the presences of dependents in the household are among the factors that significantly reduce the chances of women of being employed, confirming that women in

Egypt face a tradeoff between their productive and reproductive roles in the society. The age of the women also determine the probability of women being employed, with older women, especially above the age of 36 more likely to be and remain employed. This means that the younger cohort of women is more likely to be engaged either in higher levels of education or is at their prime stage of motherhood and marriage. In addition, education is a strong determinant affecting the probability of women being employed with higher levels of educational attainments having positive and significant impact.

6.2. POLICY IMPLICATIONS AND RECOMMENDATIONS

The outbreak of COVID-19 has pushed countries to embark into a series of policies to mitigate the associated risks threatening the economy as well as health system. Given the simultaneous nature of the crisis, countries employed policies and mitigation measures in one-model-fits-all that did not take account the specific challenges women face during the pandemic that includes their role with the remote learning and online schooling of their children. The role of private sector is of vital importance to attract females to the labor market but offering a hospitable and supportive work environment. On this front, there are multiple initiatives and policies already in place in Egypt, such as the mandatory childcare facilities under article 96 in the Labor Law which indicate that any employer with one hundred or more female employers/workers need to have childcare facility in place.

Depicting the factors associated with the probability of women being employed throughout the recent years, allows policy makers to better understand the tradeoff between the productive and reproductive roles of women. The societal expectations imposed on married women play a vital

role, and changing the narrative of the social norms could yield to positive results on the participation of women in the labor force.

The results of the paper offer policy makers gender-sensitive analysis on the predictable factors associated with women being employed, and developing holistic policies to improve and fix the challenges women face is rather a necessity for Egyptian women to play and active and productive role in the economy. As shown in the results, the presence of dependents in the household plays an important role in the probability of women to be employed. This result coupled with the gap in supply of childcare shows that the increasing and improving the accessibility and affordability of care facilities could have a positive impact of the demand and supply side. On one hand, these facilities could (partially) lift or at least reduce the burden of care responsibilities off women's shoulders, and on the other hand, it will create demand for women to join the labor market as the care economy is an attractive sector for women to work in. Moreover, the narrative around women's economic participation in the labor force should move from the necessity to fulfilment and the availability of decent and good jobs would allow women to actively working even when the economic motive is not the main driver. In addition, further research and studies are needed to better and further understand the needs of women in urban areas, and policies need to be taken to address the sexual harassment and to provide safe public transportation in order to improve the conditions in urban settings for women.

Furthermore, the data from the ELMPS indicate that the being out of the labor force is rather a permanent stage and women rarely transition (back) to the labor force. This could be due to the macroeconomic context, the conditions of private sector employment, and social norms, but it could also be because of the data that is collected. The ELMPS could also benefit from a revised

module that captures the new forms of gig activities that some women could have been performing, but not necessarily viewing as economic activity or work.

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Annex 1: Results of the factors affecting the probability of women transitioning from one work status to another

Table A: **Probability of Women transitioning from one work status to another between 2006 – 2018**

