Determinants of FLFP in BSEC Countries: Evidence from Panel Data

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Abstract

The link between international trade and employment has become more important today. In this context, especially women's labor force participation (FLFP) attracts a lot of attention and is discussed. Emphasis is placed on supporting the FLFP. There is a large literature examining factors affecting FLFP. This article explores the effects of international trade, political stability and some other parameters on the female labor force participation rate (FLFP). It is widely accepted that increasing and supporting FLFP leads to a higher level of well-being. There is a large literature analyzing low FLFP. Making panel data estimation using FE, RE, Driscol-Kraay standard errors regressions and CCE standard errors, this article explores the effects of foreign trade, unemployment and political stability on female labor force participation FLFP rates. The sample consists of nine Black Sea Cooperation Organization (BSEC) member countries for the period (1999-2021). The findings of the three models applied, 1)FGLS (heteroskedastic), 2)FGLS (homoskedastic) AR(1) and no autocorrelation, and 3)Prais Winsten results are consistent with each other. The findings show that exports have a positive effect, while ICt-based exports and political stability have a negative effect on FLFP. The findings of the article show that foreign trade variables and political stability have a negative effect on women's labor force participation rates.

1.Introduction

Mostly, women contribute less to the value of formal production than men. Countries include ways to increase women's employment into their social policies. Today, many variables related with FLFP are of interest of researchers. Undoubtedly, the social environment and factors are the variables that interact more in the foreground, but there are also other variables that seem to be more indirect.

Economic policies that encourage export have increasingly become more and more important. Integration to international markets is the key to the growth of companies and markets. Export is one of the important tools of making foreign investments. Expanding demand and productivity besides the adoption of new technology is on the agenda of many developing countries. The aim of this article is to analyze the effects of foreign trade variables, such as exports and imports and unemployment on female labor force participation for BSEC (Black Sea Economic Cooperation). Many developing countries have preferred to adopt economic policies that encourage exports in the 2000s and after. Although the countries that are members of the Black Sea Cooperation Organization have different economic structures, they emerge as a group of countries that should be examined.

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Monitoring employment losses has become an important indicator in terms of monitoring the macroeconomic conjuncture. In the US labor market, job gains in the 1990s declined in 2001 and beyond. Between 2001 and 2007, for example, in the 2000s, when these gains in employment gave way to a comeback, male employment rates lost all the ground they had reached between 1991 and 2000. The rapid increase in female employment rates stopped at the same time. Therefore, the import competition with China caused serious job losses (Acemoğlu et all., 2016:142). Although the results differ in countries, for example, despite the rapid export-led growth in Latin American countries, the employment of unskilled labor caused a slowdown or even a decrease in employment growth. International trade has an impact on employment by changing the labor force coefficients in industries (Sen, 2009).

The composition of employment is also affected the developments in foreign trade and globalization. The gender structure of employment is one of these interactions. In the last ten years, employment in the services sector has increased in many countries. The gender composition in the service sector changed in the sense that, it is %10 higher for women than men. While the men's employment has decreased in the same ratio. IAtthe same tim,e this shows the makeshift type of employment in the service sector (Öztepe,2018:177). Today, the expansion of services and global supply chains, new information technologies, higher quality and lower infrastructure costs and logistics facilitated the organization and management of transportation, and production. New forms of work, have entered our lives. Makeshift employment is a type of employment that lacks the benefits of decent work and standard types, for example, part-time temporary, low-wage, and insecure working from home (ILO, 2016). Insufficient use of women's labor brings a great cost to the country's growth rate. Often, women are the main caregivers for children or the elderly at home, rather than engaging in low-paying and paid jobs outside the home.

Early ILO studies concluded that liberalization would facilitate the assimilation of labor and potential gains in developing countries. The doubts that foreign trade continues to be the locomotive of growth and employment in terms of quantity and quality are eliminated with today's global value chains. For this reason, studies dealing with the relationship between foreign trade, growth and employment continue to be popular in the economics literature. However, the number of studies investigating the effect of foreign trade variables on , in general, is not very large.

This study contributes to the existing literature in at least two ways. First, the effects of foreign trade variables and unemployment on FLFP were investigated; Secondly, the political stability variable, which is a policy variable, was included in the model and tested. In addition to the effect of such macro variables, it is a study that reveals the role of socioeconomic characteristics. The plan of the study is as follows: In the first part, foreign trade, political stability, women's employment, and employment relations in general will be discussed. will be presented and discussed. In the third section, data and methodology, and results will be discussed.

