Female Labour Force Participation and the Economic Development in Egypt

Emad Attia Mohamed OMRAN
Department of Economics, Faculty of Management and Economics,
Tomas Bata University in Zlín, Czech Republic
omran@utb.cz

Yuriy BILAN
Centre for Applied Economic Research, Faculty of Management and Economics,
Tomas Bata University in Zlín, Czech Republic
bilan@utb.cz

Abstract

Economic literature highlights the vital role that women can play in enhancing the economic development of nations. However, there is still gender inequality in developing countries, especially in education and labour market participation. Although women represent nearly half of the population in Egypt, their labour force participation rate is still very low compared to men. This paper's primary goal is to investigate the short and long-run associations between female labour force participation and Egypt's GDP growth rate. The study used annual time series data from 1990-2019, where the vector error correction model (VECM) was employed. The study found that female labour force participation and the gross fixed capital formation growth rate can enhance the GDP growth rate in the long run. Nevertheless, there is no statistically significant relationship in the short run. This paper's main recommendations are that the Egyptian government needs to implement policies that encourage women's labour force participation and decrease gender inequality. These policies could be changes in legislation, modernization of social norms, Job flexibility, and increasing access to childcare. Moreover, they need to focus on both the demand and supply sides of the quality of female labour force participation by matching the women's education with the creation of suitable jobs.

Keywords: Gender inequality; labour force participation; economic development; labour market; Egypt;

JEL Classification: D63; J16; J21;

DOI: http://doi.org/10.24818/ejis.2022.01

1. Introduction

Although the expanded economic activities across the globe have given better chances for participation in education and employment, women's participation in the labour market is still relatively low compared to men, especially in developing countries. Economic literature highlights the vital role women can play in the economy (e.g., Heckman, 1978; Tansel, 2002; Altuzarra *et al.*, 2021; Silva and Klasen, 2021). The high participation of women in economic activities can play a vital role in boosting economic development.

According to Fatima and Sultana (2009), the full integration of women in the labour force is considered a desirable goal for efficiency and equity. The women's labour force participation will improve their economic position, reduce the disparities in education, and

[1] Received: 30 November 2021; Revised: 25 January 2022; Accepted: 28 February 2022

improve their health, increasing overall economic efficiency. Nevertheless, despite the increasing educational attainment for women in developing countries, their participation in the labour force is relatively low compared to the male involvement. Jayachandran (2021) argues that cultural barriers have a significant impact on women's labour force participation.

Egyptian women face many barriers in the labour market, such as house responsibilities, children's care, sexual harassment in the workplace, lack of informant on anti-discrimination laws, and lack of mobility. There is a substantial gap between female and male labour force participation in Egypt (Constant *et al.*, 2020; Hassan and Zaharia, 2021). Although women represent about 49.48% of the total population, their labour force participation is meagre. The female labour force participation rate was 23.27% compared to 70.88% per cent for males (The World Bank, 2020). This paper aims to examine the short and long-run relationship between female labour force participation and Egypt's economic growth. It used time series data from 1990 to 2019 and employed the vector error correction model (VECM).

2. Literature Review

Women's labour force participation has attracted the attention of economic studies (e.g., Anker, 1983; Pampel and Tanaka, 1986; Contreras *et al.*, 2005; Rahman and Islam, 2013; Hare, 2016; Busso and Fonseca, 2015; Ma, 2016; Varol, 2017; Asongu and Odhiambo, 2018; Kumari, 2018; Klasen, 2019; Pal and Chaudhuri, 2020; Klasen *et al.*, 2020; Cameron *et al.*, 2020; You, 2020). Other studies focused on the relationship between female labour force participation and economic development (e.g., Tansel, 2002; Luci, 2009, Fatima and Sultana, 2009; Klasen and Pieters, 2012; Paroussos *et al.*, 2012; Tsani *et al.*, 2013; Gaddis and Klasen, 2014; Klasen and Pieters, 2015; Sorsa *et al.*, 2015; Das *et al.*, 2015; Altuzarra *et al.*, 2021; Silva and Klasen, 2021; Klasen and Pieters, 2020).

According to Tsani *et al.* (2013), female labour force participation changes may lead to a marginally decrease in economic growth, while decreasing region-specific barriers to female labour force participation may positively impact economic growth. Tam (2011) confirmed the existence of the U-shaped relationship between female labour force participation and economic growth. Similarly, Fatima and Sultana (2009) found a U-shaped association between economic growth and female labour force participation in Pakistan. Lahoti and Swaminathan (2013) showed no U-shaped relationship between economic development and female labour force participation in India. On the contrary, Jaba *et al.* (2017) reported a positive relationship between economic growth and female labour force participation in fifteen Central and Eastern European countries.

