



## **Empowering Women, Transforming Economies: The Impact of Trade Liberalization and Labor Market Dynamics on Women's Economic Empowerment in Asia**

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### **Abstract**

*This study examines the effect of liberalization on women's financial strengthening over 19 Asian nations from 1990 to 2020. Drawing upon Human Capital Theory, Gendered Institutions Theory, Segmented Labor Market Theory, and Inter-sectional Theory, the research explores how educational attainment, gender norms, labor market segmentation, and intersecting identities influence labor force participation of women. The analysis of Panel data, employing fixed effects models, examines the relationship between trade liberalization measures and key variables such as labor force participation rates, sectoral employment patterns, and wage differentials among young women aged 15-24. Empirical findings reveal significant negative associations between overall labor force participation of female and labor force participation rates of young women, moderated by increased employment in service sectors and higher amounts of female labor force participation. Cross-sectional dependence tests underscore strong interdependencies among variables, while panel unit root tests confirm the stationarity of variables over time. Moreover, the Westerlund test indicates co-integration among the variables, suggesting long-term relationships. Policy recommendations include enhancing skills development programs, promoting gender-responsive labor policies, supporting access to finance for women entrepreneurs, strengthening social protection measures, and fostering female leadership in decision-making roles. These findings underscore the imperative of integrating gender-sensitive approaches into trade and labor policies to achieve sustainable and inclusive economic growth in Asia.*

### **Keywords**

Liberalization, Women's Financial Strengthening, Asia, Labor Force Participation, Gender Norms, Skills Development, Sustainable Economic Growth

### **Introduction**

Worldwide, women's economic empowerment (WEE) is now acknowledged as one of the crucial factors that influence economic development. However, as numerous findings demonstrate, and as envisioned by the various frameworks for gender mainstreaming, women's economic empowerment remains a pipe dream in Asia. There are many barriers that women face in their working environment such as; legislation, culture, education and training all of which hamper their contribution to the economy. With regards to trade openness and labour market internationalization, such women are confronted with less work opportunities, lower wages and weak social security, thereby exacerbating their decline in labour force participation. This gap is more pronounced in Asia because women are hampered by numerous barriers when it comes to employment. It is important to note that overcoming these challenges is vital for realizing gender parity and improving the cohesiveness of the region's development (*De Haan, 2017*).

Thus, the continued discriminations in access and control of income generating activities and choices by female heads of households in Asia is a worrying situation that calls for immediate

attention. The women in this region and especially the young women have limited chances to get job opportunities and even if they get opportunity they have array of challenges that includes little access to formal learning, graduating and training, various discriminative laws and customs as well as lack access to credit and other necessary resources. This does not only contribute to gender inequality but also impacts the capability of trade liberalisation and economic development to act against poverty for sustainable development. Solving these problems is vital to enable the woman the opportunity to be an independent earner besides helping in the growth of the region's prosperity (*Randriamaro, 2009*).

Promoting the women's access to the labour market is not only a matter of improving the role of women in the society but also an effective economic policy with many implications for people, families, and societal systems. Woman's capability enhancement generates macroeconomic returns in social, health, and economic including but not limited to efficiency improvement, health improvement, and poverty reduction as postulated by *Menon and van der Meulen Rodgers (2018)*. Moreover, promotion of women's rights may prove beneficial to the economy in terms of features like a higher growth and competitiveness. To their credit, the authors stress that it is necessary to underline that supporting the women's leadership means supporting the long-term and sustainable economic growth for everyone. The nations that promote women's labor force activity can obtain a major pool of human capital, ideas and talent, thus creating more diverse and less vulnerable economies. In addition, empowered women have the propensity to invest in the families and the community at large hence leading to social and economic regeneration. That is why one mainly needs to focus on elimination of gender inequalities in learning, training, and employment opportunities as well as on promotion of WEEM.

Consequently, one of the significant hurdles to sustainable and inclusive development in Asian emerging nations involves women's economic valuation. The labor market in these regions is still characterized by gender disparities when it comes to education, training and credits, legal discriminations including culturally imposed barriers (*Samy et al. 2023*). SMEs (Small and Medium-sized Enterprises) especially those owned by women have severely high entrance and growth barriers, the major challenges being funds, technology, and networks, which hinder the ability of such enterprises to effectively compete internationally. Therefore the economic liberation of women is still very much a dream. A large number of women are in low paid, insecure and-informal employment with little access to social protection mechanisms or possibilities for career advancement. Engaging these three issues is crucial to realize WEEM and ensure the support of inclusiveness in the region's economic growth and development, as problems related to these factors in recent years have significantly propagated in Asia and affected the involvement of women in labor processes and spheres. This paper established that there has been a tendency of in formalization of labour markets with its effects manifested through rising precarious bad and low paid employment that more about women; the process has negated women's social protection and their advancement in the economic status. The female employment pattern across the region reveals that Asian women are more likely to work in the informal employment sector, which bears no social security, pensions, or other enhancements, making the plight of the women even worse.

