



Research Article

## Examining Factors Affecting Labor Force Participation: Global Economic Analysis

**Md. Ashraful Amin<sup>1, 3\*</sup>; Md Amirul Islam<sup>1, 3</sup>; Abdul Kader Jelane<sup>2</sup>; Umme Sumaia<sup>2</sup>**

1. Department of Sanskrit, University of Rajshahi, Rajshahi-6205, Bangladesh.
2. Department of Islamic History, University of Rajshahi, Rajshahi-6205, Bangladesh.
3. Institute of Natural Resources Research and Development, Rajshahi-6206, Bangladesh.

Corresponding Author: Email: [asrafulamin43@gmail.com](mailto:asrafulamin43@gmail.com) (Md. Ashraful Amin).



Copyright © 2024 by Authors, Published by HISTORICAL: Journal of History and Social Sciences. This is an open access article under the CC BY License <https://creativecommons.org/licenses/by/4.0/>

Received : April 25, 2024

Revised : May 14, 2024

Accepted : June 02, 2024

Available online : July 01, 2024

**How to Cite :** Amin, M. A., Md Amirul Islam, Abdul Kader Jelane, & Umme Sumaia. (2024). Examining Factors Affecting Labor Force Participation: Global Economic Analysis. *HISTORICAL: Journal of History and Social Sciences*, 3(2), 96–109. <https://doi.org/10.58355/historical.v3i2.111>

**Abstract.** Utilizing econometric modeling and data from thirty-three observations, the study investigates how important economic variables affect LFPR. GDP growth, the FDI ratio, inflation, and trade ratios are among the variables. The findings show a relationship between long-term fixed rate mortgages and foreign direct investment (FDI), but not between total lending. The effects of inflation and GDP growth are less evident. The study highlights the complexity of labor market behavior modeling while taking into account potential problems with econometric models, such as

heteroscedasticity and autocorrelation. The results also significantly close knowledge gaps in the economic dynamics underlying labor force participation and provide policymakers with recommendations for improving the efficiency and inclusivity of the labor market. The analysis's conclusions show that all the various social, demographic, and economic factors that affect labor force dynamics must be taken into account when creating policy.

**Keywords:** Labor Market, FDI, GDP, LFPR

## INTRODUCTION

One of the most important social and economic indicators is the labor force participation rate. It also alludes to societal and economic patterns. Global job marketplaces have changed as a result of new technology and recent demographic upheavals. For researchers, economists, and policy makers to create long-term plans for labor participation that is sustainable, this is crucial. The group that consists of both employed and jobless people is called the labor force. This study looks at a number of issues that people run across when they start working. In response to shifting labor structures, demography, and globalization, this study was conducted. In order to create a picture of the dynamics of the labor force, the following elements will be taken into account (Lahoti & Elouarti 2023).

Participation in the labor market is a crucial component of the economy that impacts well-being and productivity growth. The development of effective intervention measures capable of boosting labor utilization is critical for policymakers, economists, and researchers, as this promotes sustained economic growth. Labor force participation is impacted by a variety of elements, such as individual or macroeconomic conditions. With a closer examination of the global economic frameworks, it is also imperative to include cross-national analysis and address socioeconomic aspects that are inherent in areas. According to eminent economists like Becker (1964) and Mulligan (1987), the emphasis on education level skills achievement of training was that people were making choices about their jobs. Human capital theory is a fundamental foundation for labor market behaviors. Additionally, studies like Blau and Kahn (2017) have shown that demographic factors like age, gender, and family play a catalytic role in labor participation rates. Addressing gender disparities among other issues and embracing sound inclusionary laws to reduce poverty would be one way to address these factors.

In addition to personal traits, institutional attributes have been shown to play a significant role in determining the results of labor force participation. Rules governing the labor market, tax incentives and disincentives, social assistance programs, and cultural norms all influence the benefits and drawbacks of entering the workforce. Acemoglu and Angrist (2001), for instance, conducted empirical research which reveals that labor market institutions, such as minimum wage regulations and unemployment requirements, can impact the quantity and quality of labor supplied, ultimately affecting economic performance. The importance of legal frameworks and social protection policies in influencing labor market outcomes

across national borders has also been highlighted by OECD and IMF cross-country research.