Mujahid and Zafar (2012) found an association between female labour force participation and economic growth in both the short and long run. Similarly, Lechman and Okonowicz (2014) confirmed that female labour market participation could positively enhance economic growth. According to Sasongko *et al.* (2020), education level and provincial minimum wages positively and significantly affect the women's labour force participation rate. Education, being an essential driver for economic successes of the firm, is important tool of social and economic development in general (Samoliuk *et al.*, 2021; Stacho *et al.*, 2019). Nevertheless, there is no significant effect of economic growth on the female labour force participation rate. Thévenon (2013) indicated that female educational attainment, the proliferation of part-time job opportunities, and the private sector's expansion positively impact female labour force participation. These factors belong to important features of quality-of-life perception by female population affecting their attitudes towards labour force participation (Puente and Sánchez-Sánchez, 2021; Tvaronavičienė *et al.*, 2021). Atasoy (2017) showed that fertility, maternity conditions, and education positively affect female labour force participation. The same findings are obtained by Witkowska and Kompa, (2020). At the same time, traditional culture stifles female labour force participation.

Recent studies focused on the effects of epidemics on female labour force participation (Malik and Naeem; 2020; Alon *et al.*, 2020). The COVID-19 pandemic forced women with young children to decrease their working hours four to five times than males, which increased the gender gap by 20-50 percent (Collins *et al*., 2021). Although women represent about 39 percent of global employment, they represent about 54 percent of the job losses related to the current COVID-19 pandemic (Madgavkar *et al.*, 2020). In sectors with a high female employment share, the employment fall due to schools' social distancing and closures is more considerable than sectors with a high male employment share (Alon *et al.*, 2020). According to (de Paz *et al.*, 2020), women are involved in the most negatively affected sectors due to the COVID-19 pandemic.

At the Egyptian level, Hosney (2016) showed that educational attainment, years of schooling, and age increases female labour force participation. In contrast, the number of children, marriage, and living in urban areas decreases female labour force participation. According to (Constant *et al*., 2020), Egyptian women face many barriers in the labour market, such as house responsibilities, children care, sexual harassment in the workplace, lack of informant on anti-discrimination laws, and lack of mobility. Therefore, Lassassi and Tansel (2020) argued that increasing workplace safety, availability of part-time jobs, potential leave, access to childcare, job flexibility could increase female labour force participation. Regarding the job flexibility, it has obvious positive impact on women engagement in economic activity (Raišienė *et al.*, 2021), however, sometimes it can be unavailable for women or at least available with essential obstacles (Karamanis and Gogos, 2020). Social and economic circumstances play a vital role in decreasing the gender gap in employment (Hendy, 2020) and, consequently, gender gap in remuneration (Oliinyk, 2020), availability of compensations and benefits (Bilan *et al*., 2020). Furthermore, microcredits can play a significant role in increasing women labour force participation (Arouri and Cuong, 2020).

3. Empirical Approach

Due to the lack of monthly or quarterly data, the authors used annual time series data for 1990-2019 and employed vector error correction model (VECM) to test the short and long-run association between female labour market participation and GDP growth rate. **Table 1** shows the variables of our vector error correction (VECM) model.

Table 1. The variables of the study

Variable	Definition
LFLFP	Log (Female labour force participation rate %)
LGDP	Log (Gross domestic product annual growth rate %)
LGFCF	Log (Gross fixed capital formation annual growth rate %)

Source: Authors

We obtained our data from the World Bank (2020).

The three variables vector error correction model (VECM) can be specified as follows:

$$\Delta LGDP_t = \sigma + \sum_{i=1}^{k-1} \beta_i \Delta\, LGDP_{t-i} + \sum_{j=1}^{k-1} \emptyset_j\, \Delta LFLFP_{t-j} + \sum_{m=1}^{k-1} \delta_m\, \Delta LGFCF_{t-m} + \lambda_1 ECT_{t-1} + u_{1t} \quad \textbf{(1)}$$

$$\Delta LFLFP_t = a + \sum_{i=1}^{k-1} \beta_i\, \Delta LGDP_{t-i} + \sum_{j=1}^{k-1} \emptyset_j\, \Delta LFLFP_{t-j} + \sum_{m=1}^{k-1} \delta_m \Delta\, INF_{t-m} + \lambda_2 ECT_{t-1} + u_{2t} \quad \textbf{(2)}$$

$$\Delta LGFCF_t = \sigma + \sum_{i=1}^{k-1} \beta_i \Delta\, LGDP_{t-i} + \sum_{j=1}^{k-1} \emptyset_j\, \Delta LFLFP_{t-j} + \sum_{m=1}^{k-1} \delta_m\, \Delta LGFCF_{t-m} + \lambda_3 ECT_{t-1} + u_{3t} \quad \textbf{(3)}$$

Where:

$k-1$ is the lag length reduced by one;

$\beta_i, \emptyset_j$ *and* δ_m are the short-run coefficients of the model's adjustment long-run equilibrium;