Essentially, comprehending how in formalization affects women in the labour market and the consequences for sex- and gender-divided employment is vital to gender-sensitive economic and social policies as well as inclusive regional development policies (*Ghosh, 2009*). This paper is also going to look at the role of globalisation in gender inequality, given that the empowerment of women in the global economy is a key issue. *Akhter and Ward (2009)* note although there have been some improvements in the situation, it is apparent that women are still facing structural barriers to decent employment, income enhancement and social security. To apparent persistent gender inequalities in the labour market, the authors state that the need to enhance the understanding of gender, its relations with other dynamics such as class, race and country to improve the overall comprehension of them. They stress the imperative of reducing gaps and promoting economic growth with the involvement of all the population, based on the goals of sustainable development: goals 5, 8, and 10. Feminist postcolonial theory can help to look at various trends in gendered construct of globalisation and, thereby, strive for a more just world.

These studies thus reveal that there are severe and compounded negative effects of liberalization on women and girls, thereby aggravating the gender disparities and settings. It has worsened the gender employment and social protector deficits, political and economics

marginalization of women (*Razavi, 2009*). Integration and liberalisation of the global economy has led to social costs and penalties on women's rights and gender equality; there is therefore need to adopt embedded liberalism and put gender-sensitive economic policies into consideration. This analysis will add to this important discussion of linked factors of gender, economic empowerments and sustainable developments.

### **Problem Statement**

Although, there is general consensus that Women's Economic Empowerment is one of the key routes towards realizing economic growth and sustainable development, innovation and meaningful participation of women in Asia labor market remains a challenge. Such barriers are legal barriers, presentism or engrained social culture, lack of education and relevant skills, and lack of funding or other necessary resources. Such threats are compounded by trade liberalisation and these changes to labour market and leads to decrease working opportunities and earning capacity and weak social cover for women. The continuation of such gender inequalities not only ensures that the status of gender imbalance is maintained but is also a threat to the wider goals of poverty eradication and economic equal distribution. The fundamental challenge is that female-controlled Special Units (SUs) are not able to fund, purchase, innovate or enter into networks and global markets effectively and efficiently. In addition, it increases women's vulnerability to the risks associated with informal employment as many women are employed in precarious, unsafe, and ill-paid jobs without any social protection or perks. To attain the goals of WEEm and gender equality and inclusive growth throughout Asia, it is imperative to dismantle these multidimensional barriers. This research aims to analytically examine and explore the possible impacts arising from trade liberalisation and those regarding the labour market on women's economic equality in the area; in addition, it is hoped that adequate policy recommendations would be provided to effectively counteract these hardships.

### **Research Questions**

- I. In what ways do legal constraints and cultural prejudices affect the abilities of women in terms of economic development in Asia?
- II. In what ways does trade liberalisation impact employment and gender wage differentials among women in Asian employment marketplace?
- III. What measures can help reduce the level of women's economic vulnerability resulting from trade liberalization and labor market characteristics in Asia?

### **Objectives of the Study**

- I. To explore how discriminative policies in overall legislation and social attitudes influence Asian women's likelihoods and opportunities on the economic front.
- II. To investigate the relationship between trade liberalisation on employment and wage differentials of women in Asian countries.
- III. To find effective measures for countering the effects of trade liberalisation and the markets for labour affecting the advancement of women economically in Asia.

### **Hypothesis of the Study**

- Strengthening legal barriers and cultural practices erode women's economic enrolment and agency in Asia.
- Trade liberalisation has a negative impact on employment opportunities and wage-disparity of women in Asian labour markets.
- Lack of education and training opportunity ensures that gender discrimination in economic activity is rife in Asia.

### **Research Gap**

Despite increasing attention to WEEm in Asia, there remains a significant gap in understanding:

1. How the structures of discrimination that exist both in laws and normative public attitudes diminish and constrain women's prospects for economic engagement across the regions of Asia.
2. How exactly trade liberalisation makes the disparities and wage differentiation for women across several industries in the Asian countries even worse.

### **Literature Review**

These are the latest empirical works covering our topic of interest.

*Razavi (2009)* examined the gendered impacts of liberalization, arguing for a more embedded form of liberalism that considers social and gender inequalities, using a qualitative approach drawing on

literature review and case studies from various countries, including those in Asia. The study found that liberalization has led to increased gender inequality in the labor market, with women facing precarious work conditions and limited social protection.

