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How Female Labor Participation And Literacy Positively Influence FDI Inflows: Empirical Evidence From OECD Countries (2011-2020)

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Abstract: *This study seeks to determine the effects of foreign direct investment inflow in the context of the female labor force participation FLFP, with special emphasis on the synchronizing variables of employment structure and female literacy. This research covers the period between 2011 and 2020 using data from the World Bank and OECD countries. It employs regression analysis alongside unit root tests and GMM in STATA 17. The study demonstrates that FLFP correlates positively, and significantly, with FDI inflows. As such, countries that have a higher female labor participation seem to attract more FDI. Thus, the inclusion of women in economic activities supports greater FDI. Moreover, the positive association is further strengthened by the empirical evidence that industries with a higher female labor concentration tend to be more favorable for foreign direct investment. In addition, higher female literacy increases the positive correlation between FLFP and FDI. This illustrates that education is fundamental to women economically. Increased literacy levels provide women with better skills, thus enhancing the competitiveness of the labor market as well as the willingness of investors. This research gives great importance to the policies related to female participation in the economy and level of literacy if the goal is to increase the amount of FDI in the region. Gender based approaches should be developed towards employment creation and education and training should be issued too. FDI should encourage firms to hire women and spend money on educating the general female populace this way the investment will yield greater economic benefits. This research contributes to the body of knowledge on gender economics, labor economics, international business, and global economic development via data demonstrating women's impact on contemporary economic phenomena.*

Keywords: *Female Labor Force Participation (FLFP); Foreign Direct Investment (FDI); Employment Industry; Literacy Rate; Economic Growth.*
JEL Classification: J08; J11; J82; F13; F21; P45

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Introduction

Any society that aims to grow and want development must encourage women to participate in the labor force so that women can also avail opportunities and contribute towards country's progress (Rizvi et al., 2023). Foreign investments are playing a huge role today in country's progress by increasing women participation in the workforce. This change is important because it not only increases the workforce of women in the society but at the same time it increases the chances for a country to receive foreign investments (Pantelopoulos, 2023a). In this study there still exits a gap in choosing the kind of industry that women should choose while participating in the workforce and how it influences direct investments from foreign countries. Despite effective benefits a country can have from foreign investments, there still exists a lack of education among the females. Little research has been done on the role of women employment in the workforce and its impact on foreign direct investments received by a country (Shin & Park, 2024a). Additionally, the role of education in employment industry and how education increases women participation in the workforce will also be explored. However, we still need to acknowledge the importance of foreign investments and their influence on women participation in the workforce by looking at various factors. This study tries to explore what kind of jobs women should do to attract foreign investors because more foreign direct investment is received if labour force contains increasing number of women. The acknowledgement of these gaps is helpful in making better and effective strategies that could be implemented leading to the development and economic progress of a country.

The rationale for this study lies in women participation in the workforce. Women participation in the employment industry increases the economy of a country along with attracting foreign investors for foreign funds. This study highlights the role of education for women. This study explores the interconnectedness among women labor force and foreign direct investments and their role in a country's economic progress. The idea behind this research is that educated workforce in a country positively influences direct investments from abroad (Osei & Kim, 2023). The significance of this study lies in female workforce participation that enhances foreign direct investments. The employment rate of women is less as compared to men, so increasing women's participation in the workforce is necessary. This also emphasizes the importance of gender equality in a society that when both men and women are working together in a society it not only increases productivity but also increases overall living standards (Andriamahery & Qamruzzaman, 2022). The study deepens knowledge on the influence of women participation in the workforce contributing positively in attracting investments. The educated women also decreases poverty graph in a society contributing towards increasing its welfare. The study also emphasizes that government should be more focused towards the literacy rate of the country. The policy makers and governments can also make laws and rules where women's right will not be discriminated, and women should be given equal right to educate themselves and can have equal opportunities and can work more effectively in the industry.

The objective of this study is to explore the relationship between women workforce

participation and its impact on foreign direct investment. The connection between these two factors and how much investment the country received from foreign countries are examined in this study. It also explores the role of employment industry and kind of employment industry women will choose and the association among participation and foreign investments. It also examines the importance of literacy existing between female labor force participation and foreign direct investments. The following research questions that are addressed in this study are:

1. To what extent does the level of the female workforce participation relate to the quantity of the foreign direct investments received?
2. Does the nature of industry in which women are employed influences the relationship between the number of foreign investments received and rate of female labor force participation?
3. What role does the women's literacy rate play in forming the relationship between the participation of women in the workforce and the foreign direct investments received?

The rest of the paper is designed as follows. Section 2 will consist of the literature review and in section 3, research methodology will be explained. After that, in section 4 data analysis will be discussed and in the final part of this study conclusion and recommendations will be mentioned.

Literature Review

Theoretical Framework

The Human Capital Theory explains how Foreign Direct Investment (FDI) relates to Female Labor Force Participation (FLFP), highlighting education and skills as pivotal in productivity (Ullah, Luo, Adebayo, & Kartal, 2024). This theory suggests that a workforce that is bright and able is more productive, making the country attractive to foreign investors. Literacy serves as a moderator, equipping women with skills needed in industries that raise their employability and productivity (Mehroush, Shaheen, Shabir, & Talha, 2024). A literate female workforce fosters innovation, efficiency, and competitiveness which are key determinants of FDI inflows (Nabi, Ahmed, Tunio, Hafeez, & Haluza, 2025). The FLFP, the female employment industry serves as a moderator enabling translating FLFP into economically productive activities. With industries offering structured employment to women, their skills and potential are maximized, leading to a more vibrant and diversified economy. This increases confidence among investors since the availability of skilled and stable personnel mitigates risks and lowers the chances of oversupply of labor (K. Wang & Tao, 2023). Countries ensuring women´s educational attainment and employment opportunities offer a favorable business environment because it reflects economic growth and stability to investors. FLFP alongside literacy and employment in engineering integrates into the Human Capital Theory that demonstrates how

investments in human resources accelerates economic development (Chien, Hsu, Zhang, & Sadiq, 2023). The sustenance of economic growth is ultimately achieved through the increased attractiveness of a nation to foreign direct investment (FDI), which is facilitated by a well-educated and employed female workforce, thus increasing economic resilience.

Foreign Direct Investment and Economic Growth

Recent literature has demonstrated FDI (Foreign Direct Investments) into various concepts, some of the researchers and scholars have discussed FDI as an ownership and having 10 percent of a country's voting right and power in the policymaking process and a level of interest in that country (Griffin & Pustay, 2020). FDI is also having a big impact on the foreign markets because it is a combination of management, capital, entrepreneurship, and technology (Assefa et al., 2023). These factors play a huge role in foreign countries because it allows the company to deliver effective products and provide services (Farrell, 2020). Previous literature on FDI discussed the two major types of FDI and these types are Horizontal Foreign Direct Investments and the Vertical Foreign Direct Investments (Mariotti, Marzano, & Piscitello, 2023). HFDI means that when a company offers the same products and services in the foreign country as well as in the host country and VFDI allows the company to expand its business into various forms and hence capturing the major number of customers to sell their products (Botric, 2021). These investments are very important for the companies because they allow them to enter new markets and the risk aversion is also very low (Osei & Kim, 2023).

