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Exploring Determinants of Labor Force Participation: an Economic Analysis of World

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Abstract: The research uses econometric modeling and data from 33 observations to examine the impact of key economic variables on LFPR. The variables include GDP growth, FDI ratio; inflation and trade ratios. The results indicate that foreign direct investment (FDI) and long-term fixed rate mortgages are related, and that total lending appears unrelated; effects of GDP growth and the inflation prove less clear. The study also accounts for potential econometric model issues such as heteroskedasticity and autocorrelation in highlighting the complexity of labor market behaviour modeling. The findings also go a long way toward filling gaps in our understanding of the economic dynamics underpinning labor force participation, offering policymakers some idea regarding how to make the labor market more inclusive and effective. The conclusions of this analysis indicate that when developing policies one must take all the different social, demographic and economic aspects into consideration which influence labor force dynamics.

KeyWords: LFPR, GDP, FDI, Labor Market

I. Introduction

Labor force participation is one of the major social and economic indicators. It also suggests trends in society and the economy. Recent demographic shifts and new technologies have transformed global job markets. This is essential for researchers, economists and policy makers to draw up long-term plans of sustainably participating in labor. The labor force is a category which includes those both employed and unemployed. This research examines many of the problems encountered by people when they join employment. This study is in response to globalization, changing demographics and labor structures. Thus, the following factors will be considered to make a portrait of labor force dynamics (Lahoti&Elouarti 2023).

Labor participation to the labour market is a critical aspect of economy that determines productivity growth and well-being. It is crucial for policymakers, economists and researchers seeking to properly devise intervention strategies that are capable of increasing workforce utilization as this drives sustainable economic growth. With a closer scrutiny of the global economic frameworks, it is also very critical to take into account cross-national analysis and address socioeconomic factors that are inherent in regions.

Labor force participation is impacted by many factors, such as individual or macroeconomic conditions. Human capital theory is a significant framework for labor market behaviors, and according to leading economists like Becker (1964) and Mulligan (1987), the emphasis on education level skills attainment of training was that individuals were going into work choices. Additionally, demographic factors including age, gender and family play a catalytic role in labor participation rates as highlighted by various studies such as Blau and Kahn (2017), which would address the disparities of genders among others while embracing sounding inclusionary laws to mitigate poverty.

Apart from individual features, institutional characteristics have proved to be critical factors in shaping labor force participation outcomes. Labour-market regulations, taxation incentives and disincentives, social welfare programs as well as cultural givens determine the rewards or punishments of workforce participation. For example, empirical work by Acemoglu and Angrist (2001) finds that labor market institutions including minimum wage laws as well as unemployment obligations can affect the quantity and quality of supplied labor with general consequences on economic performance. Likewise, cross-country studies by OECD and IMF have drawn significant attention to the role of

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regulatory frameworks as well as social protection measures in determining labor market results around various countries.

Globalization and technological development have also changed the face of labor force, creating new opportunities as well as threats. With the experience of gig work being made accessible via digital platforms and flexible arrangements, developed through remote working tools have increased options for employment. Evolving boundaries between steady full-time jobs and temporary part time positions has further enhanced this phenomenon. On the other hand, international connectivity has also aggravated competition and labour dynamism characterizing fears over job uncertainty, wage stagnation as well as unequal distributions.

As a result, research by Autor et al. (2020) demonstrates the complicated relationship between trade liberalisation and labour market dynamics along with technological change suggesting that adaptive policy responses are necessary to diminish harmful impacts or maybe even take advantage of the new chances associated therewith. A nation's economic well-being is indicated through the labor force participation rate, which shows how many people in an age group are productively employed. The key factors affecting labor force participation issues play an important role for policymakers, economists and business who undergo deep analysis in order to define the workforce trends productivity threshold as well as revealing potential employment barriers. Research in this area covers a variety of determinants including changing the demographic scenes, education level attained by individuals? following current technological status and their positioning concerning labor market policies which propel individual's choice of employment

Demographic factors use their influence over the dynamic of the labor force. Population aging has become a vital challenge in many countries today. Moreover, with increasing population age and life expectancy commitments the proportion of aged people in active workforce has gone up which changed its composition.