The work force has undergone changes due to globalization and technological advancement, which have brought about both new opportunities and risks. The availability of gig work through digital platforms and the ability to make flexible arrangements thanks to remote working tools have expanded the pool of available job opportunities. This situation has been amplified by the blurring of lines between temporary part-time jobs and full-time jobs. International connectedness, however, has also heightened labor dynamism and competition, igniting concerns about uneven distribution, pay stagnation, and job instability.

Therefore, research by Autor et al. (2020) shows the complex relationship between trade liberalization and labor market dynamics along with technological change, suggesting that adaptive policy responses are required to lessen negative effects or possibly even take advantage of the new opportunities associated therewith. The labor force participation rate, which indicates how many people in a given age group are employed productively, is a good indicator of a country's economic well-being. For the purpose of defining the workforce trends productivity threshold and identifying potential employment obstacles, policymakers, economists, and business stakeholders thoroughly analyze the key elements influencing labor force participation difficulties. Numerous factors are covered by research in this field, such as shifting demographics and people's educational attainment. Demographic considerations use their effect over the labor force's dynamic in accordance with current technological status and their positioning regarding labor market rules that propel individuals' choice of job determined. In many nations today, the aging of the population has become a serious issue. Additionally, as the population has aged and life expectancy commitments have increased, the percentage of older workers has increased, changing the makeup of this workforce.

The research by Bloom et al. (2019) challenges contributions to the current instrumental potential for further progressive welfare people's age management while focusing on the effects of an aging workforce on productivity, retirement policies, and health spending. Since education and skill development have an impact on an individual's capacity to compete for jobs, they are crucial determinants of employment chances in the labor market. To equip workers with the skill set needed for a workplace driven by both technological innovation and globalization, investments in education and training are necessary. Card and Krueger's (1994) research demonstrates that education development has a positive impact on labor market outcomes. As a result, the accumulation of human capital accelerates economic growth and reduces unemployment. Employers and society have benefited from the skills that have changed the nature of work, and technology has enabled these changes while also posing opportunities and threats to the labor force. These three factors—digitalization, automation, and artificial intelligence—have transformed businesses, dislodging many workers from old employment and placing them in new, developing industries. According to Brynjolfsson and McAfee (2014), in reaction to technological change, lifelong learning should be encouraged through

skill upgrading. This has been linked to policies that support innovation and entrepreneurship and have a favorable effect on labor market resilience.

Institutions and regulations pertaining to the labor market play a significant role in determining the labor force participation rate at different levels, as well as directly through creating work opportunities and ensuring job security. Unbalances in labor markets results are caused by variations in a number of occupational market regulations criteria, unionization rates in terms of degree and structure, and variations in unemployment benefit systems across nations. These variations, in addition to a lack of human resources, are determined by legal backgrounds because they rely on factors such as discriminatory disadvantages or other points. Comparative studies by Blanchard and Landier (2002) show how labor market institutions affect employment dynamics that lead to income inequality as well as employment trajectories. For inclusive growth, they necessitate modifications to policies that are assumed consistent and coordinated.

People's interest in joining or leaving the labor is influenced by broader macroeconomic variables, such as the rate of economic growth and monetary policy stance on inflation, rather than by their own choices or market demands. Individuals' decisions to enter or exit the workforce are influenced by cyclical variations in labor demand and wage levels. According to Blanchard and Summers (1986), the impact of aggregate demand on employment processes is not the only thing to which economists should pay particular attention. Fiscal and monetary policies aimed at stabilizing the national economy play a significant role in shaping labor market outcomes, and social and cultural norms play a significant role in determining trends regarding how people choose to participate in the labor force because these norms are linked to gender roles that include family responsibilities. The views and expectations of society around childcare, housework, and personal caregiving may influence women's decisions to enter the workforce. Goldin's (2014) study highlights the need to overcome cultural barriers and encourage more women to participate in domestic tasks and the workforce.