2.Literature Review

Mincer in pioneering research of 1974 paper has stated that, educational differences of group of white, male, urban workers accounted for only seven percent of the earnings differential. Schooling has more explanatory power for groups with constant years of experience than for groups of the same age. Regarding the profitability of investment in education on a global scale, investment in women's education is generally seen to be more profitable than men's (Psacharopoulos,1994).

Bussmann (2009), has shown that trade openness decreases the female labor force participation rate in OECD countries, but the share of women in the total workforce increases with greater economic integration in developing countries. Commercial openness also affects the type of work women do. In industrialized states, it increases the proportion of women working in the service sector at the expense of employment in industry and agriculture. Feenstra et all. (2017) defend that export's job creation is generally neglected. They have shown that the job gains from the expansion of the exports for US economy.

Studies in the literature can be divided into two groups. One group focus on the effect of international trade on employment and the other group is investigating the effects of export and import variables on employment separately. However, there are few studies examining the effect of exports on female labor force participation. Although different results obtained according to the period and countries, studies mostly find a positive effect of exports on employment. Among the studies conducted especially for Turkey, there are studies that advocate the positive effect of liberalization in foreign trade on the positive acceleration of employment with post-1980 liberalization. Başlevent & Onaran (2004) analyzed the impact of an export-oriented growth strategy on female labor force participation and employment in urban Turkey by controlling supply and demand-side factors. While the long-term economic growth at the provincial level has a significant positive effect on both employment and flfp, the effect of export orientation is not as strong and is more pronounced among unmarried women. The positive effect of exports on female employment is not only valid for single and/or younger women. Where benefits of export employment results of married women in traditional women's employment sectors such as with textiles or food with one lag. Dikilitaş et al(2021) examined the effect of exports on the female employment rate for Turkish manufacturing firms in the last period of 2003-2015. The authors used propensity score matching (PSM) techniques, creating treatment models and a methodology for the difference in difference. The results of the research show that starting to export increases the rate of female employment in manufacturing companies. An increase in female employment rates was noted in firms operating in low and medium-low technology-intensive sectors, low-wage sectors, and sectors that export labor-intensive goods.

Using a system-generalized model of moments method, the Kien & Heo (2009) article explores the effects of trade liberalization on employment in Vietnam from 1999 to 2004. The results show that the increase in industrial output increases the demand for labor, whereas the rising wage rate leads to a decrease in the workforce. Kiyota (2011) reached a three-pronged conclusion for the Japanese economy. First, demand for worker-hours from exports has increased, but not large enough to offset declines in demand for worker-hours from domestic final demand. As a result, total worker-hours in Japan has decreased since 1990. Second, the demand for employment from exports has raised since 1985 in both the manufacturing and non-manufacturing sectors. This result shows that manufacturing exports indirectly affect non-manufacturing employment through inter-industry links. Third, total demand for working hours from exports and domestic final demand declined between 1980 and 2006, although it increased slightly in manufacturing after 1995. Almeida &Viollaz(2022) vviewedthe role of different factors on flfp in paid employment in Guatemala between 2002 and 2018. According to (Akhmedjonov & İzgi:2012) paper while the observed pay advantage of public male employees can be explained entirely by differences in their observed characteristics, for female employees these differences only partly explain the observed public–private pay differential. The decomposition of male–female wage differentials by sector of work suggests that women are facing discrimination in both sectors.

In societies with limited human capital, extended families are preferred and little investment is made in each member; On the other hand, it is seen that the opposite is done in

those with abundant human capital (Becker et al,1990). Besides female students are shifted to less difficult work areas in school life, or they are devalued by their teachers and exposed to similar social discrimination, which explains the reasons for the low participation in the workforce in the following years (Bellamy,1999).

The results of the applied analysis on Turkey are; Erlat and Erlat (2003), Ayaş and Çeştepe (2010), Karaçor and Saraç (2011) concluded in their studies that foreign trade will make a positive contribution to the employment level. Polat, Uslu and Aydemir (2011) found that employment is not affected by foreign trade. Akkuş (2015) examined the effects of international trade and productivity on manufacturing industry employment in the Turkish economy for the period (2003-2010) with panel data analysis. He found that export demand and import competition directly affect employment. He pointed out that the overall effects of international trade on employment are due to the direct effects of export demand and import competition. In addition, it has been determined that the factors that increase productivity the most in the manufacturing industry stem from investment and research and development expenditures. The Table 1 shows a relevant and necessary summary of the literature on the subject.