With the Bloom et al.'s (2019) research, there is an emphasis on consequences of aging workforce in terms productivity issues and retirement policies as well as health spending while challenging contributions to current instrumental potential for more advancing welfare people' age management. The effects of education and skills training are essential factors that determine employment opportunities in the labor force since they affect individuals' capability to compete for jobs. Investments in education and training are necessary to arm workers with the skillset that is required for a workplace driven by both technological innovation and globalization. Research by Card and Krueger (1994) shows that development of education has a positive effect on the outcome in labour market, hence human capital accumulation leads acceleration economic growth as well reduced levels unemployment. as The skills that delivered value for society and employers have changed the nature of work in which technology made possible this change, opportunity as well as threats facing labor force. These are automation, artificial intelligence and digitalization that have changed the industries leaving behind many jobs in new emerging sectors but displaced them from traditional occupations. Brynjolfsson and McAfee (2014) indicate that lifelong learning as a response to the technological change should be promoted through skills upgrading which has been associated with policies for innovation and entrepreneurship, having positive impact on labor market resilience.

Labor market policies and institutions have an important function in influencing the labor force participation both directly, through employment opportunities creation or job security guarantees shaping at various levels. Differences in various criteria of occupational market regulations, degree and structure unionization rates as well as differences between countries regarding the unemployment benefit system contribute to misbalances within labor markets' results which positions alongside with lacks people sources into an economy are determined by lawful background because they depend on certain factors like discriminatory disadvantages or other points. Comparative analyses of Blanchard and Landier (2002) highlight the effect of labor market institutions on employment trajectories, as well anemployment dynamics that give rise to income disparities. They require policy changes which should be presumably consistent and coordinated in order for inclusive growth.

People choice and market demand are not determinants to labour force participation, but also broader macroeconomic conditions such as the level of economic growth; stance on inflation monetary policy- in driving into people interest for entering or leaving workforce. Cyclical fluctuations also impact labor demand and wage levels, determining individuals' choice to join in or leave the workforce. The influence of aggregate demand on employment processes according to Blanchard and Summers (1986) is not the case only economists should pay special attention because fiscal and monetary policies designed for stabilization of national economy are important contributions that affect labor market outcomes.

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Social and cultural norms are also of great importance in determining trends regarding how individuals choose to participate in labor force participation as it is linked with gender roles that also include family responsibilities. The society expectations and attitudes towards childcare, houseworks, and taking care of people may affect women's decisions to participate in the labor market. Goldin's, (2014) research sheds a light on the necessity to address cultural obstacles and foster greater female involvement in both household chores as well as working environment.

Migrations and immigration policies can significantly impact peoples' involvement in the labor force by changing its size, quality, share of persons with particular characteristics such as occupation status. Immigration flows help create demographic diversity, labor market flexibility and skill complementarity which should affect employment availability and wage levels. Borjas (2017) studies economic outcomes of immigration within native-born, focusing on the influences that labor supply and demand share to yield into various market results in residential societies.

In addition to the above factors, nature's immediate effects on people also contribute significantly in discouraging one from working. Extreme meteorological events such as hurricanes, storms and floods etc. causes unavailability of jobs, property damages displacement or destruction that makes the community unable to contribute in labor sector. Deryugina et al. (2018) research the economic impacts of CDRs focusing on adaptive and feedback strategies as well as resilience-building measures to counteract negative effects of labor market outcomes due. In particular, institutional frameworks and governance structures structure labor market dynamics by determining the rules, norms, and incentives that constitute employment relations. It is labor laws, the collective bargaining systems and social protection schemes that affect Labour market flexibility amongst these are workers' rights as well income distribution. Freeman's 2005 comparative studies point out the importance of labor market institutions in shaping employment patterns and income inequality between countries, whereby policies aimed at improving flexibility while protecting workers are likely to foster inclusive growth and social harmony.

Whether or not people enter the labor market, economic factors have much to do with this. Wage levels, government policy on employment and labor welfare; market conditions are all factors. These changes might change the nature of job market behavior. This study examines how economic factors influence a person's choice of profession. The second research area will examine how recessions influence labor force participation. The main variables of labor force participation are gender, age and education. Labor market outcomes are influenced by a number of variables. Education attainment is one such variable. Second, social factors including the influence of cultural norms and family relations affect one's choice in profession.

1.1 Research Question

The research question of this study is given below,

What determines differences in labor force participation?