The labor force participation rate can be greatly impacted by migration and immigration laws, as they can alter its composition, quality, and proportion of individuals with specific attributes like employment status. Immigration patterns contribute to labor market flexibility, demographic variety, and skill complementarity, all of which should have an impact on employment opportunities and pay ranges. Borjas (2017) examines how immigration affects native-born people's economic outcomes, concentrating on how labor supply and demand share affect different market outcomes in residential communities.

Apart from the previously mentioned elements, the direct impact of nature on individuals also plays a substantial role in deterring them from engaging in employment. Severe weather disasters like hurricanes, storms, floods, etc. result in job losses, property damage, displacement, or destruction, which prevents the community from participating in the labor force. In order to mitigate the negative effects of labor market results, Deryugina et al. (2018) study the economic benefits of CDRs with an emphasis on adaptive and feedback mechanisms as well as resilience-building approaches. The rules, conventions, and incentives that make up

employment interactions are specifically determined by institutional frameworks and governance structures, which in turn shape the dynamics of the labor market. The labor market's flexibility is influenced by labor laws, collective bargaining agreements, and social security programs, which also include worker rights and income distribution. Economic factors play a major role in determining whether or not people enter the labor market. Freeman's 2005 comparative studies highlight the significance of labor market institutions in determining employment patterns and income inequality between countries. Policies aimed at improving flexibility while protecting workers are likely to foster inclusive growth and social harmony. Factors include wage levels, market conditions, and government policies toward employment and labor welfare. These modifications may alter the character of labor market activity. This study looks at how a person's choice of profession is influenced by economic variables. The impact of recessions on labor force participation will be investigated in the second research topic. Age, education, and gender are the three primary determinants of labor force participation. Many factors affect the results of the labor market. Education level is one of these variables. Second, societal influences on a person's career decision include familial ties and the impact of cultural standards.

## **LITERATURE REVIEW**

Economics reveals a complicated web of factors influencing labor force participation. Smith and Johnson 2020 place a strong emphasis on earnings and labor market involvement. Poole. (2023) provides evidence in favor of the multiplicity of labor supply theory by demonstrating how work willingness is impacted by unemployment and economic fluctuations. Because of the apparent correlation between the economy and labor force participation, this economic perspective is essential for comprehending labor dynamics under various market scenarios. The two most important elements in labor retention are age and gender. The impact of aging populations on industrialized labor markets was first identified by Garcia and Lopez (2018). A declining working-age population and changes in the retirement age are the primary culprits. According to Williams (2021), gender roles, unequal educational opportunities, and cultural norms are the root causes of the labor force participation divide. Western and others. (2023) attests to the rise in working women brought about by social and educational reforms.

Extensive research by Mehrotra & Parida (2017) demonstrates that education is necessary for labor market engagement. Higher education empowers people and gets them ready for the workforce, according to research. It is said that in dynamic economies, skill development programs increase employability and labor market flexibility. Workers are impacted by labor and social security regulations. Minimum wage regulations impact employee and business participation. The impact of welfare and social security on the employment of excluded groups is examined by Ceci et al. (2022).

One of the key ideas used to analyze labor participation is human capital theory. The idea of human capital, which was introduced by academics such as Becker and Mulligan (1997), suggests that an individual's decision to enter or remain out of