**Kabeer (2011)** contextualised women's economic empowerment (WEEem), saying that it is an essential component of gender equality and sustainable development. According to the study, a variety of variables influence WEEem, including education, access to finance, and social norms, and that strategy to encourage empowerment must be customised to unique situations.

**Duflo (2012)** explored the link between the role of women and prosperity, arguing that women's empowerment is critical to economic progress. The author used Ordinary Least Squares (OLS) and Instrumental Variable (IV) estimation methods to determine the ways through which the women's empowerment (WEm) is a determinant in enhancing the economic and social development.

**Rustagi et al. (2013)** examined the transition and challenges faced by women in South Asian workplaces where they state that women's economic participation is decisive in the achieving gender and economic justice and development. Using forty-three qualitative case studies and forty-four field interviews the study brought out the barriers and challenges to women's achievement in South Asia.

**Kagy (2014)** reviewed possibilities for female labour market and their impact on the authority to decide on family matters. The study used OLS method to determine the extent to which the labour market influences domestic violence and controlled for other factors. This paper established that labor market opportunities and household decision making are inversely related to incident and prevalence of domestic violence.

**Klugman (2016)** investigated the potential contribution of trade to gender equality within the context of the 2030 Agenda, proposing that trade may be an effective strategy for achieving gender equality and WEEem. The study investigated the possible influence of trade on gender equality and concluded that trade may have both positive and negative effects on gender equality depending on countries, emphasizing the need of gender-sensitive trade policies and agreements.

**Fitzgerald et al. (2018)** explored the potential of trade to empower women economically. The study examines the impact of trade on the economic empowerment of women across over 100 countries between 1995 and 2016. The findings show that consequences of trade on WEEem, depend on the laws and agreements in place.

**Roberts and Mir Zulfiqar (2019)** focused on the political capacities of women's entrepreneurial programmes in Pakistan to argue that these activities regularly expand gender and class bias. Using data from field research and interviews with female entrepreneurs and policy-makers in Pakistan by year 2015–2018, It emerged from the study that women's entrepreneurship seems to reinforce gender and class inequalities.

**Topal (2019)** looks into the possibility that economic liberalisation can enhance women's economic power in Saudi Arabia. Applying case study analysis the results suggest that economic changes have promoted the women's labour force attachment and economic enfranchisement.

**Hafeez et al. (2020)** analysed the effects of Information and Communication Technology (ICT) on WEm in selected South Asian nations, contending that ICT promotes women's economic and social emancipation. Using a panel data set from 2005 to 2018 in four countries: Pakistan, India, Bangladesh, and Sri Lanka they applied Autoregressive Distributed Lag (ARDL) model to find the short- and long-term links between ICT and WEm.

**Kelkar (2020)** explored the relationship between gender, productive assets, women employability and economic security and productivity in Asian countries. The study payed specific attention to how female inequality in accessing productive assets need to be eradicated.

**Mishra et al. (2020)** looked at the link between women's progress, gender equality, and economic growth in 30 Asian nations, claiming that WEm is a crucial driver of economic success. Using panel data collection from 30 Asian countries between 1990 to 2017 and applying Generalized Method of Moments (GMM) estimation approach, the results show that gender equality and women's empowerment have a significant positive impact on economic growth.

**Pimkina & de la Flor (2020)** explored the factors impacting women employment rate. Using data from 150 nations (1990–2018) and applying Pooled Ordinary Least Squares, evidences show that, education, availability of childcare and flexible labour market laws exert a positive impact on women's employment status in the labour force.

**Salem (2020)**, Salem claimed that the World Bank approach to women's empowerment in the Global South involve using of legislative reforms that perpetuate dominant development discourses and image of womanhood. Using critical discourse analysis to look at how the World Bank's language on WEm reinforces neoliberal and patriarchal ideals the findings indicate that the World Bank's approach to women's empowerment is misguided, prioritizing economic growth above gender equality and promoting detrimental gender stereotypes.

**Solotaroff et al. (2020)** looked at the barriers to Women employment in Sri Lanka stating that a focus on women's opportunities is crucial to achieving sustainable economic development. Utilizing OLS the outcomes tell that eradicating gender stereotyping, increasing access to childcare and transport, and endorsing flexible work options positively influence women's labour force participation.

**Heintz (2021)** investigated the retarded growth of WEEm, contending that labour markets fail women despite decades of improvement in education and health. Using descriptive and analytical approaches the study concludes that women confront considerable challenges to economic empowerment, such as discrimination, uneven pay, and unpaid care work.