In previous studies, it is mentioned that the FDI and economic growth are linked to each other, and economists examine the country's economy growth by looking at the production of the goods and services during the passage of time and that explains the country's GDP is increasing and growing (Pustay, 2019). This typically means that the country's operations are running effectively and that shows economic development and growth. In the prior studies, it has been seen that many researchers have studied the impact of the FDI on the country's economic growth by applying different methods and techniques and the results shows that FDI have a positive effect on the economic growth of the country by bringing innovative technology and providing facilities to the people of the country such as money, education efficiently (Amin, Song, & Khan, 2022). The two main types of models that have been discussed in the study are the neoclassical and the endogenous models to check the validity of the FDI in economic growth (Amin et al., 2022). However, the results varied in the different studies. One of the reasons studied by the researchers is that the type of country also plays a part for instance, developed and underdeveloped countries such as in the developed countries FDI may have a different impact on the country because of the available resources and in less developed countries FDI might have a different impact on their economic growth because of the limited resources (R. Wang, Usman, Radulescu, Cifuentes-Faura, & Balsalobre-Lorente, 2023). Another important factor is the time series because time also plays its part.

It has been proven in the previous studies that FDI has the positive impact on the

economic growth of the country, especially, when it is combined with the different factors such as investing in the human capital of the country in the field of the education and the training (Amin et al., 2022). The scholars found out that FDI contributes more because it encourages the domestic investment within the country this means that when companies came to know there was a foreign investment they invested more and hence, FDI plays a huge role in the contribution of the economic growth (Assefa et al., 2023). However, it is not easy to measure the impact of FDI on the skill levels and the education level in the human capital because of the variation in the results and hence, the conclusions can also vary. Some studies found out that economic growth increases because of the FDI but at the same time there are some conditions which must be fulfilled in order to attract the foreign investors. One of the conditions are that the company should be economically stable for instance, it should not face any economic problems such as the unstable currency and high inflation (Li, van Assche, Li, & Qian, 2022). And the country should have flexible markets so that it becomes easier for foreign investors to invest in the country. Additionally, the country's human capital, which is its skilled work force and well-educated people, are also very important for the growth (Kentor & Clark, 2023). Most of the literature in the study shows that FDI has a positive influence on economic growth but there are few cases which shows that FDI has a negative effect and in some situations, it has been observed that it has no significant effects linked towards economic growth (Osei & Kim, 2023).

Female Labor Force Participation and Foreign Direct Investment

Existing Studies on The Effect FLFP, FDI Interrelations. Econometric studies show that contributions to the Female Labor Force Participation (FLFP) have a significant impact on foreign direct investment (FDI) as a result of market's diversification, increase in productivity or innovation (Yin, Su, & Ding, 2024). Studies reveal that nations which employ women on a larger scale tend to be more competitive because they focus on foreign investment which needs skilled and diverse expertise. Other studies show that FLFP supports some socio-economic stability in the country, decreasing the intensity of labor deficits and fostering the foreign investors' trust in the long-term market's potential (Khan, Dong, Bibi, & Khan, 2023). FWLP and Its Benefits on Economic Development and Foreign Investments is striving to make the world a better place to live in, FLFP is a fundamental concept, for an increased participation in the market directly correlates to higher incomes, increased demand, and growth of economies (Gao & Fan, 2023). There is positive correlation between foreign investors and markets with integrated female workforce, where the operational risks and costs are low, and productivity is high. And also, the leading world organizations like the World Bank and the International Monetary Fund jointly with any other international financial institutions argue that in order to achieve sustainable FDI the balance of female participation needs to be considered in economic policies (Mate et al., 2023). The effect of FLFP is distinct in different industries. Women's participation within the workforce in sectors like technology, finance, and healthcare tends to be greater, which increases innovation, as well as service delivery efficiency, thus making these sectors appealing to foreign investors. However, in labor-intensive sectors like manufacturing and heavy industries, the gender gap in participation may restrict the impact of FLFP on FDI

(Khokhar, Shahid, Hafeez, & Tufail, 2024). Similarly, other service sectors where there is a high customer interaction and soft skill engagement utilize gender diversity in the workforce as an economic asset, thereby positively increasing FLFP. In general, knowledge intensive and service related industries tend to be the most sensitive to the positive repercussions of FLFP on FDI (Guo, Li, Song, & Tang, 2024).

Inward Foreign Direct Investment and Entrepreneurship

Researchers study that FDI does not focus just on economic growth but at the same time it brings various benefits towards the county such as increase in the job creation and the development in the society (Contractor, 2021). However, D. Zhang, Mohsin, Rasheed, Chang, and Taghizadeh-Hesary (2021) has found the four ways where Inward FDI affects the economy of the host country. When foreign invested firms invest in the host country the local companies try to observe their actions and practice their strategies in the firms. When foreign investors come to the country, they build strong connections with the local distributors and the suppliers and hence transferring their knowledge and skills towards the local companies and helping them to improve their work force and bringing new expertise and knowledge in the firms (Zhan, Li, Wu, Tang, & Xu, 2024). The existence of foreign companies makes the local companies work hard and compete, which overall increases the quality and efficiency. Scholars in previous studies have called these spillover effects because they transfer the skills and the knowledge from foreign firms to the local firms. Another effect studied by the researcher is the crowding effect because it forces the local companies of the country to compete with the foreign firms and build their own strong competitive advantage (C. Wang, Kafouros, Yi, Hong, & Ganotakis, 2020).

According to Danakol, Estrin, Reynolds, and Weitzel (2017) FDI has significant effect on the entrepreneurship and that effect could be linked to positive effects known as spillover effects and could also face negative effects known as crowding out effects. Spillover effects exist when foreign investors invest in the local market and local entrepreneurs learn and observe actions of foreign workers and implement the strategies on which foreign investors are working (Zhan et al., 2024). In that case, local firms got an opportunity to improve their position and can see an increase in their business growth (Knoben, Speldekamp, & Hulshof, 2023; Pathak & Chandani, 2023). Some previous studies discussed that crowding out effects may have a negative impact on the entrepreneurship because foreign firms might create barriers and challenges for the local entrepreneurs to enter the market and this is the reason why FDI might have a negative effect because it makes the new business harder to compete (Sinani & Zilja, 2024). However, some scholars argued that FDI and entrepreneurship have shown mixed empirical results because some recent studies shows that it has a positive impact which shows FDI influences entrepreneurship in a positive way and it encourages but in some studies it has been seen that there is no significant impact on the entrepreneurship and in some previous studies it is mentioned that it has negative impact on the entrepreneurship because FDI makes the local entrepreneurs discouraged and hence resulting that it influences negative relationship between FDI and entrepreneurs in the host country and further study should be

done to examine the correct relationship between these two variables (Chadha & Berrill, 2024).