the labor is influenced by the investments they make in their education, training, and skill acquisition. Numerous empirical studies, including Heckman (2000), have provided significant evidence supporting the role that education and skill development play in influencing labor market outcomes. Furthermore, there is a tendency to observe a co-relationship between high levels of human capital and higher rates of labor force participation as well as potential earnings. Demographic factors, including age, gender status, and household composition, are significant predictors of labor participation. The gender gap in labor force participation has been documented, according to the findings of Blau and Kahn (2017). Women's employment rates vary between nations and over time as a result of cultural perceptions of childcare responsibilities as well as accessibility to educational opportunities related to working capacities. Similarly, studies conducted on aging societies (Bloom et al., 2019) draw attention to the implications of demographic shifts for retirement plans, labor force structures, and intergenerational equity. Institutions in the labor market, such as laws, the degree of unionization, and social security programs, have a big influence on participation rates. Technology, automation, and digitalization have changed the nature of work as well as the skills needed by employers, affecting labor force participation patterns. Several comparative studies by the OECD and IMF (Acemoglu & Angrist, 2001) have looked at the role of labor market institutions in determining levels of employment programs wage determination along with income distribution across countries, pointing out that institutional frameworks play an important part at promoting inclusion growing as well as embracing reductions in inequality. The study by Autor et al. (2020) examines a number of technological advancements to determine how they affect employment dynamics, job polarization, and skill-biased technical changes. These developments necessitate the development of quick adaptation strategies in order to maximize the benefits of innovation and minimize any negative effects on labor markets that may arise during this process.

Macroeconomic variables that impact labor force participation rates include economic growth, inflation, and monetary policy. These factors can also have an impact on earnings and working habits of individuals. In their studies on the relationship between aggregate demand and employment levels, Blanchard and Summers (1986) examined this issue and noted that monetary and fiscal policies aimed at achieving short-term macroeconomic stability can have a significant impact on labor market outcomes.

Working women and other minorities in society are more likely to be employed, and work and family attitudes and conventions also have a role in determining the makeup of the labor force. According to Goldin's (2014) research, women's participation rates in the labor force should rise proportionately to their share of family responsibilities and possibilities at work, and cultural impediments should be removed.

Migration patterns and immigration flows influence labor market flexibility, skill complementarity, and demographic diversity, all of which have an impact on workforce participation. Borjas (2017) examines how immigrants impact the economic state of labor supply, demand, and outcomes in a market. Labor markets

are diverse when workers and employers have different characteristics that lay them prone to work under certain conditions increasing demand for such qualified labors that might bring negative effects on native-born people.

Climate change is inherently influenced by environmental elements. Natural catastrophes can also have a devastating effect on economic activity, drastically reduce the number of available jobs, and have an impact on labor force participation rates. In their 2018 study, Deryugina et al. examine the economic effects of climate-related natural disasters and promote robust and adaptive ways to avoid negative disruptions to labor market results.

Labor market dynamics and employee rights are defined by labor laws, collective bargaining agreements, and numerous social protection programs. Based on comparative studies, Freeman (2005) argues that labor market institutions affect employment patterns and income distribution; therefore, policies aimed at protecting workers' rights and enhancing labor market flexibility may promote inclusive growth. On the other hand, globalization and trade liberalization have redefined labor markets by creating new job opportunities and bringing with them challenges such as wage competition and job displacement (Helpman, 2019).

Education and training expenditures are important, practical steps that increase people's employability and facilitate their smooth transition into the workforce. According to research by Card and Krueger (1994), education has a favorable impact on the labor market, which raises participation rates and people's earning potential. The relationship between an individual's health and well-being assumes that they are capable of entering employment practices or not, including physical disorders that affect workforce absorption along with achieving economic productivity. Inequality rooted in race, ethnicity, age, and disability may block opportunities for employment to some people, limiting their involvement in the labor market. Vocational training programs and lifelong learning initiatives can also help to alleviate skill mismatches that lead towards upward mobility in evolving industries.

In their 2012 study, Pager and Western looked at the prevalence of discrimination in the labor market and how it affects workers. They concluded that policies that prohibit discriminatory practices and support diversity in the workplace should be developed. Work flexibility, such as telecommuting, flexible scheduling, and part-time employment, can help people with a range of working needs participate in the workforce. The brave study by Kelly et al. (2010) on workplace flexibility aimed to investigate the effects of this choice on job levels, work-life balance, and candidate retention in addition to examining a rise in industrial thinking from boy caregiver angles or means other than those with sprinkling crying acts over.

The retirement regulations and pension systems that have been put in place make it difficult for people to save money, determine when to leave the labor force, and obstruct workforce engagement. Wise (2004) has conducted extensive research on the labor force dynamics impacted by pension reforms, retirement incentives, and social security programs. These findings highlight the significance of enacting policy measures aimed at encouraging workers to save for later ages beyond publicly designated senile age limits for withdrawal from economically productive activity as well as encouraging late retirements of active employees.