**Kabeer (2021)** established the interconnection between gender equity, development inclusiveness, and employment. Using critical feminist approach the study showed that the advancement of women's economic status is important for developing sustainable, equal societies.

**Karmakar and Jana (2021)** investigated the role of women in the BRICS countries (Brazil, Russia, India, China, and South Africa) in defining the future world long-term economic growth and development. The results show that investing in women's education and labor market participation, support long-term economic growth having a positive impact on economic development.

**Ayenagbo (2022)** focused on globalisation impact on WEm as well as aspects related to maternal health in Sub Saharan Africa (SSA), arguing that globalisation may be boon or bane to women's economic enfranchisement. Using data from 30 SSA nations from 2000 to 2019 and employing OLS the author revealed continuity reinforcement of positive globalisation effects on women's power that enhance maternal health.

**Naveed et al. (2023)** studied the link between women's economic rights and economic development, contending that empowering women is critical to attaining long-term economic success. Employing panel data regression analysis (Fixed Effects) the findings indicate that women's economic rights have a beneficial influence on economic development and that investing in women's empowerment may contribute to long-term economic growth.

**Ahmad et al. (2024)**, investigated the effect of the digital economy on female employment; thus, the authors found the possibilities of the digital economy for women's economic liberation. Using panel data; from 50 nations for the period between 2010-2020 and applying Generalised Method of Moments (GMM) they concluded that the digital economy has positive effects on female employment and female economic literacy to make women economically empowered by improving digital prepares.

**Sulaiman, Chi, & Lee (2024)** investigated the relationship between economic development and women's employment in Southeast Asia region with focus on issues such as aging population. Using Generalised Method of Moments the study reveal that the process of economic growth has a positive impact on women employment rate however this advantage is compensated by the old age population issues.

## **Theoretical Framework**

### **Human Capital Theory**

This theory presupposes that through investment in education and training human capital boosts the productivity and economic efficiency (**Becker, 1991; Schultz, 1961**). In the context of women's economic empowerment in Asia amidst trade liberalization, this theory suggests that:

- A primary investment to enhance women's capability to participate in economic activities is education and skills as asserted by **Kabeer (2003)** and **Razavi (2012)**.
- Investments in women's human capital in the area of education, training, and experience enhance their productivity and earning capacity (**Mincer, 1975; Psacharopoulos & Patrinos, 2018**).
- Trade liberalisation generates new opportunities for women's education as well as training especially in the export sector (**Joekes & Weston, 1994**).

### **Extensions of the Theory**

- Human capital investment on women means job availability, better pay, and effective access of women to economic resources (**Kabeer, 2003; Razavi, 2012**).
- Education and training in entrepreneurship programmes may improve women's ability to undertake the objectives of trade liberalisation and engage in entrepreneurial activities (**Brush et al., 2009; Minniti & Nardone, 2007**).
- Enhanced use of the internet & communications technology can also increase women's participation in the labour market (**Hafkin & Taggart, 2002; Razavi 2012**).
- Women's human capital investments can have positive spill over effects for their family and community and thus aids in the growth of the economy (**Schultz, 2003 and Razavi, 2012**).

### **Gendered Institutions Theory**

This theory looks at how institutions, formal and informal, regulate masculinity and femininity and impact upon female's employment prospects (**Charrad, 2001; Ehrhart, 2023**). In the context of women's economic empowerment in Asia, this theory suggests that:

- Men are privileged over women in the existing legal frameworks, economic and social policies and employment regulations (**Kabeer, 2003; Razavi, 2012**).
- These institutions deprive women of education, training, and economic capabilities, thus hampers women's economic enfranchisement (**Wong, 2012**).
- Gendered institutions thereby determine the kind of jobs to offer women and usually, places them in low wage, low skill jobs (**Joekes & Weston, 1994**).

### **Extensions of the Theory**

- The roles of gendered institutions may well impact the gendered nature of women's entrepreneurial pursuits; the informal institutions may limit women's access to credit and markets (**Brush et al., 2009**).
- Gender role systems can bring about negative employment bias; women are barred from promotion (**Minniti & Nardone, 2007**).
- Gender based-violence is also contained in formal institutions and this impacts women's economic status (**True, 2012**).

### **Segmented Labor Market Theory**

According to this theory, employment is segmented along certain parameters such as gender, with each segment characterized by different features regarding labor market employment, as postulated by Doeringer and **Piore (2020)** and **Piore (1972)**. In the context of trade liberalization and women's employment, this theory suggests that:

- Employment is divided into primary and secondary sectors, the primary having better pay and improved conditions for employees according to **Piore (1972)**.
- Women are affected by the secondary sectors which deal with low wages, minimal or no bonuses, and insecure employment (**Becchio, 2019**).
- This disadvantage is the fact that opening up of international trade actually widens the gap between skilled and unskilled labour and increases gender based occupational differentiation (**Wood, 1991**).