Table 1. Literature Summary

Author /Year	Country/Period	Methodolgy	Results
Messerlin/1995	France/1980-1992	Borjas,Freeman and Katz method	(+) effect of foreign trade on employment each year by 8%.
Şenesen/1998	Turkey/1973-1990	input-output analysis	(-) effect of employment creating mechanism
Greenaway/1999	UK/1979-1991	Dynamic panel data analysis	(-) effect of exports on employment by 3.8% in short-run and 4.71% in the long-run.
Welsum& Reif/2006	14 OECD Countries/ 1996-2003	Dynamic panel data analysis	(+) effect of exports on employment by 0.90%
Napoles/2004	Mexico/ 1978-2000	input-output analysis	Positive effects of exports on employment is not as important as domestic production
Kien & Heo/2009	Vietnam/1999-2004	System gmm	(+) effect of export expansion on labor demand
Kiyota/2011	Japan/1975-2006	input-output analysis	the demand for employment from exports has increased since 1985 both in manufacturing & non-manufacturing
Karaçor&Saraç/2011	Turkey/1963-2009	ARDL model	(+) effect of foreign trade on employment in the long run
Fennstra et al /2017	US/1991-2011	OLS,2SLS	Job creating effect of exports for US economy.
Dikilitaş et al/2021	Turkey/2003-2015	PSM technique	(+) effect of export on flfp
Bussmann/2009	134 countries/1970-2000	Fe,GMM	Different sectoral effects but trade openness improves women's well-being more than men.
Başlevent&Onaran/ 2004	1988, 1994	Probit	Limited (+) effect of export on female labor
Erlat/2000	Turkey/1963-1994	Simple accounting model	(+) effect foreign trade, consumption and productivity onemployment
Balcılar et all,/2014	Turkey/1995-2012	Ardl model	No significant effect of exchange rate volatility
Ayaş & Çeştepe/2010	Turkey/1998-2002	input-output analysis	(+) effect of export on employment
Polat,Uslu &Aydemir/2011	Turkey/1988:1-2007:3	ARDL model	No effect of foreign trade on employment in the long run, but (+) effect in the short run.

Table 1. Literature Summary (cont)

Author /Year	Country/Period	Methodolgy	Results
Akkuş/2014	Turkey/2003-2010	Panel data analysis	(+) effect of export demand o labor demand and productivity of the manufacturing sector employment
Ayhan/2018	Turkey/2005:01-2014:02	ARDL Model	(+) effect of industrial production and export on employment
Tuncer&Coşkun, /2021	Turkey İBBS Level 2/ 2004-2014	system gmm,fem	increase in neighbor's export sophistication is more effective in Turkey
Almeida & Viollaz/2022	Guatemala/ 2002-2018	information from microdata sets	The increase in flfp is partially explained by the educational attainment of women, the reduction in fertility, and the country's structural transformation toward services

3. Methodology and Data

Studies that take flfp as a dependent variable are not many. So this study may contribute to the existing literature in this respect. Exports of goods and services as a percentage of GDP, and the other second export variable is the export of goods based on information and communication as the percentage of total exports of goods. The third variable is the percentage of unemployment in the total labor force was taken into account with national measurements, and the logarithmic values of the variables were used.

The data sample period was selected as 1999-2021 for empirical analysis. The end of the 1990s can be considered as the beginning of the period when the negativities of international free trade were also experienced due to the fragilities caused by globalization. The listed countries are in an era of where geopolitical risks and uncertainties are high. Descriptions and sources of the variables can be seen in Table 2.

Table 2. Descriptions of the Variables

| Varible Name	Explanation	Resource
Logflfp	Female labour force participation rates	WDI (World Bank Development Indicators)
LogExp	Exports of goods and services as a percentage of GDP	WDI (World Bank Development Indicators)
LogICTExp	ICT exports as a percentage of total exports	WDI (World Bank Development Indicators)
LogUnemp	Unemployment rate	WDI (World Bank Development Indicators)
Logpolstab	Political stability and absence of violence/terrorism	WDI (World Bank Development Indicators)

The descriptive statistics of the variables are shown in Table 3. The graphs of the export variables also are shown below. Figure 1 and 2 show the plots for foreign trade variables for the countries chosen one by one.