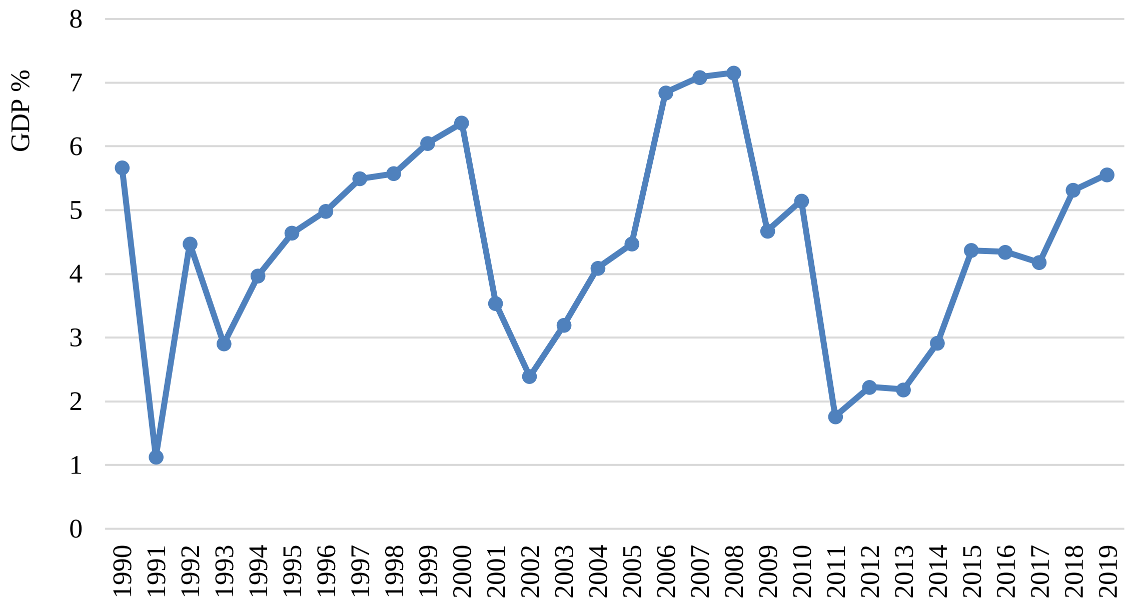
λ_2 is the speed of adjustment parameter;

ECT_{t-1} is the error correction term;

u_{it} are the residuals.

Figure 1 shows the evolution of the GDP growth rate in Egypt for the period 1990-2019. As we can see, it decreased sharply from 5.66% in 1990 to only 1.12 % in 1991 when Egypt started a plan to reform its economic policy by giving a more significant role to the private sector. After that, the GDP growth rate started to increase until it reached about 6.33% in 2000. Nevertheless, due to external factors tied to the slowdown of the world economic growth and the regional insecurity, it fell to about 2.39% in 2002. It started to increase again until it reached 5.14% in 2010. Due to the 2011 revolution, it dropped sharply to 1.67%, and then it started to increase again until it reached 5.55% in 2019.

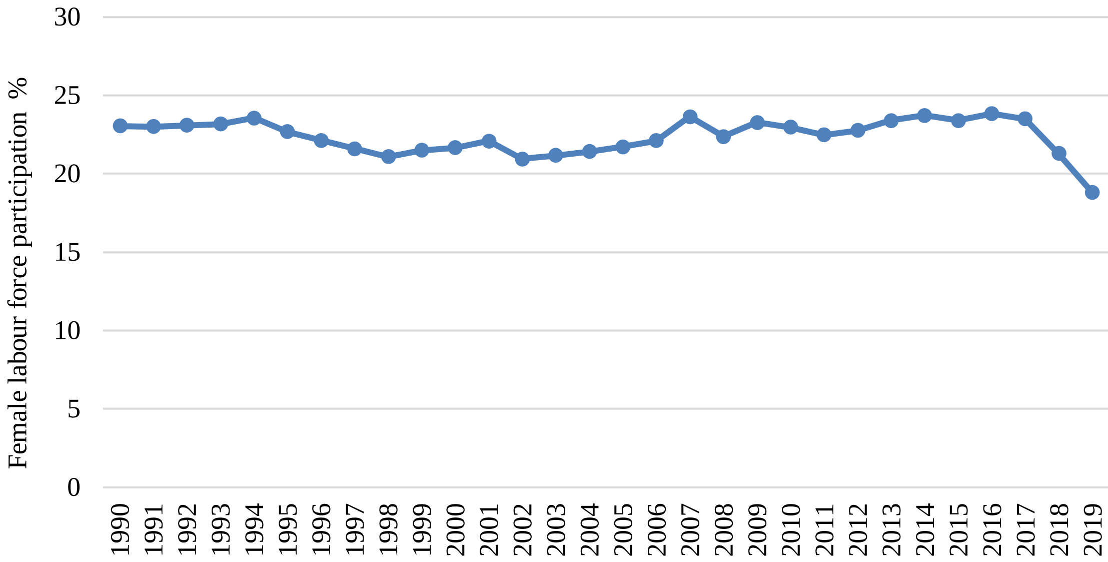
Figure 1. The evolution of Egypt's GDP growth rate 1990-2019



Source: World Bank (2020)

Figure 2 shows the evolution of the female labour market participation in Egypt for the period 1990-2019. As we can see, it was 23.4% in 1990, and it reached its maximum level 23.63% in 2007; then, it started to decline until it reached only 18.35% in 2019.