### **Extensions of the Theory**

- Significance: Trade liberalisation affects the sectoral distribution of women's employment with women being channelled to export orientated industries (**Joekes & Weston, 1994**).
- Wages and working conditions in these sectors are usually low and this compounds the gender disparities (**Becchio, 2019**).
- Employment segmentation by sex may decrease women's opportunities to get higher paid positions and promotions (**Minniti & Nardone, 2007**).

### **Intersectionality Theory**

This theory studies the ways in which two or more categories of social structure (sex, education, class, etc.) influence the opportunities and odds of one or more categories of people within the system of employment (**Crenshaw, 2013; McCall, 2005**). In the context of women's economic empowerment in Asia, this theory suggests that: In the context of women's economic empowerment in Asia, this theory suggests that:

- From the cross-section of education and employment, the authors establish that employment area contributes to the gendered economic consequences and that educated female workers are more likely to prosper in employed sectors (*Mammen & Paxson, 2000*).
- Socio-economic class in combination with gender determines women and girls rights to education and Employment (*Kabeer 2003*).
- The structure of gender and class or ethnic and other intersectional bodies of identity impacts on women's experiences of discrimination and marginalization in the labor market (*Beneria & Floro, 2006*).

#### **Extensions of the Theory**

- Women's entrepreneurial decisions are dependent on intersectionality, some have higher chances of success and some have more obstacles to meet (*Brush et al., 2009*).
- There is need to consider intersectional identities in policy interventions if a solution to gender based inequalities in the labour market is to be found (*True, 2012*).

#### **Methodology**

##### **Data Sources**

The data for this analysis were collected from World Development (WDI). Cross-sectional and panel data of 19 selected Asian countries were used, where variables for women economic status and trade openness were employed.

##### **Methodology Used**

**Panel Data Analysis:** Panel data methods were employed to analyse the relationship between trade liberalisation and WEEm in Asian countries.

**Fixed Effects Model:** A fixed effects model was adopted to deal with the issue of endogeneity across countries. This model proves useful in dealing with any potential problem of time-invariant country-specific effects on both the independent and dependent variables.

##### **Specification of Model**

##### **Dependent Variable**

The dependent variable in this study is young women's labour force participation rate by age 15-24 years which is depicted by labour force indicator, laborf15; female population percentage.

##### **Independent Variables**

1. **Labor Force Participation Rate (Labour):** Women's labour force participation rate (percentage of female population).
2. **Employment in Services (ES):** The percentage of women employed in the service industry.
3. **Female to Male Labour Force involvement Rate (RM):** The ratio of female to male labour force involvement.
4. **Wage and Salaried Workers (WSK):** The percentage of women employed in wage and salaried occupations.

##### **Description of Variables**

- **Laborf15 (Labour Force Participation Rate for Females years 15-24):** This indicator tracks the proportion of young women (years 15-24) who work.
- **Labor (Labour Force Participation Rate):** This metric depicts the entire female labour force participation rate across all age categories.
- **ES (Employment in Services):** The percentage of female workers engaged in the service industry.
- **RM (Ratio of Female to Male Labour Force involvement Rate):** Displays the relative involvement rates of women and men in the labour force.
- **WSK (Wage and Salaried Workers):** Reflects the percentage of female workers engaged in wage and salaried employment.

##### **Estimation Technique and Results**

##### **Estimation Method**

To investigate the influence of trade liberalisation on WEEm in Asia, panel data were analysed using a fixed-effects model. The model accounts for unobserved country-specific variability and enables for a thorough examination of the connection between trade liberalization-related independent factors and the dependent variable, labour force participation rate among young women (ages 15-24).

**Model Specification**

The fixed-effects model is specified as follows:

$$\text{Laborf15it} = \beta_0 + \beta_1 \text{Laborit} + \beta_2 \text{ESit} + \beta_3 \text{RMit} + \beta_4 \text{WSKit} + \mu_i + \epsilon_{it}$$

Where:

- Laborf15it is the labour force participation rate of young women (ages 15-24) in nation i at time t.
- Laborit shows the female labour force participation rate.
- ESit represents the proportion of female employment in the service sector.
- RMit represents the ratio of female to male labour force participation rates.
- WSKit shows the percentage of female employees in wage and salaried roles.
- $\mu_i$  accounts for fixed impacts unique to each country.
- $\epsilon_{it}$  is the incorrect term.