Table 3. Descriptive Data

Variable		Mean	Std.Dev.	Min.	Max.	Obs
LogFLFP	Overall	47.7	11.3	23.07	72.7	N=198
	Between		10.7	28.2	63.6	N=9
	Within		4.88	31.3	59.01	T=22

Table 3. Descriptive Data (cont)

Variable		Mean	Std.Dev.	Min.	Max.	Obs
LogExp	Overall	34.4	12.50	14.2	68.1	N=198
	Between		10.34	24.2	51.7	N=9
	Within		7.79	13.0	54.2	T=22
LogICTExp	Overall	1.06	1.17	0.003	4.64	N=198
	Between		1.07	0.02	2.80	N=9
	Within		0.58	-0.38	3.23	T=22
LogUnemp	Overall	11.22	5.14	3.73	27.4	N=198
	Between		3.98	6.10	15.4	N=9
	Within		3.51	3.53	23.2	T=22
Logpolstab	Overall	-0.39	0.57	-2.00	0.87	N=198
	Between		0.51	-1.09	0.31	N=9
	Within		0.30	-1.30	0.24	T=22

Figure 1. ICT Export for Countries of BSEC (numbers given in paranthesis)

Graphs by ID
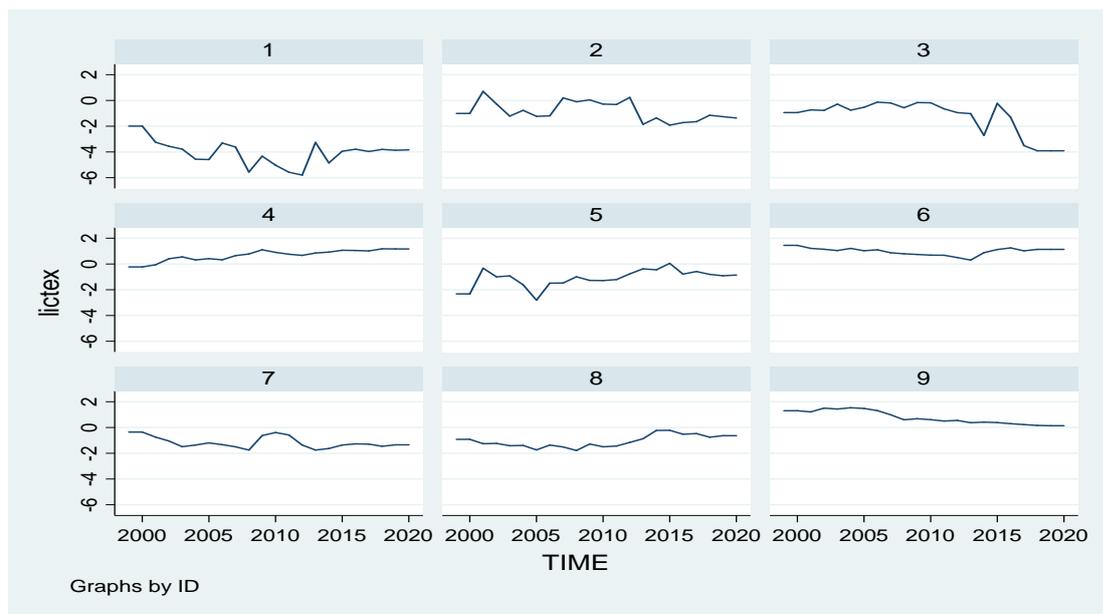
Baltagi (2010) defined panel data analysis as combining the cross-sectional observations of fractional data over time. The panel is a balanced panel consisting of data from 9 countries of BSEC countries (1. Azerbaijan, 2. Armenia, 3. Albanis, 4. Bulgaria, 5. Georgia, 6. Greece, 7. Moldova, 8. Russia, 9. Turkey). A linear panel data model can be expressed as follows (see Figure 2) (Baltagi et al, 2010:123).

Figure 2. Export of BSEC Countries (Number of the country given in paranthesis)