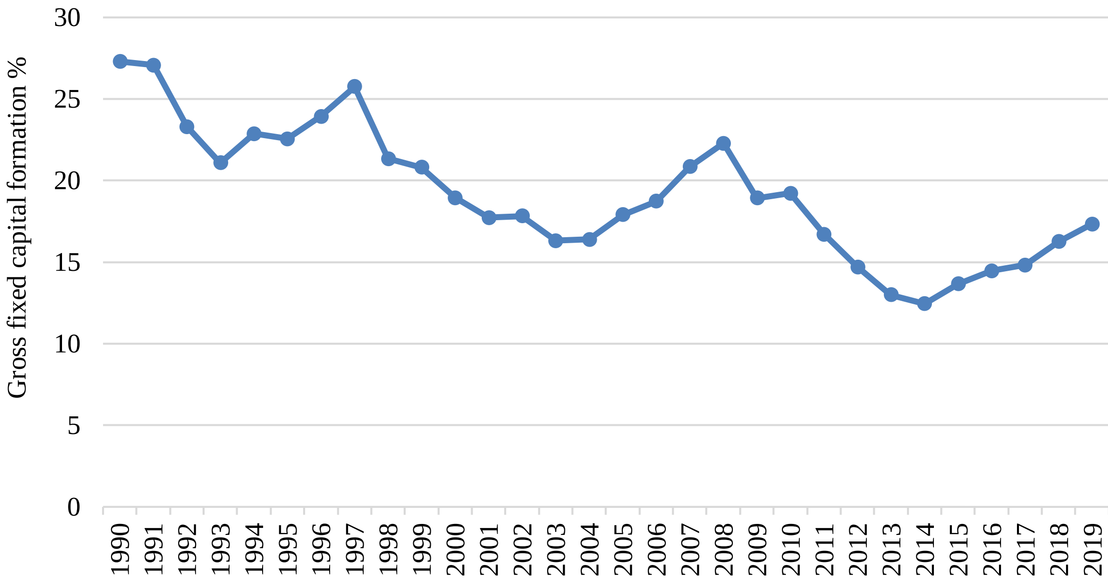
Figure 2. The evolution of female labour force participation in Egypt 1990-2019



Source: World Bank (2020)

Figure 3 shows the evolution of the gross fixed capital formation growth rate in Egypt for 1990-2019. As we can see, it decreased sharply from 27.29% in 1990 to only 21.09 % in 1993 then increased again until it reached 25.75 % in 1997. Nevertheless, it declined sharply to only 18.09% in 2009, and then it reached 12.44 % in 2014 due to the shocks caused by the 2011 revolution. Furthermore, it finally increased gradually until it reached 17.33% in 2019 due to the recent economic policy reform.

Figure 3. The evolution of gross fixed capital formation growth rate in Egypt 1990-2019



Source: World Bank (2020)

4. Results and Discussion

Before running our model, we used the Augmented Dickey-Fuller (ADF) test to fulfil the stationary condition. **Table 2** shows that variables were nonstationary at levels, but after taking the first difference, they became stationary at a 5% significance level.

Table 2. Augmented Dickey-Fuller test

Levels									
	Intercept			Intercept and trend			No intercept or trend		
	P-value	Unit root	Stationary	P-value	Unit root	Stationary	P-value	Unit root	Stationary
LFLFP	0.4247	YES	NO	0.5394	YES	NO	0.7118	YES	NO
LGDP	0.0096	NO	YES	0.0390	YES	NO	0.2928	YES	NO
LGFCF	0.4008	YES	NO	0.0034	NO	YES	0.2033	YES	NO
First difference									
	Intercept			Intercept and trend			No intercept or trend		
	P-value	Unit root	Stationary	P-value	Unit root	Stationary	P-value	Unit root	Stationary
LFLFP	0.0000	NO	YES	0.0001	NO	YES	0.0000	NO	YES
LGDP	0.0000	NO	YES	0.0000	NO	YES	0.0000	NO	YES
LGFCF	0.0064	NO	YES	0.0216	NO	YES	0.0004	NO	YES
Second difference									
	Intercept			Intercept and trend			No intercept or trend		
	P-value	Unit root	Stationary	P-value	Unit root	Stationary	P-value	Unit root	Stationary
LFLFP	0.0000	NO	YES	0.0000	NO	YES	0.0000	NO	YES
LGDP	0.0000	NO	YES	0.0000	NO	YES	0.0000	NO	YES
LGFCF	0.0000	NO	YES	0.0000	NO	YES	0.0000	NO	YES

Source: Authors' calculations

Table 3 shows the lag selection criterion for the VECM model. As we can see, the Schwarz information criterion, the sequential modified LR test statistic, Hannan-Quinn information criterion, and Final prediction error suggest running our VECM model with one lag.