	Employed_Employed	Employed_Unemployed	Employed_Out	Unemployed_Employed	Unemployed_Unemployed	Unemployed_Out	Out_Employed	Out_Unemployed	Out_Out
Reads & Writes	-.7187612*	1.820369*	-.7932768***	0	0	0.6511081	0.2213305	0.6196449	.3514476*
Less than Intermediate	-.6006159*	1.340989	-.6848322***	-5.559411***	-2.912847**	-0.6593764	-0.0421306	1.08634***	.3709583**
Intermediate	.9753751***	2.527282***	-.6583283***	-3.064291***	-0.3604686	2.607114***	0.0495525	1.511561***	-.9137744***
Above Intermediate	1.698309***	2.493682*	-0.3517796	-2.253985***	-0.2949043	2.873471***	-0.3756712	1.729102***	-1.686003***
University	2.016465***	2.686822**	-.7558562***	-1.876431***	0	2.363411***	.8701655***	1.539961***	-2.181344***
Post-Graduate	2.772516***	0	-2.11478*	0	0	0	0.4956819	1.67617*	-3.925214***
Household size	-.1373596***	0.0601543	-.0812216***	0.1114961	0.0789052	0.0237988	0.05044	0.0836931	.051274**
Deciles of household wealth=1	0	0	0	0	0	0	0	0	0
Deciles of household wealth=2	0.1385687	0.2778439	0.2076977	-0.3541957	-0.2552869	0.1496602	-0.1120146	-0.3193733	-0.1060064
Deciles of household wealth=3	-0.1010373	-1.381916	.3756156*	-0.6738329	1.162072	0.5543046	-0.2991575	-2.223592**	0.0135872
Deciles of household wealth=4	-0.0186368	0.1412915	0.0055808	-1.379363	1.182416	0.3855602	-0.3600865	-0.5645318	0.1327602
Deciles of household wealth=5	0.0817083	-0.7777758	-0.1234303	-1.070913	0.9668628	0.5398011	-.551275*	-0.3686284	0.2144986
Deciles of household wealth=6	-0.0255281	-0.6285483	-0.3881982	-1.163269	0.9928912	0.3885284	-.6397853**	-0.2110043	.3848926**
Deciles of household wealth=7	0.10383	-2.1373	-0.267227	-0.7901763	-0.3760411	0.2278222	-0.1846027	-0.1705408	0.1856745
Deciles of household wealth=8	0.0223743	-2.202449	-0.1066788	-1.100892	0.1970769	0.0964773	-0.4571508	-0.5565341	.4123631**
Deciles of household wealth=9	-0.0735167	0	0.2608691	-0.7599916	-0.3904788	0.221093	-.7641555**	-0.6936439	.4023014**
Deciles of household wealth=10	0.0205281	-1.418291	0.2666013	-1.753554**	0.3036052	-0.0376987	-.7507277**	-.8405488*	.5406329***
Urban/Rural	0.0519474	-0.042851	.3361837***	0.3509859	0.2477301	0.041109	.2739375*	0.2579608	-.3616295***
ever_married_18	-0.4665522	0	12.88589	10.73053	10.48357	11.82566	-1.225456	-1.808713	0.5616505
never_married_18	-0.3420842	0	12.80609	11.7767	12.14381	12.21529	-1.27526	-1.472413	0.0806546
Constant	-1.666505	-6.329406***	-14.64776	-11.73443	-15.28094	-17.17324	-1.50965	-2.97924*	0.2883026
N(obs)	4954	4234	4954	2711	2671	4914	4954	4954	4954

* p<0.05, ** p<0.01, *** p<0.001

Table B: Probability of Women transitioning from one work status to another between 2006 – 2012

	Employed_Employed	Employed_Unemployed	Employed_Out	Unemployed_Employed	Unemployed_Unemployed	Unemployed_Out	Out_Employed	Out_Unemployed	Out_Out
Reads & Writes	-1.510838**	2.460013*	-.6007583*	0	0	0	0.0639497	0.5409023	.6211167**
Less than Intermediate	-.6332334**	1.185628	-.6242151***	0	0	0.2179461	-0.0289787	1.72102***	.4244656***
Intermediate	.7144992***	2.418846**	-.808057***	3.776836***	-1.236055	3.740957***	-0.0994751	3.545314***	-1.147779***
Above Intermediate	1.174861***	3.352224***	-.8663425*	4.194856***	-1.060569	3.867347***	-0.1579862	3.521813***	-1.663934***
University	1.438684***	1.877605	-1.230524***	5.571293***	-1.34422	3.627235***	.8592082***	3.257884***	-2.166495***
Post-Graduate	2.329898***	0	0	0	0	0	1.276738*	0	-2.764982***
Household size	-.0535061*	0.0015349	.0660099***	0.0019651	-0.1347828	-.0955743*	-0.0214244	-0.0110361	0.011542
Deciles of household wealth=1	0	0	0	0	0	0	0	0	0
Deciles of household wealth=2	-0.4278319	0.1247717	-0.0666548	-1.048849	1.377761	-0.5436461	-0.0208779	0.1910729	0.2217502
Deciles of household wealth=3	-0.2683339	0.1833049	0.0111572	-0.5685574	0.1641056	-0.5421706	0.1277811	0.7107609	0.0426158
Deciles of household wealth=4	-0.1432814	-0.6735065	-0.2268262	-1.059511	0.5066127	-0.8118036	0.2295257	0.2681579	0.1794292
Deciles of household wealth=5	-0.1172499	1.087301	-0.3445797	-0.600117	0.7906239	-.9335998*	0.0898047	0.0469521	0.2420325
Deciles of household wealth=6	-.4564582*	0.4911283	-0.2786981	-1.058255	0.8859304	-.7811718*	0.1135635	0.0823442	.4042197**
Deciles of household wealth=7	-0.2140548	0.1327062	-.6738055**	-0.9483448	1.229465	-.9407707*	-0.3537721	0.2682568	.4868009***
Deciles of household wealth=8	-0.0848123	-0.1757273	-0.3636031	-0.7999453	0.2399145	-1.37466***	-.6247755*	0.2417779	.5935262***
Deciles of household wealth=9	0.124609	-0.1352766	-0.3577126	-1.077725	0.3746835	-1.226156**	-0.180892	-0.0670036	.4002999**
Deciles of household wealth=10	.5850322**	0	-0.2140202	-1.757351*	-0.7076049	-1.661586***	-0.4537693	-0.3773011	.3289923*
Urban/Rural	-0.003455	-0.191916	.5761549***	.6018393*	-0.0353509	0.0359764	0.164136	.4042306*	-.3611932***
ever_married_12	-0.2590483	-1.268782**	-0.0453818	-0.6994735	-1.751488***	-0.4103137	0.2512697	-0.3711314	.8597866***
never_married_12	0	0	0	0	0	0	0	0	0
Constant	-1.553816***	-5.63398***	-2.791324***	-7.360762***	-0.6440534	-4.255835***	-3.041287***	-6.166733***	0.2192287
N(obs)	4959	4468	4931	4178	2248	4758	4959	4931	4959