Graphs by ID
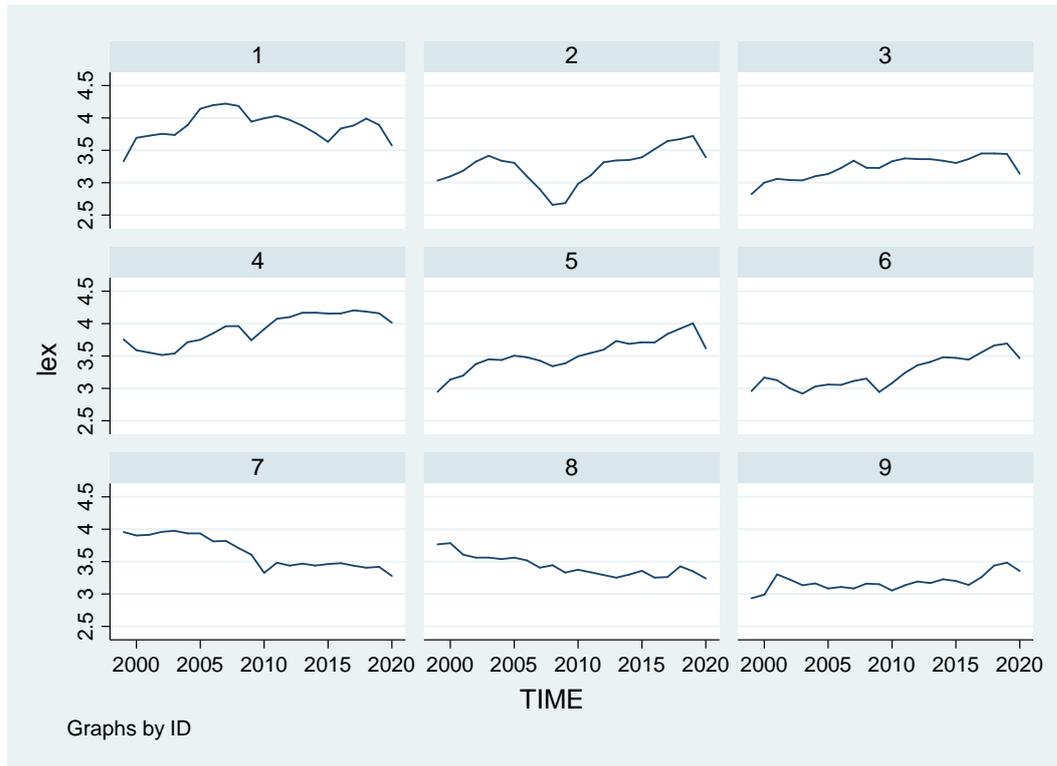
The panel data model in equation (1) is a general presentation.

$$y_{it} = x'_{it} + \mu_{it}, \quad i=1,\dots,N; \quad T=1,\dots,T \tag{1}$$

In the formula, the dependent variable is y and X is the vector of independent variables, the sub-index "i" shows the cross-section dimension and "t" is time dimension. The model used in our study is as follows:

$$Logflfp_{it} = \alpha_{it} + \beta_1 LogExp_{it} + \beta_2 LogICTExp_{it} + \beta_3 LogUnemp_{it} + \varepsilon_{it} \tag{2}$$

$$Logflfp_{it} = \alpha_{it} + \beta_1 LogExp_{it} + \beta_2 LogICTExp_{it} + \beta_3 LogUnemp_{it}$$
$$+ \beta_4 Logpolstab_{it} + \varepsilon_{it} \tag{3}$$

To determine the cross-section dependency; (Pesaran, 2004: 4); Breusch and Pagan 1980 LM1 (Lagrange Multiplier) test, CDLM (Pesaran 2004) test used in case of N>T and N→ ∞, CDLM2 tests are used in cases where both T and N are large. CDLM2 test with asymptotic normal distribution can be used in T→∞ and N→∞ situations (Pesaran, 2004: 4-9). Pesaran et al. (2008), the CDLM test with deviation corrected developed by Breusch and Pagan (1979) is the corrected version of the CD by Pesaran (2007). Cross-sectional dependency statistics values are generally higher than the critical value, except for the export variable, so the null hypothesis

of " no cross-sectional dependence" can be accepted for the panel as a whole. However, it is also possible for the series to be affected by other countries in the panel. In order for this purpose stationarity was tested with one of the second generation panel unit root tests, cross-section ADF applied (Augmented Dickey-Fuller test developed by Pesaran) which is an expanded version of standard ADF with the lagged levels of the individual series and the cross-sectional average of the first differences. The results are shown in Table 4.

Table 4. Average Correlation Coefficients and Pesaran (2004) CD test

	CD- Test	P-Value	corr	Abs(corr)
LogFLFP	0.98	0.32	0.03	0.42
LogExp	3	0.003	0.10	0.56
LogICTExp	-1.34	0.18	-0.03	0.35
LogUnemp	-0.28	0.78	-0.04	0.49
Logpolstab	-0.99	0.32	-0.03	0.33

In order to avoid the spurious regression problem in the model, the series should be stationary. For this reason, Pesaran (2007) CADF – one of the second-generation panel unit root tests- was applied. According to the results, all the variables in the model are stationary at the level and do not have any unit root. Then the Hausman test was performed to determine whether the unit and time effects are constant or random. After choosing the appropriate model, the problem of heteroscedasticity and the autocorrelation problem were examined.