Mediating Role of Female Employment Industry

Foreign Direct Investment (FDI) is often attracted by industries showing a higher rate of employment for women due to the availability of a diverse, skilled, and stable workforce (Li et al., 2022). Sectors such as healthcare, education, finance, and technology greatly benefit from the female labor force since these industries are skilled and innovative and require a high deal of customer service. While female employment is lower in manufacturing and heavy industries of skilled labor woman, these sectors are less likely to attract FDIs (Razzaq, Sharif, Ozturk, & Afshan, 2023). Foreign investors look for gender-diverse markets because they assure higher productivity, workforce stability, and sustainable businesses. According to empirical research, service-based economies with a high female employment rate receive greater FDI levels in comparison to economies rife with male-dominant industries. Research indicates that multinational companies prefer such regions that have been inclusive, employable-skilled women, and have strong policies regarding work-life balance, while these areas are more dominated by women and the effort put in is likely higher (C. Zhang, Zhang, Liu, & Du, 2024). For example, OECD reports state that nations with highly integrated female workforce in finance and technology receive high FDI, thus demonstrating economic benefit. The effectiveness of the policies on FDI is determined by how female labor participation shapes the FDI inflow (Nabi et al., 2025). Policies that improve gender equality, workplace safety, parental leave, and flexible work hours increase female labor participation and make subsequent foreign direct investment more likely. In countries investing in women's employment through progressive labor laws, there is greater investor confidence because such companies prefer to operate in efficient and regulated employment markets (K. Wang & Tao, 2023). Furthermore, policies reducing the gender pay gap and strengthening the women's role in business leadership roles promotes women employment and consequently increases the competitiveness of the industries and strengthen the mediate disregarded employment industry female FDI attraction.

The Moderating Role of Literacy

The literacy of women is one of the most important factors of economic growth and Foreign Direct Investment (FDI) because it improves skills, productivity, and innovation in the workforce. Increases in literacy rates correlates with increases in labor force participation, meaning that women can work in more sectors and industries (K. Wang & Tao, 2023). Research indicates that countries with higher female literacy rates sustain economic growth, increase the level of entrepreneurship, and are more favorable to business investment. Educated women tend to represent high value added industries which in turn advance and deepen technological innovation and business activities, thereby affecting the FDI positively (Chien, 2023). Literacy serves as a moderator that tends to strengthen the positive relationship that exists between Female Labor Force Participation (FLFP) and

FDI. female literate labor force increases a country's labor market activity and efficiency, thereby boosting the confidence of investors. With the right education and technical skills, women actively participate in knowledge-based industries such as finance, medicine, and information technology, where foreign investments are welcome. In addition, increasing literacy lowers the gender gap in employment opportunities, ensuring that FLFP results in economic growth, which in turn increases FDI (Chien, 2023). The significance of education policies in the enhancement of FDI inflows is central to understanding its influence on foreign investment. Government policies geared towards women education, skills training and digital literacy ensure that the workforce is available to meet the expectations of foreign investors (Yin et al., 2024). Policies that promote equal rights to education, vocational training, and STEM for women also facilitate the shift of economies to high growth industries, thus expanding the FDI (Khan et al., 2023). Furthermore, multinationals prefer investing in a particular region if the population is educated, as this minimizes the cost of training and increases productivity, hence making education a determinant of investment decisions.

Research Gap

One of the recent studies point out that Female Labor Force Participation has been one of the determinants of Foreign Direct Investment inflows, since this is associated with greater diversity, productivity, and economic growth. More FDI is observed to flow into countries with a relatively higher concentration of women in the labor force, as multinational firms prefer specialized and diverse markets. Besides, some sectors like technology, finance, and manufacturing, are said to perform better due to increased female employment. Women's contributions to economic development have been further enhanced because of increased opportunities brought about by the digital world and automation. However, even with the understanding of these factors contributing to economic growth, there are still research gaps that need to be addressed. There is a deficiency in any form of detailed examination as most studies focus exclusively on the general evaluation of FLFP's impact on FDI without taking into account the female employment's sectors specific influence on investment. Another important gap is literacy as a variable, which has received scant attention relative to its significance in the development of a workforce. Differentiating levels of female literacy and their effects on FLFP-FDI nexus would certainly facilitate understanding of the economics in question. Besides, there is heavy reliance on cross sectional studies which make it difficult to track changes over time and causation (Gao & Fan, 2023). Also, there is a lack of empirical investigation gauging the efficacy of policies designed to raise the level of FLFP and their impact on foreign direct investment. Filling these gaps would help clarify the female employment and literacy's effects on foreign investments and provide important information to economic policy makers and analysts.

Research Methodology

Operationalization of Variables

Foreign Direct Investment is the dependent variable that is examined in this study and hence it is a comprehensive and broader term which, so it is measure by using a proxy known as investment annual % sourced from WDI (Bilal & Shaheen, 2024). However, the independent variable in this study is the Female Labor Force Participation and it is also a wide term and its measurement can be done using a proxy female annual participation % for which the data has been collected from WDI (Mehroush et al., 2024). In this study, Female Employment Industry is mediator while Literacy Rate is moderator both of which are wide-ranging terms, So, Annual female employment rate % and Adult female % are used as proxies for Female Employment Industry and Literacy Rate, respectively. The data for all proxy variables are taken from the world bank indicators owing to the availability of the data that is available online. The control variables in this study are GDP per capita and the Urban population rate. The growth rate of the GDP is measured in the annual percent (annual %) whereas the urban population is measured in the percentage rate (%).

Sample Selection, Data Collection and Limitations

For this research study, a representative sample of the different countries is selected to investigate the relationship between the female labor force participation and the FDI, focusing on the OECD countries. Data for this research will be obtained from a sample including thirty countries belonging to OECD economies, ranging for the time of 10 years from 2014 to 2024 (Ullah et al., 2024). The selected sample is taken by looking at the varied factors such as the literacy rate and the availability of online data (Afzal, Shaheen, Razzaq, & Salam, 2024). And type of industry women will be participating will also be studied. Literacy rate of women from different countries will be examined too.

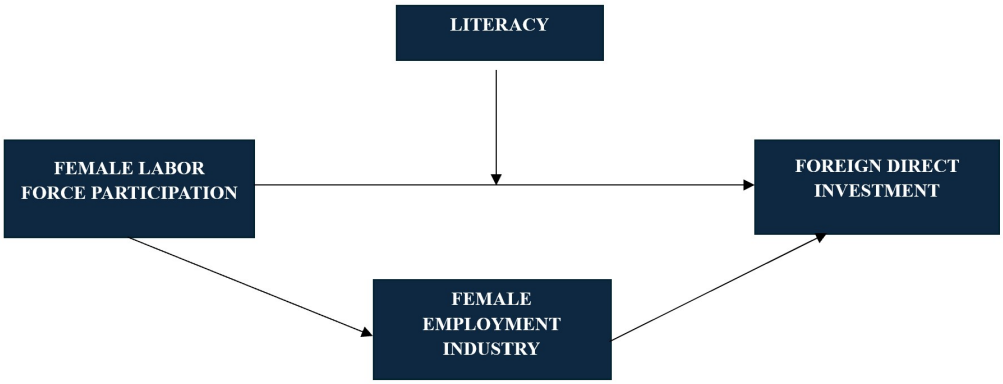
Table 1: Variables - their notations, measurements, and source

VARIABLE NAME	NOTATION	MEASUREMENT	DATA SOURCE
Foreign Direct Investment	FDI	Investment Annual %	WDI
Female Labor Force Participation	FLFP	Female participation Annual %	IEA Statistics & OECD
Female Employment Industry	FEI	Annual female employment rate %	World Bank Website
Literacy rate	LR	Adult female %	World Bank Website
Growth for the GDP	GDP	Annual percent growth %	World Bank National Accounts (WBNA) Data & the National Accounts Data Files (NADF)
Urban Population	UP	Annual growth rate %	World Bank Website, and OECD countries

The data will be collected from different online websites such as the World Bank and called the (IMF) International Monetary Fund and from the research academic databases. Some limitations that could occur in this study might be the availability of the data and the quality of the data available on the different online websites. One more limitation could be the error in the measurement such as different variables might affect the reliability and accuracy of the results.