Table 3. Lag length criterion test

Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	109.2757	NA	4.08e-08	-8.502059	-.355794	-8.461491
1	149.1742	67.02942*	3.47e-09*	-10.97394	-0.3888*	-10.81167*
2	153.3483	6.010719	5.30e-09	-10.58787	-9.56401	-10.30389
3	165.3536	14.40635	4.59e-09	-10.82829	-9.36563	-10.42261
4	177.8490	11.99560	4.22e-09	-11.1079*	-9.20647	-10.58054

Source: Authors' calculations

Table 4. Johansen Cointegration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.576469	28.85642	29.79707	0.0639
At most 1	0.153825	5.659918	15.49471	0.7353
At most 2	0.041703	1.150143	3.841465	0.2835

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.576469	23.19650	21.13162	0.0253
At most 1	0.153825	4.509775	14.26460	0.8020
At most 2	0.041703	1.150143	3.841465	0.2835

Source: Authors' calculations

The results of the Johansen co-integration test are presented in **Table 4**. As we can see from the maximum eigenvalue test, there is at least one co-integration at a 5% significance level. Therefore, we can run the vector error correction (VECM) model to capture short- and long-run associations.

The Johansen co-integration test shows that we have only one co-integrating equation for the VECM model. Hence, we need to estimate the LGDP regression to examine the long-run and short-run relationships and know which ones are statistically significant. Therefore, we estimate the following equation using the ordinary least square method:

$$D(LGDP) = C(1)*(LGDP(-1) - 1.1084357859*LGFCF(-1) + 1.14235353057*LFLFP(-1) - 0.733823085061) + C(2)*D(LGDP(-1)) + C(3)*D(LGFCF(-1)) + C(4)*D(LFLFP(-1)) + C(5) \quad \textbf{(4)}$$

Where:

C1 is the coefficient of the co-integrating model showing the speed of adjustment towards equilibria or the error correction term;

C3 is the coefficient of LGFCF, indicating the short-run causality running from the gross fixed capital formation growth rate to the GDP growth rate;

C4 is the coefficient of LFLFP, indicating the short-run causality running from the female labour force participation to the gross domestic product (GDP) growth rate.

From **Table 5**, we can see that the set of regressors are statistically significant with a probability value of 0.003384, which implies that at 1%, 5%, and 10% levels of significance, the set of variables are jointly significant. The Durbin-Watson test statistics of 1.658426 shows that there is no autocorrelation in the error term. And finally, the R-squared of about 50% shows that the set of independent variables can only about 50% variation in the dependent variable (LGDP).

The rule is that if C1 has a negative sign and statistically significant, we can imply that there is a long-run association running from the gross fixed capital formation and female labour force participation to the GDP growth rate. We can see from **Table 5** that the sign of coefficient C1 is negative, and the P-value 0.0048 is statistically significant at 1%, 5%, and 10%. Hence, we can conclude a long-run causality running from gross fixed capital formation and female labour force participation to the GDP growth rate.

From **Table 5**, we can see that the p-value of C3 is 0.1457, which is insignificant at 1%, 5%, and 10 %. This implies no short-run association running from the gross fixed capital formation to the GDP growth rate. Looking at C4, we can see that the probability value is 0.1409, statistically insignificant at 1%, 5%, and 10 %. Therefore, there is no short-run association running from the female labour force participation to the GDP growth rate.

Table 5. Ordinary Least Squares estimation

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.609006	0.194330	-3.133870	0.0048
C(2)	-0.105985	0.157900	-0.671214	0.5091
C(3)	1.146438	0.760084	1.508305	0.1457
C(4)	3.736356	2.445852	1.527630	0.1409
C(5)	0.034555	0.028363	1.218294	0.2360

R-squared	0.496829	Mean dependent var	0.024968
Adjusted R-squared	0.405343	S.D. dependent var	0.184309
S.E. of regression	0.142128	Akaike info criterion	-0.898601
Sum squared resid	0.444408	Schwarz criterion	-0.658632
Log likelihood	17.13112	Hannan-Quinn criterion.	-0.827246
F-statistic	5.430670	Durbin-Watson stat	1.658426
Prob(F-statistic)	0.003384		

Source: Authors' calculations

Table 6 indicates the results of the diagnostic tests of the VECM. As it is shown, the variables follow the normal distribution with no unit roots outside the unit circle, no serial correlation in the residuals, and finally, there is no heteroskedasticity.