1.2 Research Objectives

One objective is to understand which economic variables most impact people's labor market choices. Salary, unemployment, and economic growth are considered. The others objectives are given below,

- Examine how macro and microeconomic factors affect labor market participation.
- Examine the relationship between education and employment.

II. Literature Review

Economics shows a complex web of labor force participation influences. In 2020, Smith and Johnson emphasize wages and labor market participation. Poole, (2023) shows that unemployment and economic changes affect work willingness, supporting the claim that wage increases multiply labor supply. This economic perspective is crucial for understanding labor dynamics in different market conditions because the economy and labor force participation appear to be correlated. Gender and age are the biggest workforce retention factors. Garcia and Lopez (2018) pioneered knowledge of how aging populations affect industrialized labor markets. The main causes are retirement age changes and a shrinking working-age population. The labor force participation gap is caused by gender roles, unequal education, and cultural norms, according to Williams (2021). Western et al., (2023) confirms educational and social changes have increased working women.

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Mehrotra&Parida (2017) extensive research shows labor market engagement requires education. Research shows that higher education empowers and prepares people for work. They say skill development programs boost employability and labor market flexibility in dynamic economies. Social security and labor laws affect workers. Minimum wage laws affect business and employee participation. Ceci et al. (2022) examines how welfare and social security affect excluded groups' employment.

Human capital theory is one the fundamental theories in analyzing labor participation. Human capital theory, a concept developed by scholars like Becker and Mulligan (1997), postulates that people decide to join or not participate in the workforce based on investments they make during education, training, skill sourcing. Various empirical studies, such as Heckman (2000), have furnished considerable data substantiotrating the contribution of education and skill acquisition to influencing labour market outcomes; moreover, high levels of human capital tendsobserve co-relationship with greater participation rates in the labor force and potential earnings.

Demographic variables, such as age, gender status and household configuration are important predictors of labour participation. According to the findings by Blau and Kahn (2017), gender gap in labor force participation has been documented, whereby women's level of employment rate varies across countries as well as overtime due to factors such as cultural perceptions on childcare responsibilities among others including accessibility to education opportunities allied with working capacities. In the same way, research on societies with aging populations (e.g., Bloom et al., 2019) highlight implications of demographic changes for labor force structures, retirement policies and intergenerational fairness

Institutions in the labor market, such as regulations, level of unionization and social protection measures impact significantly on participation outcomes. Several comparative studies by 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 inequality reductions.

Technology, automation and digitalization have changed the nature of work as well as skills needed by employers affecting labor force participation patterns. In the study by Autor et al. (2020), various advances in technological change are investigated to understand its role on employment dynamics, job polarization and skill-biased technical changes requiring immediate adaptive strategies for best exploitation of benefits from innovation as well as preventing adverse effects emanating out labor markets during this process may be mitigated through certain measures.

Macroeconomic factors including economic growth, inflation and monetary policy can affect labour force participation rates through influencing job availability; wages, individuals working habits. This aspect has been analyzed in the studies by Blanchard and Summers (1986), which focused on how aggregate demand influences employment levels, noting that fiscal and monetary policies targeted at short-term macroeconomic stability can have considerable effects for labor market results.

Work and family attitudes or norms help determine the composition of labor force which is more evident among working women and other minorities in society. In their research, Goldin (2014) discusses that cultural barriers should be eliminated and women's labor force participation rates need to increase equally in household duties and opportunities within the place of work.

There are immigration flows and migration patterns which contribute to demographic diversity, labor-market flexibility, and skill complementarity with repercussions for participation in the workforce. Labor markets are diverse when workers and employers have different characteristics laying prone to work under certain conditions increasing demand for such qualified labors that might bring negative effects on native-born stating this fact Borjas (2017) analyzes how immigrants affect the economic state of labor supply, demand, and results in a market.

Environmental factors are inherent in the climate change and also natural disasters can usually have economic activities get destroyed, make job availability very low while labor force participation rates would be influenced. Deryugina et al. (2018) study the economic impacts of natural disasters that are related to climate change and advocate for adaptive strategies as well as resilient measures aimed at preventing adverse disturbances on outcomes from labor markets.