Theoretical Model of the study

Figure 1: Theoretical Model



This model shows the relationship between the female labor force participation and its influence on the FDI. This model is adapted from the previous studies, and it shows that when women participated in the industry and joined the workforce it leads to the positive influence on the FDI (Pantelopoulos, 2023b). However, in this model educations also play a vital role because the more educated women will be in the country the chances of getting more investment from foreign investors will increase. So, education plays the role of moderator in this model. Encouraging women to participate in the workforce industry and helping them to get the higher education will attract more foreign investors and hence FDI will increase in the country.

Research Hypothesis

The research hypothesis based on the research questions in this study are:

H1: *There is a positive relationship between the female workforce participation and the amount of the foreign direct investments received.*

FDI is also having a big impact on the foreign markets because it is a combination of management, capital, entrepreneurship, and technology (Abesha, Assefa, & Petrova, 2022). These factors play a huge role in foreign countries because it allows the company to deliver effective products and provide services (Farrell, 2020). Previous literature on FDI discussed the two major types of FDI and these types are Horizontal Foreign Direct Investments and the Vertical Foreign Direct Investments (Mariotti et al., 2023). HFDI means that when a company offers the same products and services in the foreign country as well as in the host country and VFDI allows the company to expand its business into

various forms and hence capturing the major number of customers to sell their products (Botric, 2021). These investments are very important for the companies because they allow them to enter the new markets and the risk aversion is also very low (Fedyk, 2024).

H2: *The type of the industry in which women are employed mediates the relationship between the number of foreign direct investments received and the rate of the female labor force participation.*

FDI works on women's rights and improves their working conditions, increases their wages, and provides them with a variety of job opportunities (Ly-My, Le, & Park, 2024). Thus, encouraging gender equality and norms in the developing countries (Shin & Park, 2024a). The researchers study that FDI can help and reduce the negative effects that occur from natural disasters on women's rights in the affected countries (Shin & Park, 2024b). In the disaster hit countries, government may prioritize the women's right to attract the foreign investors for the economic recover (Sulaiman, Muhamad Bustaman, & Tang, 2024). The countries that show a strong commitment towards the gender equality rights and the amount of women participation in the industry tends to show that it attracts more Foreign direct investments (Odugbesan, Ike, Olowu, & Adeleye, 2022).

H3: *Female literacy rate moderates the relationship between the participation of women in the workforce and the foreign direct investments received.*

(Kanval, Ihsan, Irum, & Ambreen, 2024) found out that factors like enrollment in schools and literacy greatly impact the amount of foreign investment the country will receive. Abbas, Moosa, and Ramiah (2022) discovered that if the country is not focusing on its human capital and most of the people in the country lack education this means that country fails to receive the FDI. Babajide et al. (2023) findings highlight that literacy totally depends on skilled labor availability and this factor is very important for the Multinational Enterprises to decide whether they want to invest or not. (Zaman, Wang, & Zaman, 2021) discovered that when foreign investors invest in the host country, they bring new skills and the knowledge for the local workforce.

Empirical Models of the Study

Using basic regression equation, the empirical models of this study are:

Model 1: (Explains the relationship between the (FLFP) Female Labor Force Participation, Contribution and the Foreign Direct Investment)

$$FDI_i = \beta_0 + \beta_1 * FDI + FLFP_i + \epsilon_i$$

In this model:

- FDI_i shows that the amount of (FDI) Foreign Direct Investment received by the country i
- $FLFP_i$ represents the level of Female Labor Force Participation in country i
- β_0 here shows the intercept term
- β_1 represents the coefficient representing the effect of $FLFP$ on FDI
- ϵ_i represents the error term

Model 2: (Explains the mediation effect of the female employment industry)

$$FLFP_i = \gamma_0 + \gamma_1 FLFP + FDI_i + FLFP + \gamma_2 * FemaleEmploymentIndustry_i + \epsilon_i$$

In this model here it explains:

- $FemaleEmploymentIndustry_i$ shows the nature and kind of the industry in which women are predominantly employed in country i
- γ_0, γ_1, γ_2 are coefficients showing the effects of FDI, Female Employment Industry, and their interaction on FLFP.

Model 3: Explain the Moderation Effect of Women's Literacy Rate

$$FDI_i = \delta_0 + \delta_1 * FLFP_i + \delta_2 * LiteracyRate_i + FDI + \epsilon_i$$

In this model:

- $LiteracyRate_i$ shows us the literacy rate among women in country i
- δ_0, δ_1, and δ_3 are coefficients showing the effects of FLFP, Literacy Rate, and their interaction on FDI.

These are the basic regression equations in this study that represent the empirical models, explaining the linear relationship between the variables, allowing the estimation of the coefficients, and addressing the straightforward interpretation.

Analysis tools and Techniques

Regression analysis is the key tool that can be used in this study to explore the relationship between the female labor force participation and its impact on the FDI. At the later stage, mediator and moderator will also be studied. For the financial analysis, STATA will be used and that will explore the relation between the different variables such as examining the relationship between the participation of women in the industry and its impact on the foreign investments received from the foreign country. This study aims to conduct Correlation, Regression, Heteroscadicity, Slope of Homogeneity, Pedroni, Fixed and Random Effects and GMM tests to estimate the relationships among the studied variables (Ullah et al., 2024).

Data Analysis

Descriptive Statistics

In this section, the descriptive statistics provide the list of variables that are included in the data set. The descriptive statistics provide us with the range of the variables, standard deviation of the different variables that are being used, and the range of the minimum values and the maximum values of the variables as shown below.

The table 2 gives descriptive statistical information for the 32 countries utilized in this data are the OECD countries and the time of those countries are from 2011 to 2020. The results that are shown above show the mean of the variables and the standard deviation of the variables. The table above shows that Urban population has the highest mean and the gross domestic has the lowest mean. It has been analyzed in the table that urban population has the highest standard deviation and FDI has the lowest standard deviation.