Table 6. Diagnostic tests for the VECM model.

Diagnostic test	**Test statistic**	**P-value**
Residual Serial Correlation LM Test	0.989246	0.3312
Residual Heteroskedasticity Test	0.263246	0.9477
Stability Test	The stability condition is Fulfilled	Variables are stationary
Normality Test (Jargue-Bera)	1.565612	0.457122

Source: Authors' calculations

5. Conclusion

Nobody can deny women's vital role in all aspects of economic activities in developing and developed countries. Although women represent nearly half of the population in Egypt, their labour force participation rate is still very low compared to men. This paper aimed to examine the relationship between female labour force participation and economic growth in Egypt. Due to the lack of monthly or quarterly data, we employed annual time series data from the World Bank for 1990-2019. A vector error correction (VECM) model was used to capture the short and long-run relationship. The results showed that female labour force participation and the gross fixed capital formation growth rate have a long-run relationship with the GDP growth rate. Nevertheless, there is no statistically significant relationship in the short run. Therefore, an increase in female labour force participation can play an important role in enhancing the economic growth in Egypt.

This study's main implications are that the Egyptian government needs to implement policies that remove the barrier on female labour force participation. These policies could be changes in legislation, modernization of social norms, Job flexibility, and increasing access to childcare. Furthermore, they need to focus on both the demand and supply sides of the quality of female labour force participation by matching women’s education with the creation of suitable jobs.

Acknowledgement: This article was supported by the Internal Grant Agency of Tomas Bata University in Zlin, Project No. IGA/FaME/2021/005, “*Significant factors in the sustainability of economic growth with a focus on the SME segment*”.

References:

Alon, T. M.; Doepke, M.; Olmstead-Rumsey, J.; Tertilt, M. (2020). The impact of COVID-19 on gender equality (No. w26947). *National Bureau of Economic Research*.

Altuzarra, A.; Gálvez-Gálvez, C.; González-Flores, A. (2021). Is Gender Inequality a Barrier to Economic Growth? A Panel Data Analysis of Developing Countries. *Sustainability*, 13(1): 367.

Anker, R. (1983). Female labour force participation in developing countries: A critique of current definitions and data collection methods. Int Labour Rev. 122(6):709-23. PMID: 12266775.

Arouri, M.; Cuong, N.V. (2020). Does microcredit reduce the gender gap in employment? Evidence from Egypt. *African Development Review*, 32(2): 111-124.

Asongu, S.A.; Odhiambo, N.M. (2018). ICT, financial access and gender inclusion in the formal economic sector: evidence from Africa. *African Finance Journal*, 20(2): 45-65.

Atasoy, B.S. (2017). Female labour force participation in Turkey: the role of traditionalism. *The European Journal of Development Research*, 29(4): 675-706.

Bilan, Y.; Mishchuk, H.; Samoliuk, N.; Mishchuk, V. (2020). Gender discrimination and its links with compensations and benefits practices in enterprises. *Entrepreneurial Business and Economics Review*, 8(3), 189-204. https://doi.org/10.15678/EBER.2020.080311

Busso, M.; Fonseca , D.A. (2015). Determinants of female labor force participation. In Gasparini, L., and Marchionni, M., editors , Bridging gender gaps? The rise and deceleration of female labor force participation in Latin America, volume 1, chapter 6, pp. 199 – 260. Center for Distributive, Labor and Soci al Studies, 1st edition

Cameron, L.; Suárez, D.C.; Rowell, W. (2020). Female labour force participation in Indonesia: Why has it stalled?. Melbourne Institute Working Paper Series wp2018n11, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.

Collins, C.; Landivar, L.C.; Ruppanner, L.; Scarborough, W.J. (2021). COVID-19 and the gender gap in work hours. *Gender, Work and Organization*, 28: 101-112.

Constant, L.; Edochie, I.; Glick, P.; Martini, J.; Garber, C. (2020). Barriers to Employment that Women Face in Egypt: Policy Challenges and Considerations. RAND.

Contreras, D.; Puentes, E.; Bravo, D. (2005). Female labour force participation in greater Santiago, Chile: 1957–1997. A synthetic cohort analysis. *Journal of International Development*, 17(2): 169-186.

Das, M. S.; Jain-Chandra, M. S.; Kochhar, M.K.; Kumar, N. (2015). *Women workers in India: why so few among so many?*. International Monetary Fund.

De Paz, C.; Muller, M.; Munoz Boudet, A.M.; Gaddis, I. (2020). Gender dimensions of the COVID-19 pandemic. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/33622 License: CC BY 3.0 IGO.

Fatima, A.; Sultana, H. (2009). Tracing out the U-shape relationship between female labor force participation rate and economic development for Pakistan. *International Journal of Social Economics*, , 36, issue 1/2, p. 182-198.