**Results**

**Panel Data Analysis Results**

**Table 1: Descriptive Statistics**

| Variable | Obs | Mean   | Std. Dev. | Min    | Max     |
|----------|-----|--------|-----------|--------|---------|
| laborf15 | 570 | 38.507 | 16.146    | 10.368 | 83.344  |
| labor    | 570 | 39.894 | 9.667     | 12.465 | 52.74   |
| es       | 570 | 37.421 | 17.485    | 6.276  | 76.693  |
| rm       | 570 | 66.55  | 21.714    | 15.397 | 105.623 |
| wsk      | 570 | 39.691 | 19.743    | 4.385  | 79.864  |

The variables have the following descriptive statistics: laborf15 has a mean of 38.507 and ranges between 10.368 and 83.344; labor has a mean of 39.894, ranging from 12.465 to 52.74; es has a mean of 37.421 with a range from 6.276 to 76.693; rm has a mean of 66.55 and ranges from 15.397 to 105.623; and wsk has a mean of 39.691, ranging from 4.385 to 79.864.

**Table 2: Matrix of correlations**

| Variables    | (1)    | (2)   | (3)   | (4)   | (5)   |
|--------------|--------|-------|-------|-------|-------|
| (1) laborf15 | 1.000  |       |       |       |       |
| (2) labor    | 0.671  | 1.000 |       |       |       |
| (3) es       | 0.003  | 0.371 | 1.000 |       |       |
| (4) rm       | 0.710  | 0.978 | 0.350 | 1.000 |       |
| (5) wsk      | -0.058 | 0.296 | 0.859 | 0.296 | 1.000 |

The matrix of correlations reveals that laborf15 and rm are highly correlated (0.710), while es is strongly correlated with wsk (0.859). Laborf15 has a moderate positive correlation with labor (0.671) and rm (0.710), but a weak correlation with wsk (-0.058).

**Table 3: Average correlation coefficients & Pesaran (2004) CD test**

| Variable | CD-test | p-value | corr   | abs(corr) |
|----------|---------|---------|--------|-----------|
| laborf15 | 24.100  | 0.000   | 0.336  | 0.707     |
| labor    | -2.850  | 0.004   | -0.040 | 0.556     |
| es       | 53.640  | 0.000   | 0.749  | 0.846     |
| rm       | -2.880  | 0.004   | -0.040 | 0.543     |
| wsk      | 35.460  | 0.000   | 0.495  | 0.618     |

Notes: Under the null hypothesis of cross-section independence  $CD \sim N(0,1)$

The Pesaran CD test results show significant cross-sectional dependence in the variables laborf15, es, and wsk (p-values < 0.01), with high average correlations for es (0.749) and wsk (0.495). Labor and rm show less cross-sectional dependence, but still significant (p-values < 0.01).

**Table 4: Regression Results, FE**

| laborf15           | Coef.    | St.Err. | t-value              | p-value | [95% Conf Interval] | Sig |
|--------------------|----------|---------|----------------------|---------|---------------------|-----|
| Labor              | -1.218   | .171    | -7.12                | 0       | -1.554 -0.882       | *** |
| Es                 | -.578    | .03     | -19.26               | 0       | -.637 -.519         | *** |
| Rm                 | 1.235    | .094    | 13.16                | 0       | 1.051 1.42          | *** |
| Wsk                | -.062    | .031    | -1.99                | .047    | -.123 -.001         | **  |
| Constant           | 28.988   | 2.981   | 9.72                 | 0       | 23.133 34.844       | *** |
| Mean dependent var | 38.507   |         | SD dependent var     |         | 16.146              |     |
| R-squared          | 0.759    |         | Number of obs        |         | 570                 |     |
| F-test             | 430.297  |         | Prob > F             |         | 0.000               |     |
| Akaike crit. (AIC) | 2819.771 |         | Bayesian crit. (BIC) |         | 2841.499            |     |



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

The fixed effects regression results indicate that labor, es, and wsk have significant negative impacts on laborf15, while rm has a significant positive impact. The model explains 75.9% of the variance in laborf15 (R-squared = 0.759), and the F-test confirms the model's overall significance ( $p < 0.01$ ).

**Table 5:**

“**Pesaran's test** of cross sectional independence = -2.064, Pr = 0.0390

Pesaran's test of cross-sectional independence (-2.064) with a p-value of 0.0390 indicates significant evidence of cross-sectional dependence in the panel data.

**Table 6:**

**Friedman's test** of cross sectional independence = 21.289, Pr = 0.2651

Friedman's test of cross-sectional independence (21.289) with a p-value of 0.2651 suggests that there is no significant evidence of cross-sectional dependence in the panel data.”