Table 2: Descriptive Statistics

Variables	Obs.	Mean	Std. Deviation	Minimum	Maximum
ID	320	16.5	9.248	1	32
Yr	320	2016	2.877	2011	2020
FDI	320	22.95	1.74	17.328	26.96
FLFP	320	53.28	7.493	28.24	73.339
FEI	320	11.81	4.295	3.427	21.322
LRCFW	320	2.834	5.181	0.061	35.829
GDP	320	1.83	3.196	-10.149	24.475
UP	320	77.3	11.724	52.883	98.079

Matrix of correlations

This table 3 is called the matrix of correlations, and it shows the correlations among these variables. For instance, the 1 show that is has a strong positive correlation and the -1 indicates that the negative correlation and if the table shows the value of zero this means that no correlation exists between these variables.

Table 3: Matrix of correlations

Variables	FDI	FLFP	FEI
FDI	1		
FLFP	-0.087	1	
FEI	-0.294	-0.435	1

The above values show that there is no issue of multicollinearity among the variables.

Linear Regression

The below table of linear regression shows the strengths of the variables that are mentioned using the panel data for this data set. The p values play a significant role in the linear regression analysis.

Table 4: Linear Regression

FDI	Coefficients	Std. Errors	t values	p values	[95% Confidence	Interval]	Significance
FLFP	-0.08	0.017	-4.8	0	-0.112	-0.047	***
FEI	-0.167	0.023	-7.16	0	-0.213	-0.121	***
LRCFW	-0.041	0.022	-1.84	0.066	-0.085	0.003	*
Constant	29.29	1.057	27.71	0	27.21	31.37	***

Mean for dependent variables	22.952	SD for the dependent variables	1.74
R-squared values	0.153	Number of Observations for variables	320
For F-test values	18.971	Probability for the values > F	0
For the values of Akaike criteria (AIC)	1216.674	Value for the Bayesian crit. (BIC)	1231.748

*** p<.01, ** p<.05, * p<.1

Now, the above table shows that when the moderator is also added among these variables, the p values are 0 which means that there is a strong significant relationship between these variables.

Heteroskedasticity Test (BREUSCH Test and the PAGAN Test of Variables)

The heteroskedasticity examines the reliance of the variance of the error terms that are given in the model on the independent variables.

For the random effects of the variables Breusch and Pagan Test for the Lagrangian multiplier test has been applied.

Table 5: Heteroskedasticity Test

Variable of the sd. = sqrt. (Variables for values)		
FDI	3.028182	1.740167
e	0.8146586	0.902584
u	1.894453	1.376391

Test of variables: Var(u) = 0
chibar2(01) = 592.47
Probability of values > chibar2 value of variable = 0.0000

The chi-squared test's result is 0 which is less than 0.10. Hence, this shows that the coefficients are heterogenous; therefore, the null hypothesis is being rejected in this test,

and the alternative hypothesis in this test is being accepted.

XTHST & Cross-sectional Dependency Test

So, to test for the values, Testing the variables for the slope heterogeneity (Pesaran, Yamagata in the year 2008). And the Journal called the (Journal of Econometrics).

H0: slope of the values for the coefficients are homogenous.

Table 6: XTHST & Cross-sectional Dependency Test

	Delta values		**p-value of variables**		
	4.468		0.000		
adj.	5.34		0.000		
Variable	**CD-test**	**p-value**	**average joint T**	**mean ρ**	**mean abs ρ**
FDI	2.148	0.032	10.00	0.03	0.3
FLFP	14.732	0.0000	10.00	0.21	0.49

Variables partialled out: constant values of the variables

In this table, it has been shown that the above p value is 0, which means that the relationship between the above two variables is significant.

Notes: as we have seen above shows the null hypothesis for the values of the (CS) cross-section independence, and which explains the differentiation of the CD N (0,1) and it has been seen that the values of the items for the P-values close to zero indicate that the data are being correlated across panel groups of the variables. Since the p-value for the given variables, the FDI and the FLFP, is less than the value of 0.10, there is being noticed that the values cross-sectional dependence between the variables.

Slope of Homogeneity Test

There has been seen that the slope of homogeneity test for the variables is performed to examine and analyze the potential variations of the slope that explains the coefficients given in the panel data.

For the testing of the variables, the (Pesaran & Yamagata, 2024) study was used.

Table 7: Slope of Homogeneity Test

Tests	statistics	p-value
Ist group		
Delta	2.917	0.004
Adj. delta	3.766	0.000
2nd group		
Delta	2.797	0.005
Adj. delta	3.61	.0.000

The result of this test shows that the slope of homogeneity is insignificant for both the delta values showing a greater insignificance of 0.005 and 0.000 respectively. Hence, the null hypothesis for this table is rejected which means that the alternative for the hypothesis is being accepted.

Unit Root Test

Since the regression test results for the variables, the FDI and the FLFP, shows that there is an effective significant relationship having p-value less than 0.10, we will undertake Unit Root Test to further proceed our analysis.

For the examining of the values the test called the Pesaran of the (PURT) Panel Unit Root Test for the variables with the values of cross-sectional and first variable of the difference mean included for FDI variable is:

Variables for Deterministic chosen values: constant values

Dynamics values: For the variables of the (LCDG) lags criterion decision General to the Particular based on F joint test for the variables and the constants.

For the new value : H0 value test for the (HNS) (homogeneous and the new non-stationary): bi = 0 for all i , t variables of values

Table 8: Unit Root Test

Variable	CIPS	
	I(0)	I(1)
FDI	-2.6	
FLFP	-2.21	
FEI	-1.597	-2.13
LRCFW	-2.708	

The result of this shows that the CIPS for the variable FDI is greater than the critical values given at 10%, 5% and 1% respectively. This means that the series of FDI is station-

ary at the given various levels. Hence, it has been observed that the null hypothesis is being rejected for this data, and the alternative hypothesis is accepted.

For the examining of the values the test called the Pesaran of the (PURT) Panel Unit Root Test for the variables with the values of cross-sectional variables and the first variable of the difference mean of different items included for FLFPI variable is:

For the examining of the values the test called the Pesaran of the (PURT) Panel Unit Root Test for the variables with the values of cross-sectional variables and the first variable of the difference mean of different items included for FEI variable.

The result of this study shows that the CIPS for the variable D.FEI is greater among all the critical values at 10% and 5% respectively but is smaller than the critical values at 1%. Therefore, it is homogenous stationary at 10% and 5% but non-stationary at 5%. Hence, the null hypothesis is accepted at 10% and 5% but rejected at 1%.

For the examining of the values the test called the Pesaran of the (PURT) Panel Unit Root Test for the variables with the values of cross-sectional variables and the first variable of the difference mean of different items included for LRCFW variable is:

The result of this study shows that the CIPS for the variable LRCFW is greater among all the critical values at 10% and 5% respectively but is smaller than the critical values at 1%. Therefore, it is homogenous stationary at 10% and 5% but non-stationary at 5%. Hence, it has been seen that the null hypothesis is being accepted at 10% and 5% but rejected at 1% respectively.

For the Cointegration the Pedroni test for cointegration will be used

Table 9: Cointegration the Pedroni test for cointegration

	statistic data	**p-value data**
Modified Phillips-Perron t	0.5718	0.0837
Phillips-Perron t	-7.5347	0.0000
Augmented Dickey-Fuller	-14.331	0.0000

The pedroni test result shows that the p-value for the Modified Phillips-Perron t, the Phillips-Perron t and the Augmented Dickery-Fuller t is 0.0837, 0.0000 and 0.0000 respectively. This means that all are significant showing that there is cointegration within the panel. Hence, the null hypothesis is being rejected for this data, and it has been seen the alternative hypothesis is accepted for this data panel.