* p<0.05, ** p<0.01, *** p<0.001

Table C: **Probability of Women transitioning from one work status to another between 2012 – 2018**

	Employed_Employed	Employed_Unemployed	Employed_Out	Unemployed_Employed	Unemployed_Unemployed	Unemployed_Out	Out_Employed	Out_Unemployed	Out_Out
Reads & Writes	-0.4367608	0	-0.3023992	1.377822	0	1.475504**	0.0648572	1.112275**	-0.0228204
Less than Intermediate	-.5089934*	1.029	-.5216604*	1.527022	1.394198	1.190011**	-0.1150188	1.240741***	0.0967682
Intermediate	1.155773***	1.349829*	-0.1290434	3.030375***	3.968792***	2.854363***	-0.0753786	1.805785***	-1.244542***
Above Intermediate	1.999131***	1.41021	-0.4601217	3.718753***	4.247252***	2.92472***	-1.28489*	1.893932***	-1.699047***
University	2.668551***	0.0456741	-0.2353236	2.747384**	4.100062***	2.655835***	-0.2162472	2.042265***	-2.522053***
Post-Graduate	4.373731***	0	-1.481453	4.275817***	0	0	-1.026596	1.920265*	-4.331002***
Household size	-.1236358***	0.1349679	-.0669571*	-0.0417627	0.1240343	0.067984	.0590912*	0.058321	0.0278273
Deciles of household wealth=1	0	0	0	0	0	0	0	0	0
Deciles of household wealth=2	0.0526594	-0.0661626	0.2459123	0.5048029	-0.7472097	0.6128666	-0.073712	-0.1093301	-0.1176456
Deciles of household wealth=3	-0.1383936	-1.159913	0.1501866	-0.4592906	-0.8809592	0.8004844	-0.26713	-1.201919*	0.1887915
Deciles of household wealth=4	-0.0604808	-1.335295	0.2738812	-0.4093616	-0.1139112	0.423108	-0.3964468	-0.0542237	0.0507263
Deciles of household wealth=5	-0.160232	-0.682682	-0.1685845	0.1831358	-0.8138635	0.6542016	-0.3930989	-0.0579711	0.2324173
Deciles of household wealth=6	-0.1284595	-0.0303959	0.1296559	-0.3241447	-0.0012523	0.7337467	-.6148059*	-0.2272344	0.1418497
Deciles of household wealth=7	0.0443984	-1.390986	-0.4934424	-0.0308345	-0.4409294	0.7588591	-0.1216065	-0.4148006	0.1338678
Deciles of household wealth=8	-0.1719518	-0.2189765	0.0551286	-0.3888025	-0.9605298	0.5063703	-0.2445743	-0.6913981	.3138127*
Deciles of household wealth=9	-0.1253776	-1.408665	0.376173	-0.8809707	-1.077673	0.6857242	-.7245624**	-.9218383*	.3261476*
Deciles of household wealth=10	-0.1663735	-0.4698446	0.1889153	0	-1.324861	-0.087001	-.8222528**	-0.6561562	.6510362***
Urban/Rural	0.0295216	0.5476156	-0.0064584	-0.0926402	-0.1753337	.3954296**	.4386416***	0.3093471	-.2786294***
ever_married_18	-0.3152663	0	11.55134	9.651981	9.465324	11.75128	-1.326127	-1.767453	0.9202079
never_married_18	-0.4848468	0	11.70429	10.75483	10.46963	12.35598	-0.7684122	-1.105079	0.2815821
Constant	-1.82311	-7.090957***	-13.59564	-16.24505	-16.96658	-18.38675	-1.750485	-3.307878*	0.3283194
N(obs)	4954	4446	4954	4461	4636	4914	4954	4954	4954

* p<0.05, ** p<0.01, *** p<0.001