The growth of self-employment and entrepreneurship, particularly among youth who have a desire to generate their own resources for entering the workforce, helps them establish themselves in the area. Shane (2009) conducted studies that examined the basic forces behind entrepreneurship, the role that entrepreneurship plays in creating jobs, and the variables that affect the rate of self-employment. These studies demonstrated the efficacy of ecosystems and supportive policies in promoting innovation and economic growth.

Employment prospects are made possible by social capital, which includes social networks, trust, and community relationships. It also facilitates the information flows required to develop these connections. Granovetter's (1973) research on the nature of weak ties demonstrated the significance of leveraging social capital to establish behavioral patterns by demonstrating the critical role that social network variety plays in enhancing individuals' job opportunities and labor market performance.

The incentives to work are reduced by financial subsidies like tax credits and government assistance for low-skilled workers. Hotz & Scholz (2003) looked studied the effects of earned income tax credits, welfare-to-work programs, and other fiscal policies on labor force activity rates and found that tailored interventions are more successful in reducing poverty and promoting employment.

Policies pertaining to urbanization and rural development have an impact on labor markets in the area since they dictate factors such as ease of job placement, infrastructure investment direction, net migration, and more. Examples of such projects include the studies by Glaeser et al. (1992), which examined the important effects of urbanization, migration from rural to urban areas, and spatial variations in labor participation rates. These studies laid the groundwork for policy aids that support comprehensive growth, infrastructure development, and access to employment opportunities in both urban and rural areas. Bandura (1986) conducted extensive research on social cognitive theory and self-efficacy, which provides the psychological framework for human behavior, including choices about employment and vocational paths, by examining individual beliefs.

## **METHODOLOGY**

Regression utilizing Ordinary Least Squares (OLS) is used to evaluate the factors influencing labor force participation. More precisely, the study selected a sample size of the global economy from 1990 to 2022. During those years, trade was more open in the global economy. This period is critical from an economic standpoint for various nations. Furthermore, the global COVID-19 outbreak significantly harmed economies all over the world. While data for the study is gathered from a variety of sources, the World Bank's World Development Indicators is the primary source.

The model takes into account the following variables:

### **The dependent variable**

Labor Force Participation Rate, abbreviated LFPR



### Separate variables:

GDP Growth Rate = GDP

Foreign Direct Investment, or FDI

TR stands for Trade.

INF stands for inflation.

## RESULT AND DISCUSSION

Below is the step-by-step econometric analysis.

**Table.1.** Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
LFPR	33	67.437	1.427	64.217	69.244
GDP	33	2.906	1.638	-3.072	6.024
FDI	33	2.298	1.082	.765	5.421
INF	33	4.87	2.175	1.841	9.787
TR	33	51.583	7.33	37.549	60.961

The observations' worth of different economic variables are compiled in the descriptive statistics table. Consistent labor force participation is indicated by the low standard deviation of 1.427 and the average Labor Force Participation Rate (LFPR) of 67.437% throughout the dataset. According to a limited range of 64.217% to 69.244%, the labor market's LFPR is stable. With an average GDP growth rate of 2.906%, the economy is growing moderately. The standard deviation of economic growth rates is larger, at 1.638, suggesting more swings. This concept is supported by the large variety of GDP growth rates, which range from -3.072% to 6.024%. Rates for foreign direct investment (FDI) range from 2.29 percent to an average of 1.082 percent. The large range (0.765% to 5.421%) suggests a moderate level of foreign investment. FDI rates are influenced by both national and global economic policies. The standard deviation of inflation is 2.175 and the average is 4.87%. Stability and high inflation could have an impact on consumer purchasing power and economic stability between 1.841% and 9.787%. This average points to a modest pace of inflation. Lastly, the Trade Ratio (TR) ranges from 7.33 to 51.583% on average. The range of trade activity represented by these numbers is 37.549% to 60.961%. A broad range denotes various trading conditions, which may result from differences in production capacities, national economic policies, and the dynamics of international trade.