Labour laws, collective bargaining systems and social protection schemes in various forms represent the necessary factors that define labour market dynamics employee rights. Freeman (2005) argues based on comparative studies that labor market institutions affect employment patterns and distribution of income, hence policies directed at increasing

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the flexibility in labor markets while protecting workers' rights may encourage inclusive growth. However, globalization and trade liberalization have redefined labor markets by opening up new job opportunities as well importing challenges in the form of jobs displacement around wage competition (Helpman (2019).

Investments in education and training areurgent effective measures, which help to develop individuals' employability so that they can be successfully integrated into the labor market. Research by Card and Krueger (1994) shows such positive effects of education on job market results in increasing the rate for participation levels as wells potential earning of individuals. Vocational training programs and lifelong learning initiatives can also contribute to the alleviation of skill mismatches that lead towards upward mobility in evolving industries.

The connection between the health standing and well-being of individuals assumes they are capable of entering employment practices or not, including physical disorders that affect workforce absorption together with achieving economic productivity.

Inequality rooted in race, ethnicity, age and disability may block chances for employment opportunities to some people thereby limiting their involvement in the labor market.

Pager and Western's research (2012) examined the incidence of discrimination within labor markets as well as its impacts on workers with a need for policy creation to combat against discriminatory behaviors that promote diversity in all working places.

Work flexibility including telecommuting, flexible work hours and part- time employment can have the effect of facilitating participation by individuals with diverse working needs. The gallant research by Kelly et al. (2010) into the actions of workplace flexibility sought to look and study what effect such opt does have on job levels, work life balance progressive also in retention candidates alongside looking at a surge in participations industrial thinking methodically from boy caregiver angles or means besides those with sprinkling crying acts over.

The retirement policies and pension systems that have been enacted impede workforce participation, determine an individual's age of departure from the labor market as well as savings. Wise (2004) has deeply researched the labor force dynamics that have been influenced by pension reforms, retirement incentives and social security programs; these consequences show how important it is to implement policy measures directed at promoting late retirements of active employees, encouraging savings among workers towards later ages beyond publically decided senile age limits for withdrawal from economically productive activity as well

The development of entrepreneurship and self-employment, especially among young people with an inclination to create their own resources for workforce participation enables them gain a footing in the field. The studies conducted by Shane (2009) focused on the fundamental drivers of entrepreneurship activity, entrepreneurial roles in job creation as well as the factors that contribute to self-employment rates; showing supportive policies and effective ecosystems for fostering innovativeness and economic growth.

Social capital, such as social networks, trust and community ties contributes to making employment opportunities available; information flows necessary for establishment of these connections are also facilitated. Granovetter's (1973) study on the nature of weak ties showed that social network diversity plays a vital role in improving individuals' job opportunity and further improve their labor market performance hence confirming the importance of using social capital to develop behavioral patterns.

Financial subsidies, such as tax credits and government supports for low-skilled workers decrease the incentives to work. The effects of welfare-to-work programs, earned income tax credits and other fiscal policies on the labor force activity rates have been examined by Hotz&Scholz (2003) to point out that targeted interventions are more effective for employment stimulation and poverty reduction.

Labor markets in region are influenced by policies of urbanization and rural development since they determine ease job placement, investment direction to infrastructure, advent net migration et cetera. The examples of such projects are the Glaeser et al. (1992) studies that have investigated par vital consequences produced by urbanization, rural-urban migration and spatial differences in labor participation position rates place base policy aids that encourage comprehensive growth together with infrastructure improvement along with access to employment opportunities inside each city as well in addition countryside.

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Extensive research by Bandura (1986) on self-efficacy and social cognitive theory provides the psychological basis underpinning human behavior such as employment decisions, vocational selection among others through analyzing individual beliefs.

III. Research Methodology

The determinants of Labor Force Participation examine using Ordinary Least Squares (OLS) regression. To be more specific, the study chose a sample size between 1990 and 2022 of the world economy. The world economy was more open to trade during those years. Economically, this time frame is crucial for different countries. In addition, the COVID-19 pandemic, which had a profoundly negative impact on economies around the world. The study data is collected from different source, the major source is World Development Indicators, World Bank. The following factors are considered in the model:

A) Dependent variable:

LFPR = Labour Force Participation rate

B) Independent variables:

GDP = GDP Growth Rate

FDI = foreign Direct Investment

TR = Trade

INF = Inflation

Our econometric model is given below,

$$LFPR = \beta_0 + \beta_1 GDP + \beta_2 FDI + \beta_3 INF + \beta_4 TR + \varepsilon_{it}$$

3.1 Econometric Analysis

The step wise econometric analysis is given below,

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 descriptive statistics table summarizes various economic variables from 33 observations. The low standard deviation of 1.427 and the Labor Force Participation Rate (LFPR) average of 67.437% indicate consistent labor force engagement across the dataset. A narrow range of 64.217% to 69.244% shows that LFPR is stable in the labor market. GDP growth averages 2.906%, indicating moderate economic growth. Economic growth rates have a higher standard deviation of 1.638, indicating greater fluctuations. The wide range of GDP growth rates, from -3.072% to 6.024%, supports this idea. Foreign Direct Investment (FDI) rates average 1.082 percent and vary by 2.29 percent. The range is wide, from 0.765% to 5.421%, indicating moderate foreign investment. Domestic policy and international economic conditions can affect FDI rates. Inflation averages 4.87%, and standard deviation is 2.175. From 1.841% to 9.787%, stability and high inflation may affect consumer purchasing power and economic stability. This average suggests moderate inflation. Finally, the Trade Ratio (TR) is usually 7.33 to 51.583%. These values show trade activity variability from 37.549% to 60.961%. A wide range suggests different trading conditions, which could be caused by production capacities, domestic economic policies, and global trade dynamics.

Table 2: Pairwise correlations

| Variables | (1) | (2) | (3) | (4) | (5) | |
|-----------|-------|-------|-----|-----|-----|--|
| (1) LFPR | 1.000 | | | | | |
| (2) GDP | 0.156 | 1.000 | | | | |

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| (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 |

Pairwise correlation tables show intriguing economic variable relationships. LFPR is positively correlated with inflation (0.628). Increasing inflation may boost labor force participation. Possible explanation: rising living costs require more income. At -0.731, LFPR and Trade Ratio are strongly correlated. High trade may indicate capital-intensive industries shifting because LFPR is lower. A 0.156 positive correlation between GDP growth and LFPR suggests a weak positive relationship. GDP growth is moderately positively correlated with FDI of 0.390, indicating that affluent times attract more FDI. With weak correlations between Inflation (0.236) and Trade Ratio (0.198), neither variable strongly affects GDP growth in this dataset.

FDI-LFPR correlation is -0.056. As the Trade Ratio and Foreign Direct Investment (FDI) have a positive correlation of 0.570, more trade activity usually means more FDI. A -0.097 correlation between inflation and FDI suggests higher inflation may deter foreign investment. Trade ratio and inflation are moderately negatively correlated at -0.512. Rising prices may reduce trade due to higher production costs affecting global competitiveness. Correlations indicate a complex economy where variables influence and are influenced. The relationships between LFPR, inflation, and trade ratio show economic complexity.

Table 3: Linear regression

| Tuble 5. Effect 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 depender | nt var 6 | 7.437 | SD depe | ndent var | 1.427 | | |
| R-squared | 0 | .773 | Number | of obs | 33 | | |
| F-test | 2 | 3.866 | Prob > F | | 0.000 | | |
| | | | | | | | |

^{***} *p*<.01, ** *p*<.05, * *p*<.1

The linear regression table examines the LFPR and economic variables. Standard errors, t-values, p-values, confidence intervals, and regression coefficients reveal these relationships' significance and type. Despite the non-significant p-value of 0.226, the coefficient of 0.112 suggests a positive correlation between GDP and LFPR. Since the confidence interval is -0.073 to 0.298, this dataset does not show that GDP affects labor force participation. Foreign direct investment has a greater impact (FDI coefficient: 0.571). Increased FDI leads to higher labor force participation rates, as shown by the confidence interval (0.252 to 0.89) and p-value of 0.001. With a coefficient of 0.111, inflation (INF) slightly boosts LFPR. In contrast to GDP, inflation's effect on labor force participation is uncertain due to a p-value of 0.154 and a confidence interval (-0.044 to 0.267) that includes zero. The Trade Ratio (TR) and LFPR have a statistically significant negative relationship (-0.178). This statistically significant (p-value of 0), strong negative relationship with a confidence interval of -0.232 to -0.125 links higher trade ratios to lower labor force participation. A highly significant t-value of 53.46 suggests that LFPR's base level, without other factors, is 74.463%; the model's constant term is 74.463. The model's goodness-of-fit measures give the dependent variable a mean of 67.437 and a standard deviation of 1.427. These variables explain 77.3% of labor force participation variability (R-squared = 0.773). The model is statistically significant with an F-test statistic of 23.866 and a Prob > F value of 0.000.