Regression Results

Table 10: Regression Results

FDI	Coefficients	Std. errors	t values	p values	[95% Confidence	Interval]	Sig.
FLFP	0.207	0.05	4.6	0	0.118	0.295	***
Constant	11.925	2.4	4.98	0	7.211	16.64	***

Mean dependent var	22.952	SD for the dependent variables	1.74
R-squared	0.069	Number of Observations for variables	320
F-test	21.201	Probability for the values > F	0
New, Akaike crit. (AIC)	809.62	Value for the new Bayesian, crit. (BIC)	817.157

*** p<.01, ** p<.05, * p<.1

In the above table, foreign direct investment is the dependent variable and the independent variable we used here is the participation of the female labor force in the industry. The coefficient value is 0.207 which means that the dependent variable foreign direct investment increases by 0.2077 units while the other factors remain constant. So, this positive relationship shows that the foreign direct investment is positively related to the women participation in the workforce. The constant value here in this table is 11.925. So, the regression result shows that there is a significant positive relationship between the (FDI) foreign direct investment and the female labor force participation.

Regression Results

Table 11: Regression Results

FDI	Coefficients	Std. errors	t-values	p-values	[95% Confidence	Interval]	Sig.
FLFP	0.067	0.029	2.32	0.02	0.01	0.124	**
Constant	19.359	1.573	12.31	0	16.276	22.443	***

Mean of the dependent variables	22.952	Standard deviation of the dependent variables	1.74
The values for the Overall r-squared	0.008	Values, Number of Observation given	320
Chi-square value of the variable	5.381	Value, Probability > chi^2, constants	0.02
R-square Value within the table	0.069	Values, R-squared between the variables	0.016

*** p<.01, ** p<.05, * p<.1

In the above table, foreign direct investment is the dependent variable and the independent variable we used here is the participation of the female labor force in the industry. The coefficient value is 0.067 which means that the dependent variable foreign direct investment increases by 0.067 units while the other factors remain constant. So, this positive relationship shows that the foreign direct investment is positively related to the women

participation in the workforce. The constant value here in this table is 19.359. So, the regression result shows that there is a significant positive relationship between the foreign direct investment and the female labor force participation.

Hausman (1978) Specification Test

Hausman test explains the consistency of the estimators. Basically, it decides the relationship between the random effect models and the fixed effects. So, this test is used to test the null hypothesis. And this table below gives the chi square and the corresponding p values.

Table 12: Hausman Test

Hausman Test	**Coefficient of the values**
Values, Chi-square test value of the variable	16.563
P-value of the values, items	0

The Chi square value is 16.563 and the higher this value is the higher will be the difference between the random effects and the estimate effects. So, since the p value is 0 we will reject the null hypothesis. And the result shows that the fixed effect model is more appropriate and specific for the data of the above table.

The Hausman specification test is done to find the systematic difference between the fixed effects and the random effects. The chi-square test is 16.563 with the p-value of 0.000. The smaller p-value from 0.10 shows that the result is significant which means that the (NH) null hypothesis which suggests that there is lack of systematic difference between the fixed effects, and it has been seen that the random effects, is rejected. Hence, we would prefer the fixed effects model as compared to the random effects model for the analysis of our data in this study.

GMM Test

This test is used to estimate the parameters without making the strong assumptions about the data.

Table 13: GMM Test

FDI	**Coefficient**	**Std. Errors**	**t-values**	**p-values**	**[95% Confidence**	**Interval]**	**Sig.**
L	-0.354	0.075	-4.72	0	-0.501	-0.207	***
FLFP	0.448	0.15	2.98	0.003	0.153	0.743	***

Mean for the dependent variables, items	22.989	Standard deviation for the dependent variables	1.709
Number of Observation for the variables	256	Values for the Chi-square of the variables	.

*** p<0.01, ** p<0.05, * p<0.1

The result for this GMM test has been conducted to show the significance of the effect of the FLFP on the FDI. The result shows that there is a positive relationship between the FLFP and the FDI having a coefficient of 0.448. Moreover, the relationship between them is significant owing to the p-value of 0 which is less than 0.10.

Moderation Test

Table 14: Regression Results

FDI	Coefficient	Std. Errors	t-values	p-values	[95% Confidence	Interval	Sig.
L	-0.289	0.042	-6.97	0	-0.371	-0.208	***
FLFP	0.408	0.076	5.36	0	0.259	0.557	***
interaction	0.321	0.002	0.11	0.0014	-0.003	0.003	

Mean for the dependent variables	22.989	Value of the SD dependent variable	1.709
Listed Number of observations of variable	256	Values of the Chi-square	116.515

*** p<0.01, ** p<0.05, * p<0.1

The above table shows that L has a significant negative effect on the variable FDI. While, it has been noticed that the FLFP has a positive significant effect on the variable FDI. Moreover, it has been noticed that the interaction term that exists between the L and the FLFP which is significant, which explains that the moderation exists and the FLFP does have the moderating effect on the relationship between the L and the FDI. This means that increase in literacy rates can strengthen the relationship of Female Labour Force Participation and Foreign Direct Investment Since, it is cleared from the table that the model fit is strong which explains, and it is indicated by the high significant predictors and the high chi square values.

Conclusion, Limitation, and Future research

The study examined the significance of Female Labor Force Participation (FLFP) in Foreign Direct Investment (FDI) and illustrates the importance of literacy and specific industries employment concentration to FDI. It has been observed that, with greater FLFP, productivity, innovation, and economic growth increases, which heights a country's attractiveness to foreign investors. Nonetheless, the extent of these relationships are moderated by sectoral variations and levels of literacy. As stated in this research, an effective approach for achieving these objectives is through carefully tailored education and labor policies focused on increasing female literacy as well as workforce participation. Programs that target FDI, which seek to increase employment of women in growing areas such as high tech, finance, and manufacturing, should be designed as part of the industry policy. This study examines the positive impact of women's participation in the workforce on foreign direct investment (FDI). It highlights that a higher number of women in employment attracts foreign investors, leading to increased FDI and overall economic

growth. The study provides evidence of a significant positive relationship between female workforce participation and FDI. It also emphasizes that the type of industries women are employed in plays a crucial role in strengthening this relationship. The regression analysis supports the conclusion that women's contribution to the economy is vital for attracting foreign investors. The findings suggest that promoting women's workforce participation can have a substantial effect on economic development. This is particularly relevant for policymakers, as strategies that encourage women's employment could lead to increased FDI and overall economic growth. The study underscores the importance of recognizing and enhancing women's role in the workforce as a key factor in economic advancement.