Fernández Puente, A.C.; Sánchez-Sánchez, N. (2021). Understanding executive women´s perspectives on job satisfaction and their different domains. *Economics and Sociology*, 14(1), 159-177. doi:10.14254/2071-789X.2021/14-1/11.

Gaddis, I.; Klasen, S. (2014). Economic development, structural change, and women's labor force participation. *Journal of Population Economics*, 27(3): 639-681.

Hassan, H.E.; Zaharia, R. M. (2021). Women access to the labour market in Egypt: the view of private sector experts. *Transformations in Business and Economics*, 20(2): 276-296.

Hare, D. (2016). What accounts for the decline in labor force participation among married women in urban China, 1991–2011? *China Economic Review*, 38, 251-266.

Heckman, J.J. (1978). A partial survey of recent research on the labor supply of women. *The American Economic Review*, 68(2): 200-207.

Hendy, R. (2020). Yes, Women can be Equal to Men in Employment: Evidence from Egypt. *Journal of North African Studies*, 1–26. doi: 10.1080/13629387.2020.1732934 https://fount.aucegypt.edu/faculty_journal_articles/499.

Hosney, S.H. (2016). Factors influencing female labor force participation in Egypt and Germany: A comparative study (No. 826). SOEP papers on Multidisciplinary Panel Data Research.

Jaba, E.; Sandu, C.; Plopeanu, A.; Robu, I.; Istrate, M. (2017). The Statistical Analysis of Labor Market and Female Labor Force Characteristics in Central and Eastern European Countries. *Studies and Scientific Researches. Economics Edition*, 25: 19-33. doi: http://dx.doi.org/10.29358/sceco.v0i25.389.

Jayachandran, S. (2021). Social norms as a barrier to women's employment in developing countries. *IMF Economic Review*, 69(3): 576-595.

Karamanis, K.; Gogos, C. (2020). The impact of flexible working at firm level. Evidence from Greek labor market. *Journal of International Studies*, 13(2): 9-24. doi:10.14254/2071-8330.2020/13-2/1

Klasen, S. (2019). What explains uneven female labor force participation levels and trends in developing countries?. *The World Bank Research Observer*, 34(2): 161-197.

Klasen, S.; Pieters, J. (2012). Push or pull? Drivers of female labor force participation during India's economic boom. IZA Discussion Paper No. 6395, Available at SSRN: https://ssrn.com/abstract=2019447 or http://dx.doi.org/10.2139/ssrn.2019447.

Klasen, S.; Pieters, J. (2015). What explains the stagnation of female labor force participation in urban India?. *The World Bank Economic Review*, 29(3): 449-478.

Klasen, S.; Le, T.T.N.; Pieters, J.; Santos Silva, M. (2021). What drives female labour force participation? Comparable micro-level evidence from eight developing and emerging economies. *Journal of Development Studies*, 57(3): 417-442.

Kumari, R. (2018). Economic growth, disparity, and determinants of female labor force participation. *World Journal of Entrepreneurship, Management, and Sustainable Development*,14 (2): 138-152. https://doi.org/10.1108/WJEMSD-03-2017-0009.

Lahoti, R.; Swaminathan, H. (2013). Economic development and female labor force participation in India. IIM Bangalore Research Paper No. 414, Available at SSRN: https://ssrn.com/abstract=2284073 or http://dx.doi.org/10.2139/ssrn.2284073.

Lassassi, M.; Tansel, A. (2020). Female Labor Force Participation in Five Selected Mena Countries: An Age-Period-Cohort Analysis (Algeria, Egypt, Jordan, Palestine and Tunisia). Available at SSRN: https://ssrn.com/abstract=3718780 or http://dx.doi.org/10.2139/ssrn.3718780.

Lechman, E.; Okonowicz, A. (2014). Are Women Important for Economic Development? An Evidence on Women's Participation in Labor Market and Their Contribution to Economic Growth In 83 World Countries. GUT FME Working Paper Series A, No. 13/2013 (13).

Luci, A. (2009). Female labour market participation and economic growth. *International Journal of Innovation and Sustainable Development*, 4(2-3): 97-108.

Ma, L. (2016). Female labour force participation and second birth rates in South Korea. *Journal of Population Research*, 33(2): 173-195.

Madgavkar, A.; White, O.; Krishnan, M.; Mahajan, D.; Azcue, X. (2020). COVID-19 and gender equality: Countering the regressive effects. McKinsey Global Institute. URL: www. mckinsey. com/featured-insights/future-of-work/covid-19-and-gender-equality-countering-the-regressive-effects (Haettu 29.9. 2020).

Malik, S.; Naeem, K. (2020). Impact of COVID-19 Pandemic on Women: Health, livelihoods and domestic violence. Sustainable Development Policy Institute. http://hdl.handle.net/11540/11907.