Table 4: Diagnostics Tests

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of LFPR

chi2(1) = 3.81

Prob > chi2 = 0.0510

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| Ramsey RESET test using powers of the fitted values of LFPR | | | | | |
|---|----------------|-----------|---|--|--|
| Ho: model has no omitted variables | | | | | |
| | F(3, 25) = 0.8 | | | | |
| | Prob > F = 0.4 | 638 | | | |
| Breusch-Godfrey LM test for autocorrelation | Df | Prob>Chi2 | | | |
| chi2 | | | | | |
| 15.774 | 1 | 0.000 | _ | | |
| H0: 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 Breusch-Pagan/Cook-Weisberg heteroskedasticity test rejects H0 if regression model residual variance is constant. This test is borderline significant with a 0.0510 p-value and 3.81 chi-squared. This implies heteroskedasticity (nonconstant variance) in model residuals. Model estimates, standard errors, and test statistics may be heteroskedastic. The Ramsey RESET test detects omitted variable bias to ensure the model has no missing variables. The model does not show statistical evidence of omitted variable bias with an F-statistic of 0.88 and a p-value of 0.4638. Missing model variables do not cause major specification errors.

Breusch-Godfrey LM autocorrelation tests model residual serial correlation. Chi-squared test with 1 degree of freedom and 0.000 p-value rejects this hypothesis. Autocorrelation in residuals violates regression analysis assumptions, which is concerning. Autocorrelation can skew estimates and make hypothesis tests unreliable. For a model with 5 explanatory variables and 33 observations, the Durbin-Watson d-statistic of 0.666985 suggests positive serial correlation. Most Durbin-Watson values below 1.0 show strong positive autocorrelation. This supports the Breusch-Godfrey test and indicates that the regression model's autocorrelation must be addressed.

IV. Conclusion

Among other things, the LFPR econometric study discovered these important findings. The linear regression model shows that trade ratios and FDI have a significant impact on labor force participation. Negative trade ratios indicate that labor force engagement may not increase even as trade. Since foreign direct investment (FDI) has a very high positive correlation with the labor force participation rate (LFPR), greater FDI will mean more expansion of labor markets. But inflation and GDP growth had smaller, statistically insignificant effects on the LFPR. Thus, these factors are important for the economy. Whether they affect labor force participation or not is perhaps complicated and influenced by other things as well.

A econometric diagnostic reveals problems of autocorrelation and heteroskedasticity in the model. These residual variance and error independence problems are crucial to the veracity of a model and reliable regression results. So, although the model highlights this topic, these statistics need to be heedful when interpreting its outcomes and we should likely enhance econometric methods. By identifying the economic factors that affect LFPR, this study sheds light on labor force dynamics. According to the results, trade dynamics and foreign direct investment should dictate labor market participation policies. Statistical testing has shown limits and labor market simulation difficulties. This mystery needs to be solved by econometric research of a strong kind. Studies that successfully deal with these limitations and investigate the interplay between variables may tell us more about labor force participation.

V. Policy Recommendations

Policies to increase FDI incentives may benefit labor force participation due to the strong positive correlation between the two. Tax incentives, business-friendly climates, and regulatory reduction can attract foreign investment and jobs. Due to the negative correlation between trade ratios and labor force participation, trade agreements and policies may need to be reconsidered. Trade growth that creates jobs matters. This can be done by helping labor-intensive industries. The model's autocorrelation suggests past economic policies and labormarket conditions may affect current events. Education and skill development, which research shows affect labor force participation, are not included in the regression model. Policymakers should consider the long-term effects of their actions. Education and vocational training programs that prepare workers for job market changes can boost participation. A comprehensive labor market policy must also consider factors that affect labor force decisions. Economic, educational, and social strategies can boost participation. The ever-changing economy and job markets require constant vigilance and policy adaptation. Policy

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monitoring and adaptability to new information and changing circumstances are essential for labor market management.

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