Driscoll-Kraay (1998) standard errors are resistant to general forms. In this non-parametric estimation method, standard errors do not impose any restrictions on the limiting behavior. So the below table shows the results of fixed and random effects regressions and also Diriscoll-Kraay method. According to the results of the Hausman test random effetcs is an appropriate model for the whole panel. Baseline results are consistent as can be seen in Table 5 and Table 6.

Table 5. CIPS Statistics and Critical Values

| | *No constant & trend* | | *Constant& trend* | |
	CIPS Statistics	Critical Values	CIPS Statistics	Critical Values
LogFLFP	-0.72	%10 -1.57	-2.12	%10 -2.73
LogExp	-1.57	%5 -1.72	-2.28	%5 -2.86
LogICTExp	-1.63	%1 -1.98	-2.28	%1 -3.1
LogUnemp	-2.07		-3.12	

According to the results of the baseline scenario, randemo effect regression coefficients are taken into account. While estimation with Driscoll-Kraay standart errors takes the fixed effect results. However, the coefficients in both are significantl and the direction of the coefficients are the same.

CCE estimators are used to asymptotically eliminate the differential effects of unobserved common factors because the cross-sectional size approaches infinity (Pesaran, 2006: 969). Estimation with CCE standard errors allows for coefficients to be pooled or estimated as MGs. Pesaran (2006) uses a pooled version of the CCE estimator, with the constraint $\pi i = \pi \ \forall i$. In the case of equal weights to all observations, $wi = 1/N \ \forall i$, the CCE pooled estimator for π, denoted as $\hat{\pi}_P$, collapses to a simple OLS estimator (Ditzen&Watt,2018:588). A remarkable result in the CCE estimation is that political stability negatively affects flfp (see Table 7).

Table 6. Baseline Results (Dep var. Logflfp)

	POLS *Coef* *(P value)*	*Fe* *Coef* *(P value)*	*Re* *Coef* *(P value)*	*Regression with* *Driscoll-Kraay* *Std.Errors.* *POLS*	*Regression with* *Driscoll-Kraay* *Std.Errors.FE*
Constant	2.66 (0.00)	3.15 (0.00)	3.13 (0.00)	2.66 (0.00)	3.15 (0.00)
LogExp	0.26 (0.00)	0.12 (0.00)	0.13 (0.00)	0.26 (0.00)	0.12 (0.00)
LogICTExp	-0.07 (0.00)	-0.03 (0.00)	-0.03 (0.00)	-0.07 (0.00)	-0.03 (0.05)
LogUnemp	0.07 (0.01)	0.09 (0.00)	0.08 (0.00)	0.07 (0.00)	0.09 (0.00)
Logpolstab		1.12 (0.32)	1.05 (0.35)	-0.86 (0.50)	1.12 (0.27)
F Value		8.36 (0.00)		63.81 (0.00)	14.87 (0.00)
Waldchi2(4)			35.71 (0.000)		
LM Test	785.89 (0.00)		785.89 (0.00)		
Hausman		2.86 (0.41)	3.82 (0.43)		36.13 (0.000)

Table 7. Common Correlated Effects Mean Group Estimator by Pesaran (2006)

Logflfp	Coef.	Std.Err.	p
Logexp	0.85	0.11	0.46
Logictexp	0.17	0.82	0.83
Logunemp	0.08	0.19	0.64
LogPolstab	-2.92	1.54	0.05
-00000logflfp	0.44	0.28	0.12
-00000logexp	-0.17	0.15	0.27
-00000logictexp	3.30	3.15	0.29
-00000Logunemp	0.19	0.49	0.68
-00000Logpolstab	2.28	3.26	0.48
Constant	-5.95	21.2	0.78
Wald chi2(4)	4.38 (0.35)		

Root mean squared error (sigma):1.85

Table 8 presents the comparative regression results obtained by adding the political stability variable to the export variables. To observe the stability of the results, this article tests the regression by adding the political stability variable instead of unemployment. (1) results are default panels (heteroskedastic) indicate a heteroskedastic fault structure with no cross-section. (2) results indicate a homoscedastic error structure with no cross-section correlation of the FGLS regression. (3) results in panels (correlated) indicate a heteroscedastic error structure with cross-section correlation. The coefficients for FGLS and PCSEs are significantly negative at the 1% statistical level. This shows that high-tech exports and political stability variables

have a negative impact on employment for this group of countries, which is consistent with the geopolitical structure of the region in question.