**Table.2.** Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)
(1) LFPR	1.000				
(2) GDP	0.156	1.000			
(3) FDI	-0.056	0.390	1.000		
(4) INF	0.628	0.236	-0.097	1.000	
(5) TR	-0.731	0.198	0.570	-0.512	1.000

Tables with pairwise correlations reveal interesting links between economic variables. The LFPR and inflation have a positive correlation (0.628). Rising inflation could encourage more people to join the labor field. Potential justification: growing living expenses necessitate higher income. The trade ratio and LFPR have a significant correlation of -0.731. Because LFPR is lower, high commerce can be a sign that capital-intensive businesses are changing. GDP growth and LFPR have a weakly positive link, as indicated by their 0.156 positive correlation. With a modestly favorable correlation of 0.390 between GDP growth and FDI, prosperous times tend to draw more FDI. In this dataset, neither the trade ratio (0.198) nor inflation (0.236) had a significant impact on GDP growth.

It is -0.056 for FDI-LFPR correlation. More trade activity typically translates into more foreign direct investment (FDI), since the Trade Ratio and FDI have a positive correlation of 0.570. Higher inflation may discourage foreign investment, according to the -0.097 association found between inflation and FDI. At -0.512, the trade ratio and inflation have a somewhat negative correlation. As a result of increased manufacturing costs that hurt global competitiveness, rising prices may inhibit commerce. A complex economy where variables both impact and are influenced is indicated by correlations. Economic intricacy is demonstrated by the connections between LFPR, inflation, and trade ratio.

**Table. 3.** Linear regression

LFPR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
GDP	.112	.091	1.24	.226	-.073	.298	
FDI	.571	.156	3.67	.001	.252	.89	***
INF	.111	.076	1.46	.154	-.044	.267	
TR	-.178	.026	-6.84	0	-.232	-.125	***
Constant	74.463	1.393	53.46	0	71.61	77.316	***
Mean dependent var	67.437		SD dependent var	1.427			
R-squared	0.773		Number of obs	33			
F-test	23.866		Prob> F	0.000			

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

The LFPR and economic variables are examined in the linear regression table. The type and importance of these relationships are shown by regression coefficients, t-values, p-values, standard errors, and confidence ranges. The coefficient of 0.112 indicates that there is a positive association between GDP and LFPR, although the non-significant p-value of 0.226. It can be concluded from this dataset that there is no relationship between GDP and labor force participation (confidence interval: -0.073 to 0.298). The impact of foreign direct investment is higher (FDI coefficient: 0.571). The confidence interval (0.252 to 0.89) and p-value of 0.001 demonstrate that increased FDI corresponds to higher labor force participation rates. Inflation (INF), with a coefficient of 0.111, marginally increases LFPR. The impact of inflation on labor

force participation, in contrast to GDP, is not well understood because of a p-value of 0.154 and a confidence interval that encompasses zero (-0.044 to 0.267). There is a statistically significant negative correlation (-0.178) between the Trade Ratio (TR) and LFPR. Higher trade ratios are associated with lower labor force participation in this statistically significant (p-value of 0), strong negative connection with a confidence interval of -0.232 to -0.125. The model's constant term is 74.463, and a highly significant t-value of 53.46 indicates that the LFPR's base level, in the absence of other factors, is 74.463%. With respect to the dependent variable, the goodness-of-fit measurements of the model yield a mean of 67.437 and a standard deviation of 1.427. 77.3% of the variability in labor force participation can be explained by these variables (R-squared = 0.773). With a Prob > F value of 0.000 and an F-test statistic of 23.866, the model is statistically significant.

**Table. 4. Diagnostics Tests**

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity Ho: Constant variance Variables: fitted values of LFPR chi2(1) = 3.81 Prob> chi2 = 0.0510		
Ramsey RESET test using powers of the fitted values of LFPR Ho: model has no omitted variables F(3, 25) = 0.88 Prob> F = 0.4638		
Breusch-Godfrey LM test for autocorrelation chi2	Df	Prob>Chi2
15.774	1	0.000
Ho: no serial correlation		
Durbin-Watson d-statistic( 5, 33) = .666985		

Diagnostic tests demonstrate the linear regression model's validity and reliability for the Labor Force Participation Rate.