**Table 7:**

“**Frees' test** of cross sectional independence = 2.903

Critical values from Frees' Q distribution

alpha = 0.10 : 0.0861

alpha = 0.05 : 0.1119

alpha = 0.01 : 0.1598

Frees' test of cross-sectional independence (2.903) exceeds the critical values at all significance levels (0.10, 0.05, 0.01), indicating strong evidence of cross-sectional dependence in the panel data.”

**Table 8: Pesaran Panel Unit Root Test with Cross-sectional and First Difference Mean Included**

| Variable | Transformation   | CIPS/CIPS* | N,T    | Critical Value (10%) | Critical Value (5%) | Critical Value (1%) |
|----------|------------------|------------|--------|----------------------|---------------------|---------------------|
| laborf15 | Level            | -2.579     | 19, 30 | -2.110               | -2.200              | -2.380              |
| labor    | Level            | -1.466     | 19, 30 | -2.110               | -2.200              | -2.380              |
| D.labor  | First Difference | -3.531     | 19, 29 | -2.110               | -2.200              | -2.380              |
| es       | Level            | -1.882     | 19, 30 | -2.110               | -2.200              | -2.380              |
| D.es     | First Difference | -4.284     | 19, 29 | -2.110               | -2.200              | -2.380              |
| rm       | Level            | -0.821     | 19, 30 | -2.110               | -2.200              | -2.380              |
| D.rm     | First Difference | -3.466     | 19, 29 | -2.110               | -2.200              | -2.380              |
| wsk      | Level            | -1.187     | 19, 30 | -2.110               | -2.200              | -2.380              |
| D.wsk    | First Difference | -3.466     | 19, 29 | -2.110               | -2.200              | -2.380              |

The Pesaran Panel Unit Root Test results show that the variables laborf15, D.labor, D.es, D.rm, and D.wsk are stationary at their levels or first differences (CIPS values exceed critical values, rejecting H0). However, the variables labor, es, rm, and wsk are non-stationary at their levels (CIPS values do not exceed critical values, failing to reject H0).

**Table 9: Westerlund test for cointegration**

H0: No cointegration                                          Number of panels                                          = 19

Ha: Some panels are cointegrated                                          Number of periods                                          = 30

Statistic p-value

Variance ratio

-2.3671    0.0090

The Westerlund test for cointegration rejects the null hypothesis of no cointegration (p-value = 0.0090), indicating that some panels are cointegrated. The significant variance ratio statistic (-2.3671) supports the presence of a long-term equilibrium relationship among the variables across the panels.

Table 10: (Dynamic) Common Correlated Effects Estimator - (CS-ARDL)

| Root MSE              | =      | 0.81     |         |       |           |           |
|-----------------------|--------|----------|---------|-------|-----------|-----------|
| CD Statistic          | =      | -2.28    |         |       |           |           |
| p-value               | =      | 0.0224   |         |       |           |           |
| D.laborf15            | Coef.  | Std.Err. | z       | P>z   | [95%Conf. | Interval] |
| <b>Short Run Est.</b> |        |          |         |       |           |           |
| <b>Mean Group:</b>    |        |          |         |       |           |           |
| L.laborf15            | -0.632 | 0.115    | -5.490  | 0.000 | -0.858    | -0.406    |
| labor                 | -4.119 | 3.701    | -1.110  | 0.266 | -11.372   | 3.134     |
| es                    | 0.013  | 0.095    | 0.130   | 0.895 | -0.173    | 0.198     |
| rm                    | 2.104  | 1.211    | 1.740   | 0.082 | -0.270    | 4.478     |
| wsk                   | 0.166  | 0.078    | 2.120   | 0.034 | 0.012     | 0.320     |
| <b>Adjust. Term</b>   |        |          |         |       |           |           |
| <b>Mean Group:</b>    |        |          |         |       |           |           |
| lr_laborf15           | -1.632 | 0.115    | -14.160 | 0.000 | -1.858    | -1.406    |
| <b>Long Run Est.</b>  |        |          |         |       |           |           |
| <b>Mean Group:</b>    |        |          |         |       |           |           |
| lr_es                 | -0.016 | 0.056    | -0.290  | 0.771 | -0.125    | 0.093     |
| lr_labor              | -3.207 | 2.927    | -1.100  | 0.273 | -8.944    | 2.529     |
| lr_rm                 | 1.537  | 0.930    | 1.650   | 0.098 | -0.286    | 3.359     |
| lr_wsk                | 0.103  | 0.050    | 2.060   | 0.039 | 0.005     | 0.201     |

The Common Correlated Effects (CCE) Estimator using the CS-ARDL (Cross-Sectional Autoregressive Distributed Lag) model shows that lagged labor force participation (L.laborf15) has a significant negative impact on current labor force participation in both the short run (-0.632) and long run (-1.632). The variable wsk (likely representing skills or knowledge) has a significant positive impact in both the short run (0.166) and long run (0.103). Other variables such as labor and rm have non-significant effects in both short and long runs. The model has moderate explanatory power ( $R$ -squared = 0.30) and indicates cross-sectional dependence (CD statistic p-value = 0.0224).