Table 8. Different Scenarios

	(1)	**(2)**	**(3)**
Logflfp	**Coef.**	**Coef.**	**Coef.**
Logexp	0.13	0.35	0.17
	(0.000)	(0.000)	(0.000)
Logictexp	-0.20	-4.60	-1.22
	(0.53)	(0.000)	(0.02)
LogPolstab	-0.92	-0.62	-0.14
	(0.19)	(0.58)	(0.85)
C	41.07	40.18	43.64
	(0.000)	(0.000)	(0.000)
Wald chi2(4)	18.71	150.78	19.63
	(0.000)	(0.000)	(0.000)

P values in paranthesis,
(1)FGLS results heteroskedastic, **(2)** FGLS results in homoskedastic, AR(1) and no autocorrelation;
(3) Prais Winsten results, correlated panels corrected standard errors (PCSEs)

4. Conclusion and Suggestions

The data set includes the variables of nine partner countries of the Black Sea cooperation organization (BSEC) in the period of 1999-2020. Annual individual observations are estimated with methods consisting of panel fixed effects versus panels random effects and Driscol-Kraay estimations. Hausman test results show that the random effects model is appropriate. However, ICT exports have a negative sign which is an indicator of low tech-exports for these countries.

The evidence presented in this study shows that for nine countries that are members of the Black Sea Economic Cooperation Organization, exports have a positive effect on flfp, but exports based on ict have a negative effect. In addition, it shows that unemployment has a positive effect on flfp. The negative effect of exports based on information and communication technologies means that such type of exports are disconnected from labor markets.

In conclusion, a wide variety of policies and experiences in the field of female labor force participation and an effective follow-up of these policies provide positive results. There are several research topics worth mentioning for the future. First, there may be other variables to be considered in terms of the impact of exports on employment and, in particular, women's employment. For example, compliance processes can be looked at for part-time and full-time employees or on the basis of wages and wage hours. There may be different effects according to the characteristics of the groups. Second, the impact of exports and local production on employment can be compared. The answer to this question can yield important results. In addition, wage inequality and education level variables can be included in further analysis.

Last but not least, it is concluded that political stability is important in these countries. In addition, it may be the case that women lag behind men in adapting to exports based on information and communication. This area needs support.

Reference

Acemoglu D, Autor D, Dorn D, Hanson GH, Price B. 2016. Import competition and the great US employment Sag of the 2000s. *Journal of Labor Economics* 34:1, 141–198.

Akkuş G. 2015. The effects of trade and productivity on employment in the manufacturing industry of Turkey. *İstanbul Üniversitesi İktisat Fakültesi Mecmuası* 64:2, 1-44.

Akhmedjonov A, Izgi B. 2012. Does it pay to work in the public sector in Turkey?. *Applied Economics Letters* 19:10, 909-913.

Almeida RK, Viollaz M. 2022. Women in paid employment: A role for public policies and social norms in Guatemala. *Policy Research Working Paper; No. 9919. World Bank*, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/36920

Ayhan F. 2018. Türkiye ekonomisinde ihracat, ithalat ve istihdam düzeyi ilişkisinin uygulamalı analizi. *Cankırı Karatekin University Faculty of Econ & Administrative Sciences* 8:2, 115-135.

Ayaş N, Çeştepe H. 2010. Dış ticaretin istihdam üzerindeki etkileri: Türk imalat sanayi örneği. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi* 15:2, .259-281.

Baltagi BH, Jung BC, Song SH. 2010. Testing for heteroskedasticity and serial correlation in a random effects panel data model. *Journal of Econometrics* 154:2, 122-124.

Balcılar, M., Bal, H., Algan, N. and Demiral, M., 2014. Türkiye'nin ihracat performansı: Ihracat hacminin temel belirleyicilerinin incelenmesi (1995-2012). *Ege Akademik Bakış*, 14:3, 451-462.

Becker GS, Murphy KM, Tamura R. 1990. Human capital, fertility, and economic growth. *Journal of Political Economy* 98:5, 12-37.

Bellamy C.1999. *The State of the World's Children,* Unicef, 1999.

Breusch TS, Pagan AR. 1979. A simple test for heteroskedasticity and random coefficient variation. *Econometrica* 47, 1287–1294.