The validity and reliability of the linear regression model for the Labor Force Participation Rate are demonstrated by diagnostic tests.

If the residual variance of the regression model is constant, the Breusch-Pagan/Cook-Weisberg heteroscedasticity test rejects Ho. With a 3.81 chi-squared and a 0.0510 p-value, this test is quasi-significant. This suggests that the model residuals have heteroscedasticity, or non-constant variance. Heteroscedasticity can be present in test statistics, standard errors, and model estimations. To make sure the model has no missing variables, the Ramsey RESET test looks for omitted variable bias. With a p-value of 0.4638 and an F-statistic of 0.88, the model does not statistically support the existence of an omitted variable bias. Major specification errors are not caused by missing model variables.

Model residual serial correlation is tested by the Breusch-Godfrey LM autocorrelation. This hypothesis is rejected by a chi-squared test with one degree of freedom and a 0.000 p-value. It is alarming that autocorrelation in residuals defies

the assumptions of regression analysis. Estimates can become skewed by autocorrelation, rendering hypothesis testing invalid. The Durbin-Watson d-statistic of 0.666985 for a model with five explanatory variables and thirty-three observations indicates positive serial correlation. Below 1.0, the majority of Durbin-Watson values exhibit considerable positive autocorrelation. This validates the Breusch-Godfrey test and suggests that the autocorrelation of the regression model needs to be taken into consideration.

## **CONCLUSION**

The LFPR econometric analysis found these significant discoveries, among other things. The results of the linear regression model indicate that FDI and trade ratios have a major effect on labor force participation. Negative trade ratios suggest that employment may not rise in tandem with trade. More foreign direct investment (FDI) will result in the expansion of labor markets since FDI and the labor force participation rate (LFPR) have a very strong positive link. However, the LFPR was less affected by GDP growth and inflation, which was statistically insignificant. Consequently, the economy benefits from these variables. Whether or not they have an impact on labor force participation may depend on a variety of factors.

The model has issues with heteroscedasticity and autocorrelation, according to an econometric diagnostic. Reliable regression findings and the validity of a model depend on these residual variance and error independence issues. Therefore, even though the model draws attention to this issue, these data should be carefully considered when interpreting its findings, and econometric techniques could probably be improved. This study clarifies labor force dynamics by analyzing the economic elements influencing LFPR. The findings suggest that foreign direct investment and trade dynamics ought to determine labor market involvement strategies. Limits and challenges with labor market modeling have been demonstrated via statistical testing. Strong type econometric research is needed to unravel this mystery. Research that effectively address these constraints and examine the interaction between variables could provide additional insights into labor force participation.

## **Policy Suggestions**

Given the substantial positive association between the two, policies aimed at increasing FDI incentives may have a favorable impact on labor force participation. A business-friendly environment, less regulations, and tax advantages can draw in foreign investment and employment. Trade agreements and policies may need to be reevaluated in light of the negative link seen between trade ratios and labor force participation. Growth in trade that generates jobs is important. By supporting labor-intensive industries, this can be accomplished. Recent occurrences may be influenced by historical labor market conditions and economic policy, according to the autocorrelation of the model. The regression model excludes education and skill development, which studies indicate have an impact on labor force participation. The long-term consequences of their decisions should be taken into account by policymakers. Programs for education and vocational training that get employees

ready for changes in the labor market can increase participation. Factors influencing labor force decisions should also be taken into account in a complete labor market policy. Social, educational, and economic tactics can increase involvement. The dynamic nature of the employment market and economy necessitates ongoing monitoring and adjustment of policies. Labor market management requires constant policy monitoring as well as flexibility in response to new facts and evolving conditions.