This study has several limitations. It focuses solely on OECD countries, limiting the generalizability of the results to other regions where cultural, economic, and labor market factors may differ. The study used a quantitative approach, specifically regression analysis, to examine the relationship between foreign direct investment (FDI) and women's workforce participation, excluding contextual factors that could have been explored through qualitative methods. Additionally, the cross-sectional data used may not capture how relationships between variables change over time. Other influencing factors, such as government policies and cultural constraints, may also impact women's participation in the workforce and FDI attraction. These gaps highlight the challenges related to Foreign Direct Investment (FDI) and its impact on Female Labor Force Participation (FLFP). One of the shortcomings of this research is its reliance on cross-sectional data which is not suitable for determining the cause-and-effect relationships between FLFP, FDI, literacy level, and the industries in which women are employed. Using longitudinal data in subsequent studies would be helpful also. Moreover, while literacy is examined as a mediating variable, there is not much literature on how it plays out in different cultural and economic settings. More granular variations of the specific region can yield more valuable results. Another limitation of the study is that it does not consider the intra industry differences which may determine the varying impact of FDI on female employment in different industries. There are also other gaps with regard to the effectiveness of policies because very few empirical attempts have scrutinized how education and labor policies affect FDI opportunities. By overcoming these gaps, future studies would benefit from a more holistic understanding of the central phenomena of FLFP, literacy, and FDI.

Future research can explore several aspects related to women's participation in the workforce. A key suggestion is to study the impact of women's education on economic development. Educated women are more likely to contribute to the workforce, which can positively influence foreign direct investment (FDI). Policymakers should focus on strategies to improve women's education, increasing their workforce participation and attracting foreign investors. Additionally, future studies could examine geographic and cultural factors, and the use of case studies could provide deeper insights into the relationship between women's education and FDI. This research holds value for policymakers aiming to boost economic growth. To increase FLFP's contribution to economic growth, vocational training, labor market flexibility, and gender-friendly regulations should be more sharply focused on. Tailored investment incentives for companies that pledge to employ

women can help build a more diverse and flexible economy, which, in turn, is crucial for greater FDI magnitude. Taking into account the identified gaps for future research and policy action will enable decision makers to devise a more integrated approach to tackle the challenges posed by FLFP, literacy, foreign investment in way that promotes economic development.

References

Abbas, A., Moosa, I., & Ramiah, V. (2022). The contribution of human capital to foreign direct investment inflows in developing countries. *Journal of Intellectual Capital*, *23*(1), 9–26. doi: 10.1108/JIC-06-2020-0206

Abesha, N., Assefa, E., & Petrova, M. A. (2022). Large-scale agricultural investment in ethiopia: Development, challenges and policy responses. *Land Use Policy*, *117*, 106091. doi: 10.1016/j.landusepol.2022.106091

Afzal, K., Shaheen, W. A., Razzaq, A., & Salam, A. (2024). Greening the future: A mediation analysis of green technology innovation on the relationship between green finance, environmental regulations, and ecological footprint. *Journal of Business and Management Research*, *3*(1), 835–861.

Amin, N., Song, H., & Khan, Z. A. (2022). Dynamic linkages of financial inclusion, modernization, and environmental sustainability in south asia: a panel data analysis. *Environmental Science and Pollution Research*, 1–9. doi: 10.1007/s11356-022-21145-3

Andriamahery, A., & Qamruzzaman, M. (2022). Do access to finance, technical know-how, and financial literacy offer women empowerment through women's entrepreneurial development? *Frontiers in Psychology*, *12*, 776844. doi: 10.3389/fpsyg.2021.776844

Assefa, Y., Moges, B. T., Aynalem, W. B., Azmera, Y. A., Shah, M. A., & Mohamed, A. A. (2023). Promoting facilitators' career development and workplace engagement: a missing link from the provision of adult education programs in ethiopia. *International Journal of Lifelong Education*, *42*(4), 361–374. doi: 10.1080/02601370.2023.2205678

Babajide, A., Osabuohien, E., Tunji-Olayeni, P., Falola, H., Amodu, L., Olokoyo, F., & Ehikioya, B. (2023). Financial literacy, financial capabilities, and sustainable business model practice among small business owners in nigeria. *Journal of Sustainable Finance Investment*, *13*(4), 1670–1692. doi: 10.1080/20430795.2022.2159613

Bilal, M. J., & Shaheen, W. A. (2024). Towards sustainable development: Investigating the effect of green financial indicators on renewable energy via the mediating variable. *Renewable Energy*, *221*, 119819. doi: 10.1016/j.renene.2023.119819

Chadha, P., & Berrill, J. (2024). The indirect diversification benefits of investing in japanese firms: An alternative perspective. *Asia-Pacific Financial Markets*, 1–29. doi: 10.1007/s10690-024-09397-5

Chien, F. (2023). The impact of green investment, eco-innovation, and financial inclusion on sustainable development: Evidence from china. *Engineering Economics*, *34*(1), 17–31. doi: 10.5755/j01.ee.34.1.32159

Chien, F., Hsu, C.-C., Zhang, Y., & Sadiq, M. (2023). Sustainable assessment and analysis of energy consumption impact on carbon emission in g7 economies: Mediating role of foreign direct investment. *Sustainable Energy Technologies and Assessments*, *57*. doi: 10.1016/j.seta.2023.103111

Contractor, F. J. (2021). The world economy will need even more globalization in the post-pandemic 2021 decade. *Journal of International Business Studies*, *53*(1), 156. doi: 10.1057/s41267-021-00423-0

Danakol, S. H., Estrin, S., Reynolds, P., & Weitzel, U. (2017). Foreign direct investment via m&a and domestic entrepreneurship: blessing or curse? *Small Business Economics*, *48*, 599–612. doi: 10.1007/s11187-016-9792-8

Farrell, M. (2020). *Finance & audit report to the executive board* (Tech. Rep.).

Fedyk, A. (2024). Front-page news: The effect of news positioning on financial markets. *The Journal of Finance*, *79*(1), 5–33. doi: 10.1111/jofi.13279

Gao, X., & Fan, M. (2023). Environmental taxes, eco-innovation, and environmental sustainability in eu member countries. *Environmental Science and Pollution Research*, *30*(45), 101637–101652. doi: 10.1007/s11356-023-29361-4

Griffin, R. W., & Pustay, M. W. (2020). *International business: A managerial perspective*. Pearson.

Guo, X., Li, S., Song, X., & Tang, Z. (2024). Esg, financial constraint and financing activities: A study in the chinese market. *Accounting & Finance*, *64*(2), 1637–1663. doi: 10.1111/acfi.13045

Kanval, N., Ihsan, H., Irum, S., & Ambreen, I. (2024). Human capital formation, foreign direct investment inflows, and economic growth: A way forward to achieve sustainable development. *Journal of Management Practices, Humanities and Social Sciences*, *8*(3), 48–61.

Kentor, J., & Clark, R. (2023). Is the world economy "deglobalizing"? the shifting economic geography of foreign investment (fdi) networks and its impact on economic growth, 2009–2017. In *After globalization: The future of* (p. 269).