### Conclusion

Lastly, this research aimed to investigate a sensitive correlation, relative to Asian countries, between trade liberalisation and women's economic status, based on panel data framework to analyse the necessary factors including labour force and wages and employment. The study brings out the following important discoveries on how trade policies affect gender relations in the employment sector. First, the evaluation shows that despite the optimistic impact that the trade liberalisation has brought about the promotion of per capita income and employment opportunities; in Asia it lacked gender sensitivity. Some of the problems that still exist for women include; women still earn less than men, with more women being employed in the vulnerable sectors or the sectors that are informal and which are not protected by the formal job market. Secondly, the research findings showed that there is an interaction between trade policies and gender-specific labour market consequences. The extent to which the characterizations of female and male labour force participation rates, proportion of service industries' employment, and wage differences to measures of trade liberalization also fluctuates. This underlines the critical of special type of interventions aimed to reduce gender gaps and provide equal opportunities in economy for women. Furthermore, the results produced in the study call for the consideration of gender perspective as part of the approaches to trade and labour policy. Creating programmes that are focused on building women's capacity, improving their access to credit facilities, promoting reasonable wage policies, and strengthening the protection of social rights can be regarded as endeavours that contribute to the enhancement of women's economic status during trade liberalisation. In conclusion, the theme stands as one of the social justice initiatives in the advancement of women and a requisite for Asia's economic development. Thus, as with any other policy tool or strategy, policy makers across the region's different economies can use trade liberalisation for pro-growth and pro-equity change where they focus on inclusive policies and policies that address gender-specific barriers. Therefore, this study contributes the crucial knowledge toward the on-going gender equality and economic growth discourse by stressing the necessity of viewing and implementing gender policies within a broader policy context in pursuit of inclusive and sustainable economic growth.

### Policy Suggestions

The following policy measures should be taken:

- **Enhance Skills Development Programs:** Launch targeted training and skill development programs that would focus on the improvement of women's qualification in the sectors impacted by trade liberalization. This can also encompass receiving training for a vocation, business skills and even data literacy among others.
- **Promote Gender-Responsive Labor Policies:** It is crucial to set and apply policies that protect equal remunerations for both genders, non-warefares discrimination, and recruitment and/or promotions, proper and equal paid leaves for mothers and fathers. It would help develop equality among job seekers in the labor market sphere.
- **Support Access to Finance:** Provide easy and cheap funds together with appropriate financial products targeted at women business persons and employees. This can include micro-finance, women entrepreneurs and promoting politechniques to encourage banks and other institutions to provide credit facilities to women.
- **Strengthen Social Protection Measures:** Extend social protection initiatives of the state that targets women workers especially those in the informal employment. This might comprise of expanding coverage of health insurance, maternity leave, and pension plans.
- **Advocate** for women in leadership and inclusion in the formulation of trade and labour policies. These can be achieved by quotas, mentorship, and promotion and development initiatives at senior ranks.
- **Policies aimed at reversing gender inequalities** and rebuild women's employment opportunities must embrace data collecting and research especially with trade liberalisation. This was to enable policy making that responds to available evidence and monitoring and evaluation over time.
- **Foster Regional and International Cooperation:** Participate in regional fora and cooperate with other regions as a way of learning and sharing with other members on ways of implementing women's economic aspects. These can involve collaborative research endeavours, exchange of knowledge and information as well as policy co-cooperation initiatives.

#### **Acknowledgements**

**Conflict of Interest Statement:** By submitting this manuscript, I represent and warrant that it is my original work, has not been accepted for publication anywhere, or is currently undergoing review elsewhere.

**Declaration of interests:** The authors affirm that none of the work disclosed in this study may have been influenced by any known conflicting financial interests or personal ties.

**Acknowledgement:** I express my gratitude to Dr. Saima Sarwar, my supervisor, for her invaluable counsel, encouragement, and support during this project. Her expertise and direction shaped my work. I also like to express my gratitude to the faculty and staff of Government College University (GCU) Lahore's Department of Economics for setting up a conducive research atmosphere. The facilities and resources needed for this research were provided by GCU Lahore.

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