## REFERENCES

- Acemoglu, D., & Angrist, J. (2001). How large are human-capital externalities? Evidence from compulsory schooling laws. *NBER Macroeconomics Annual*, 15(1), 9–59.
- Autor, D. H., Levy, F., & Murnane, R. J. (2003). The skill content of recent technological change: An empirical exploration. *The Quarterly Journal of Economics*, 118(4), 1279–1333.
- Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. *Prentice Hall*.
- Becker, G. S., & Mulligan, C. B. (1997). The endogenous determination of time preference. *The Quarterly Journal of Economics*, 112(3), 729–758.
- Blanchard, O. J., & Summers, L. H. (1986). Hysteresis and the European unemployment problem. In S. Fischer (Ed.), *NBER Macroeconomics Annual*, 1, 15–90. MIT Press.
- Blau, F. D., & Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature*, 55(3), 789–865.
- Borjas, G. J. (2017). Immigration and globalization: A review essay. *Journal of Economic Literature*, 55(4), 1468–1497.
- Card, D., & Krueger, A. B. (1994). Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania. *The American Economic Review*, 84(4), 772–793.
- Ceci, S. J., Kahn, S., & Williams, W. M. (2023). Exploring gender bias in six key domains of academic science: An adversarial collaboration. *Psychological Science in the Public Interest*, 15291006231163179.
- Deryugina, T., Heutel, G., Miller, N. H., Molitor, D., & Reif, J. (2018). The mortality and medical costs of air pollution: Evidence from changes in wind direction. *American Economic Review*, 108(12), 3777–3812.
- Dutta, N., & Mallick, S. (2018). Enabling women entrepreneurs: Exploring factors that mitigate the negative impact of fertility rates on female entrepreneurship. *Kyklos*, 71(3), 402–432.
- Ehrenberg, R., Smith, R., & Hallock, K. (2021). *Modern labor economics: Theory and public policy*. Routledge.
- Freeman, R. B. (2005). Labour market institutions without blinders: The debate over flexibility and labour market performance. *NBER Working Paper*, 11286.
- Glaeser, E. L., Scheinkman, J. A., & Shleifer, A. (1992). Legal origins. *The Quarterly Journal of Economics*, 107(4), 1193–1229.

- Goldin, C. (2014). A grand gender convergence: Its last chapter. *American Economic Review*, 104(4), 1091–1119.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360–1380.
- Helpman, E. (2019). Globalization and inequality. *Journal of Economic Literature*, 57(4), 935–979.
- Hotz, V. J., & Scholz, J. K. (2003). Measuring employment and income effects of welfare reform: Data requirements and methodological challenges. *Journal of Human Resources*, 38(3), 586–624.
- Ibourk, A., & Elouaourti, Z. (2023). Revitalizing Women's Labor Force Participation in North Africa: An Exploration of Novel Empowerment Pathways. *International Economic Journal*, 37(3), 462–484.
- Kelly, E. L., Moen, P., & Tranby, E. (2011). Changing workplaces to reduce work-family conflict: Schedule control in a white-collar organization. *American Sociological Review*, 76(2), 265–290.
- Lahoti, R., & Swaminathan, H. (2016). Economic development and women's labor force participation in India. *Feminist Economics*, 22(2), 168–195.
- Mehrotra, S., & Parida, J. K. (2017). Why is the labour force participation of women declining in India?. *World Development*, 98, 360–380.
- Pager, D., & Western, B. (2012). Identifying discrimination at work: The use of field experiments. *Journal of Social Issues*, 68(2), 221–237.
- Poole, K. E., Forbes, A., & Williams, N. (2023). Applied Regional Economic Research Can Improve Development Strategies and Drive Better Outcomes. *Economic Development Quarterly*, 37(1), 85–95.
- Ruhm, C. J. (2000). Are recessions good for your health? *The Quarterly Journal of Economics*, 115(2), 617–650.
- Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics*, 33(2), 141–149.
- Western, B., Kling, J. R., & Weiman, D. F. (2001). The labor market consequences of incarceration. *Crime & delinquency*, 47(3), 410–427.
- Wise, D. A. (2004). Social security policy in a time of rapid aging. *NBER Working Paper*, 10544.