Mujahid, N.; uz Zafar, N. (2012). Economic growth-female labour force participation nexus: empirical evidence for Pakistan. *The Pakistan Development Review*, 51(4): 565-585.

Oliinyk, O.O. (2020). Social responsibility assessment in the field of employment (case study of manufacturing). *Scientific Bulletin of National Mining University*, (3): 131–136.

Osabuohien, E.S.; Efobi, U.R.; Herrmann, R.T.; Gitau, C.M. (2019). Female labor outcomes and large-scale agricultural land investments: Macro-micro evidence from Tanzania. *Land Use Policy*, 82: 716-728.

Pal, S.; Chaudhuri, S. (2020). Falling Female Labour Force Participation: An Analysis of Selected Countries. *Asian Journal of Economics, Finance and Management*, 2(3): 49-59. Retrieved from https://globalpresshub.com/index.php/AJEFM/article/view/859

Pampel, F.C.; Tanaka, K. (1986). Economic development and female labor force participation: A reconsideration. *Social forces*, 64(3): 599-619.

Paroussos, L., Fragiadakis, K.; Charalambidis, I.; Tsani, S.; Capros, P. (2012). Quantitative macroeconomic scenarios for the MED11 region using the GEM-E3-MEDPRO general equilibrium model. E3M-Lab, Institute of Communication and Computer Systems, National Technical University of Athens.

Rahman, R.I.; Islam, R. (2013). Female labour force participation in Bangladesh: trends, drivers and barriers. International Labour Organization, DWT for South Asia and Country Office for India.

Raišienė, A.G.; Rapuano, V.; Dőry, T.; Varkulevičiūtė, K. (2021). Does telework work? Gauging challenges of telecommuting to adapt to a “new normal”. *Human Technology*, 17(2): 126–144. https://doi.org/10.14254/1795-6889.2021.17-2.3

Samoliuk, N.; Bilan, Y.; Mishchuk, H. (2021). Vocational training costs and economic benefits: exploring the interactions. *Journal of Business Economics and Management*. 22(6): 1476-1491. https://doi.org/10.3846/jbem.2021.15571

Sasongko, G.; Huruta, B.E.; Huruta, A.D. (2020). Female Labor Force Participation Rate in Indonesia: An Empirical Evidence from Panel Data Approach. *Management and Economics Review*, 5(1): 136-146.

Santos Silva, M.; Klasen, S. (2021). Gender inequality as a barrier to economic growth: a review of the theoretical literature. *Review of Economics of the Household*, 19(3): 581-614.

Sorsa, P.; Mares, J.; Didier, M.; Guimaraes, C.; Rabate, M.; Tang, G.; Tuske, A. (2015). Determinants of the low female labour force participation in India. OECD Economics Department Working Papers, No. 1207, OECD Publishing, Paris, https://doi.org/10.1787/5js30tvj21hh-en.

Stacho, Z.; Stachová, K.; Raišienė, A.G. (2019). Changes in approach to employee development in organizations on a regional scale. *Journal of International Studies*, 12(2): 299-308. doi:10.14254/2071-8330.2019/12-2/19.

Tam, H. (2011). U-shaped female labor participation with economic development: Some panel data evidence. *Economics Letters*, 110(2): 140-142.

Tansel, A. (2002). Economic development and female labor force participation in Turkey: Time-series evidence and cross-section estimates. METU/ERC Working Paper No. 02/3, Available at SSRN: https://ssrn.com/abstract=301946 or http://dx.doi.org/10.2139/ssrn.301946.

Thévenon, O. (2013). Drivers of female labour force participation in the OECD. OECD Social, Employment and Migration Working Papers 145, OECD Publishing.

Tsani, S., Paroussos, L., Fragiadakis, C., Charalambidis, I., and Capros, P. (2013). Female labour force participation and economic growth in the South Mediterranean countries. *Economics Letters*, 120(2): 323-328.

Tvaronavičienė, M., Mazur, N., Mishchuk, H., & Bilan, Y. (2021). Quality of life of the youth: assessment methodology development and empirical study in human capital management. Economic research - Ekonomska istrazivanja, 1-18, https://www.tandfonline.com/doi/full/10.1080/1331677X.2021.1956361.

Varol, F. (2017). The determinants of labor force participation of women in Turkey: A binary logit analysis. *Journal of History Culture and Art Research*, 6(2): 92-108.

Witkowska, D., and Kompa, K. (2020). Motherhood and eldercare penalties. Evidence from Poland. *Economics and Sociology*, 13(3): 11-26. doi:10.14254/2071- 789X.2020/13-3/1.

World Bank. World development indicators. (2020). Labor force participation rate, female (% of female population ages 15+) [Data file]. Retrieved from https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS

You, X. (2020). Women's labour force participation in nineteenth-century England and Wales: evidence from the 1881 census enumerators' books. *The Economic History Review*, 73(1): 106-133.