Khan, H., Dong, Y., Bibi, R., & Khan, I. (2023). Institutional quality and foreign direct investment: Global evidence. *Journal of the Knowledge Economy*, 1–45. doi: 10.1007/s13132-023-01339-2

Khokhar, S., Shahid, M., Hafeez, S., & Tufail, M. S. (2024). The effect of perceived financial risk on purchase intention in pakistan. *International Journal of Emerging Markets*, *19*(6), 1473–1491. doi: 10.1108/IJOEM-03-2023-0456

Knoben, J., Speldekamp, D., & Hulshof, H. (2023). Managing where you are: agglomeration economies, managerial industry experience and innovation in south-east asia. *Industry and Innovation*, *30*(3), 311–335. doi: 10.1080/13662716.2022.2125643

Li, J., van Assche, A., Li, L., & Qian, G. (2022). Foreign direct investment along the belt and road: A political economy perspective. *Journal of International Business Studies*, *53*(5), 902–919. doi: 10.1057/s41267-021-00435-0

Ly-My, D., Le, T. H., & Park, D. (2024). Foreign direct investment (fdi) and environmental quality: Is greenfield fdi greener than mergers and acquisitions fdi? *The World Economy*, *47*(5), 1827–1850. doi: 10.1111/twec.13508

Mariotti, S., Marzano, R., & Piscitello, L. (2023). The divestment-reinvestment sequence in foreign countries: The role of relational vs. transactional ownership. *Long Range Planning*, *56*(2), 102306. doi: 10.1016/j.lrp.2022.102306

Mehroush, I., Shaheen, W. A., Shabir, M., & Talha, M. (2024). Pathways to ecological resilience: exploring green energy and finance for sustainable development. *Environment, Development and Sustainability*, 1–25. doi: 10.1007/s10668-024-04567-9

Nabi, A. A., Ahmed, F., Tunio, F. H., Hafeez, M., & Haluza, D. (2025). Assessing the impact of green environmental policy stringency on eco-innovation and green finance

in pakistan: A quantile autoregressive distributed lag (qardl) analysis for sustainability. *Sustainability (Switzerland)*, *17*(3). doi: 10.3390/su17031021

Odugbesan, J. A., Ike, G., Olowu, G., & Adeleye, B. N. (2022). Investigating the causality between financial inclusion, financial development and sustainable development in sub-saharan africa economies: The mediating role of foreign direct investment. *Journal of Public Affairs*, *22*(3), e2569. doi: 10.1002/pa.2569

Osei, M. J., & Kim, J. (2023). Financial development and the growth effect of foreign direct investment: Does one size fit all? *International Economics*, *173*, 276–283.

Pantelopoulos, G. (2023a). Foreign direct investment vs. foreign portfolio investment with respect to human capital: the impact of education on the host oecd countries. *Applied Economics Letters*, *30*(15), 2060–2068.

Pantelopoulos, G. (2023b). Human capital, gender equality and foreign direct investment: Evidence from oecd countries. *Journal of the Knowledge Economy*. doi: 10.1007/s13132-023-01343-4

Pathak, M., & Chandani, A. (2023). Board composition, executive compensation, and financial performance: panel evidence from india. *International Journal of Disclosure and Governance*, *20*(4), 359–373. doi: 10.1057/s41310-023-00170-1

Pesaran, M. H., & Yamagata, T. (2024). Testing for alpha in linear factor pricing models with a large number of securities. *Journal of Financial Econometrics*, *22*(2), 407–460. doi: 10.1093/jjfinec/nbad029

Pustay, M. W. (2019). Deregulating air transportation: The us experience. In *Reassessing/avail. hc. only! the mixed economy* (pp. 265–289). Routledge.

Razzaq, A., Sharif, A., Ozturk, I., & Afshan, S. (2023). Dynamic and threshold effects of energy transition and environmental governance on green growth in cop26 framework. *Renewable and Sustainable Energy Reviews*, *179*, 113296. doi: 10.1016/j.rser.2023.113296

Rizvi, S. A. A., Shah, S. J., Qureshi, M. A., Wasim, S., Aleemi, A. R., & Ali, M. (2023). Challenges and motivations for women entrepreneurs in the service sector of pakistan. *Future Business Journal*.

Shin, M. J., & Park, S. (2024a). Natural disasters, foreign direct investment, and women's rights in developing countries. *Social Science Research*, *117*, 102937.

Shin, M. J., & Park, S. (2024b). Natural disasters, foreign direct investment, and women's rights in developing countries. *Social Science Research*, *117*, 102937. doi: 10.1016/j.ssresearch.2023.102937

Sinani, E., & Zilja, F. (2024). International high-tech smes amid geopolitical pressures. *British Journal of Management*. doi: 10.1111/1467-8551.12748

Sulaiman, N., Muhamad Bustaman, N. F., & Tang, C. F. (2024). Economic growth and female labour force participation in an ageing society: evidence from southeast asia. *Applied Economics*, *56*(37), 4481–4491. doi: 10.1080/00036846.2024.2291476

Ullah, S., Luo, R., Adebayo, T. S., & Kartal, M. T. (2024). Paving the ways toward sustainable development: the asymmetric effect of economic complexity, renewable electricity, and foreign direct investment on the environmental sustainability in brics-t. *Environment, Development and Sustainability*, *26*(4), 9115–9139.

Wang, C., Kafouros, M., Yi, J., Hong, J., & Ganotakis, P. (2020). The role of government

affiliation in explaining firm innovativeness and profitability in emerging countries: Evidence from china. *Journal of World Business*, *55*(3), 101047. doi: 10.1016/j.jwb.2019.101047

Wang, K., & Tao, S. (2023). Why do chinese private enterprises seek outward foreign direct investment? *China & World Economy*, *31*(4), 200–218.

Wang, R., Usman, M., Radulescu, M., Cifuentes-Faura, J., & Balsalobre-Lorente, D. (2023). Achieving ecological sustainability through technological innovations, financial development, foreign direct investment, and energy consumption in developing european countries. *Gondwana Research*, *119*, 138–152.

Yin, Q., Su, N., & Ding, C. (2024). The nonlinear effects of digital finance on corporate esg performance: Evidence from china. *Sustainability*, *16*(18), 8274. doi: 10.3390/su16188274

Zaman, S., Wang, Z., & Zaman, Q. U. (2021). Exploring the relationship between remittances received, education expenditures, energy use, income, poverty, and economic growth: fresh empirical evidence in the context of selected remittances receiving countries. *Environmental Science and Pollution Research*, *28*(14), 17865–17877. doi: 10.1007/s11356-020-11638-7

Zhan, M., Li, S., Wu, Z., Tang, Y., & Xu, Y. (2024). State-owned economy, internet finance, and monetary policy effects in china: Can technological innovation replace institutional reform? *Emerging Markets Finance and Trade*, *60*(12), 2719–2731. doi: 10.1080/1540496X.2024.XXXXXXX

Zhang, C., Zhang, L., Liu, L., & Du, C. (2024). The study of the relationship between green finance and resource efficiency in east asian economies. *Resources Policy*, *89*, 104658. doi: 10.1016/j.resourpol.2023.104658

Zhang, D., Mohsin, M., Rasheed, A. K., Chang, Y., & Taghizadeh-Hesary, F. (2021). Public spending and green economic growth in bri region: Mediating role of green finance. *Energy Policy*, *153*, 112256. doi: 10.1016/j.enpol.2021.112256