Bussmann M. 2009. The effect of trade openness on women's welfare and work life. *World Development* 37:6, 1027–1038.

Başlevent C, Onaran Ö. 2004. The Effect of Export-Oriented Growth on Female Labor Market Outcomes in Turkey. *World Development* 32:8, 1375-1393.

Dikilitas B, Fazlioglu B, Dalgic B. 2021. The impact of exporting on women's employment. *International Journal of Manpower* 43:4, 926-949.

Ditzen J, Watt H. 2018. Estimating dynamic common-correlated effects in Stata. *The Stata Journal* 18:3, 585–617.

Erlat G. 2000. Measuring the impact of trade flows on employment in the Turkish manufacturing industry. *Applied Economics* 32:9, 1169-1180.

Erlat G, & Erlat H. 2003. Measuring intra-industry and marginal intra-industry trade: The case for Turkey. *Emerging Markets Finance and Trade* 39:6, 5-38.

Feenstra RC, Ma H, Xu Y. 2017. Us Export and Employment, *Nber Working Paper Series (NBER), Working Paper 24056*, http://www.nber.org/papers/w24056(e.t.08.05.2018).

Greenaway D, Hine RC, Wright P. 1998. An empirical assessment of the impact of trade on employment in the United Kingdom. European journal of political economy *European Journal of Political Economy* 15, 485-500.

ILO, 2016. *Non-Standart Employment Around the World: Understanding Challenges, Shaping Prospects,* International Labor Office, Geneva.

Karaçor Z, Saraç TB. 2011. Dış ticaret ile sanayi sektörü istihdam oranı arasındaki kısa ve uzun dönem ilişkisi: Türkiye örneği (1963-2009). *Yönetim ve Ekonomi: Celal Bayar Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi 18*:2, 181-194.

Kien TN, Heo Y. 2009. Impacts of trade liberalization on employment in Vietnam: A system generalized method of moments estimation, *The Developing Economies* 47:1, 81-103. DOI: 10.1111/j.1746-1049.2009.00077.

Kiyota K. 2011. *Trade and Employment in Japan*, OECD Trade Policy Working Papers 127,1-40.

Mincer J. 1974. Schooling, experience, and earnings, *Human Behavior & Social Institutions*, No. 2.

Messerlin PA. 1995. The impact of trade and foreign direct investment on labour market: French case, *OECD Jobs Study Working Papers*, 9, 1-38.

Narayan PK, Narayan S., Prasad B. 2008. Forecasting Fiji's exports and ımports, 2003-2020. *International Journal of Social Economics* 35:12,1005-1016.

Napoles PR. 2004. Exports, growth and employment in Mexico:1978-2000, *Journal of Post Keynesian Economics* 27(1):105-124.

Öztepe ND. 2018. Hizmetler sektörünün eğreti işlerinde kadın istihdamı ve çalışma koşulları. *Feminist Sosyal Politika: Bakım, Emek, Göç, Gülay Toksöz'e Armağan* Çağla Ünlütürk Ulutaş (Ed), ISBN 978-605-260-143:3, 171-198.

Pesaran MH. 2004. General diagnostic tests for cross-section dependence in panels, *Center for Economic Studies & Ifo Institute for Economic Research* Working Paper No. 1229.

Pesaran MH. 2006. Estimation and inference in large heterogeneous panels with a multifactor error structure. *Econometrica* 74, 967–1012.

Pesaran MH. 2007. A simple panel unit root in the presence of cross-section dependence. *Journal of Applied Econometrics* 22:2, 265-312.

Pesaran M.H. Yamagata T. 2008. Testing slope homogeneity in large panels, *Journal of Econometrics* 142, 50-93

Polat Ö, Uslu EE, Aydemir C. 2011. İmalat sanayinde dış ticaret ve istihdamın panel veri analizi, *Business and Economics Research Journal* 2:3, 161-171.

Psacharopoulos G. 1994. Returns to investment in education: A global update. *World Development* 22:9, 1325-1343.

Sen K. 2009. International trade and manufacturing employment: Is India following the footsteps of Asia or Africa?. *Review of Development Economics* 13:4, 765-777.

Tuncer İ, Coşkun N. 2021. Ürün uzayı değişkenlerinin Türkiye İBBS düzey 2 bölgelerinde büyüme dinamiklerine etkisi. *İzmir İktisat Dergisi* 36:1, 229-246.

Welsum V. and Reif X. 2006. The share of employment potentially affected by offshoring-an empirical investigation, *OECD Digital Economy Papers* 107, 1- 39.